South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

A G E N D A

HYBRID GOVERNING BOARD MEETING
JUNE 6, 2025

A meeting of the South Coast Air Quality Management District Board will be held at 9:00 a.m. on Friday, June 6, 2025 through a hybrid format of in-person attendance in the Dr. William A. Burke Auditorium at the South Coast AQMD Headquarters, 21865 Copley Drive, Diamond Bar, California 91765 and/or virtual attendance via videoconferencing and by telephone. Please follow the instructions below to join the meeting remotely.

Please refer to South Coast AQMD's website for information regarding the format of the meeting, updates, and details on how to participate at: http://www.aqmd.gov/home/news-events/meeting-agendas-minutes.

Electronic Participation Information (Instructions provided at the bottom of the agenda)	**Join Zoom Meeting - from PC, Laptop or Phone** **https://scaqmd.zoom.us/j/93128605044** Meeting ID: **931 2860 5044** (applies to all) Teleconference Dial In +1 669 900 6833 or +1 253 215 8782 One tap mobile +16699006833,,93128605044# or +12532158782,,93128605044# **Spanish Language Only Audience (telephone)** Número Telefónico para la Audiencia que Habla Español Teleconference Dial In/Numero para llamar: +1 669 900 6833 Meeting ID/Identificación de la reunión: **932 0955 9643** One tap mobile: +16699006833,,93209559643
Public Comment Will Still Be Taken	**Audience will be allowed to provide public comment in person and through Zoom connection or telephone.** Comments are limited to three (3) minutes per person for all items on the Consent and Board Calendars and may be further limited by the Chair to ensure all can be heard. Phone controls for participants: The following commands can be used on your phone's dial pad while in meeting: *6 (Toggle mute/unmute); *9 - Raise hand
Questions About an Agenda Item	▪ The name and telephone number of the appropriate staff person to call for additional information or to resolve concerns is listed for each agenda item. ▪ In preparation for the meeting, you are encouraged to obtain whatever clarifying information may be needed to allow the Board to move expeditiously in its deliberations.

Meeting Procedures	▪ The public meeting of the South Coast AQMD Governing Board begins at 9:00 a.m. The Governing Board generally will consider items in the order listed on the agenda. However, any item may be considered in any order. ▪ After taking action on any agenda item not requiring a public hearing, the Board may reconsider or amend the item at any time during the meeting.

All documents (i) constituting non-exempt public records, (ii) relating to an item on the agenda, and (iii) having been distributed to at least a majority of the Governing Board after the agenda is posted, are available prior to the meeting for public review at South Coast AQMD's Clerk of the Boards Office, 21865 Copley Drive, Diamond Bar, CA 91765 or web page at www.aqmd.gov)

Americans with Disabilities Act and Language Accessibility
Disability and language-related accommodations can be requested to allow participation in the Governing Board meeting. The agenda will be made available, upon request, in appropriate alternative formats to assist persons with a disability (Gov. Code Section 54954.2(a)). In addition, other documents may be requested in alternative formats and languages. Any disability or language-related accommodation must be requested as soon as practicable. Requests will be accommodated unless providing the accommodation would result in a fundamental alteration or undue burden to the South Coast AQMD. Please contact the Clerk of the Boards Office at (909) 396-2500 from 7:00 a.m. to 5:30 p.m., Tuesday through Friday, or send the request to cob@aqmd.gov.

A webcast of the meeting is available for viewing at:
http://www.aqmd.gov/home/news-events/webcast

CALL TO ORDER

- Pledge of Allegiance
- Roll Call
- Opening Comments: Vanessa Delgado, Chair
  Other Board Members
  Wayne Nastri, Executive Officer

Staff/Phone (909) 396-

PUBLIC COMMENT PERIOD – (Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3) The public may comment on any subject within the South Coast AQMD's authority that does not appear on the agenda, during the Public Comment Period. Each speaker addressing non-agenda items may be limited to a total of (3) minutes.

CONSENT AND BOARD CALENDAR (Items 1 through 26)

Note: Consent and Board Calendar items held for discussion will be moved to Item No. 27.

Items 1 and 2 – Action Items/No Fiscal Impact

1. Approve Minutes of May 2, 2025 **Thomas/3268**

2. Set Public Hearing August 1, 2025 to Consider Adoption of and/or Amendments to South Coast AQMD Rules and Regulations: **Nastri/3131**

   A. Set Public Hearing August 1, 2025 to Determine That Proposed Amended Rule 462 – Organic Liquid Loading, Is Exempt from CEQA; Amend Rule 462; and Submit Rule 462 Into the State Implementation Plan **Krause/2706**

   Proposed Amended Rule 462 will further reduce VOC emissions from organic liquid loading facilities by requiring the use of enhanced leak detection technology and establishing a lower VOC limit for vapor control systems. Additionally, PAR 462 will introduce a contingency measure to fulfill Clean Air Act requirements. This action is to adopt the Resolution: 1) Determining that Proposed Amended Rule 462 – Organic Liquid Loading, is exempt from the requirements of the California Environmental Quality Act; and 2) Amending Rule 462 – Organic Liquid Loading; and 3) Directing staff to submit Proposed Amended Rule 462 – Organic Liquid Loading for inclusion into the State Implementation Plan.(Reviewed: Stationary Source Committee, May 16, 2025)

B. Determine That South Coast Air Basin Contingency Measure SIP Revision for 2015 8-Hour Ozone Standard Is Exempt from CEQA; and Adopt South Coast Air Basin Contingency Measure SIP Revision for 2015 8-Hour Ozone Standard **Rees/2856**

The South Coast Air Basin is classified as "extreme" nonattainment of the 2015 8-hour ozone National Ambient Air Quality Standard. The 2022 AQMP outlined a strategy to meet the standard and aimed to satisfy all federal Clean Air Act (CAA) requirements applicable to extreme nonattainment areas, except for the contingency measure requirement, due to the lack of U.S. EPA guidance. In December 2024, U.S. EPA finalized its contingency measure guidance. The South Coast Air Basin Contingency Measure SIP Revision for the 2015 8-Hour Ozone Standard was developed in response to U.S. EPA's new guidance to fulfill the requirements specified in CAA sections 172(c)(9) and 182(c)(9). The contingency measures for this standard include three South Coast AQMD rules to achieve additional VOC reductions and CARB's California Smog Check Contingency Measure. This action is adopt the Resolution: 1) Determining that the South Coast Air Basin Contingency Measure SIP Revision for the 2015 8-Hour Ozone Standard is exempt from the requirements of CEQA; and 2) Adopting the South Coast Air Basin Contingency Measure SIP Revision for the 2015 8-Hour Ozone Standard and directing staff to forward the SIP Revision to CARB for approval and submission to U.S. EPA for inclusion in the SIP. (Reviewed: Mobile Source Committee, April 18, 2025)

Items 3 through 14 – Budget/Fiscal Impact

3. Adopt Resolution and Accept Terms and Conditions, Recognize Revenue, Execute Agreements to Deploy Battery Electric Trucks and Chargers, and Demonstrate a Fast-Charging Capable Truck, Transfer Funds, and Reimburse General Fund **Katzenstein/2219**

CARB and CEC awarded South Coast AQMD $41,295,211 for the Strategic Pathways for Extended Electric Drayage (SPEED) project to deploy Volvo Class 8 battery electric trucks and truck chargers in Southern California, develop and demonstrate a high-power charging-capable truck, collect truck and charger operational data, and develop and implement a workforce training program for battery electric trucks and charging equipment under the CARB and CEC joint Advanced Technology Demonstration and Pilot Projects (ATDPP) program. Also, on May 3, 2024, the Board recognized funding for a project to

electrify Balboa Island Ferries and install supporting charging infrastructure (BIF) under ATDPP. These actions are to: 1) adopt a Resolution, accept terms and conditions of the ATDPP solicitation for both SPEED and BIF, commit to $3,250,000 as South Coast AQMD cost share for SPEED, authorize the Executive Officer to execute necessary agreements with CARB and CEC, and recognize, upon receipt, $41,295,211 for SPEED into the GHG Reduction Projects Special Revenue Fund (67); 2) transfer $3,250,000 of South Coast AQMD SPEED project cost share into GHG Reduction Projects Special Revenue Fund (67); 3) transfer $2,000,000 as a temporary loan for SPEED from the Clean Fuels Program Fund (31) into GHG Reduction Projects Special Revenue Fund (67); 4) authorize the Executive Officer to execute agreements with Volvo Group North America LLC, WattEV Inc., and the Regents of the University of California, Riverside, to implement the SPEED project; 5) Authorize the Executive Officer to take all necessary steps to carry out this Resolution, including making modifications to the agreements for SPEED and BIF projects; and 6) reimburse the General Fund up to $3,560,000 for SPEED administrative costs from the GHG Reduction Projects Special Revenue Fund (67)(Reviewed: Technology Committee, May 16, 2025; Recommended for Approval)

4. Issue RFP for Battery Electric Switcher Locomotives for CPRG INVEST CLEAN Program **Katzenstein/2219**

   In September 2024, the Board recognized an award of $499,997,415 from the U.S. EPA Climate Pollution Reduction Grant program titled Infrastructure, Vehicles, and Equipment Strategy for Climate, Equity, Air Quality, and National Competitiveness (INVEST CLEAN). The program consists of four measures, including the deployment of battery electric Class 8 trucks and last mile freight vehicles, cargo handling equipment, switcher locomotives, and truck charging. A total of up to $190,800,000 is available for the Battery Electric Switcher Locomotive Measure. This action is to issue and, if necessary, re-issue an RFP to solicit project proposals for the Battery Electric Switcher Locomotive measure under INVEST CLEAN. (Reviewed; Technology Committee, May 16, 2025; Recommended for Approval)

5. Modify Contracts and SEP Agreements for Installation and/or Maintenance of Air Filtration Systems in Schools and Residences and Execute New and Modify Existing School Site Access Agreements **Katzenstein/2219**

   Delays due to the COVID-19 pandemic and school closures have resulted in a need for no-cost term extensions to existing contracts and agreements to complete school and residential air filtration projects. This item authorizes no-cost modifications to existing contracts, Supplemental Environmental Project (SEP) agreements, and school site access agreements to complete the installation and/or maintenance of air filtration systems in schools

and residences. These actions are to: 1) authorize the Executive Officer to modify contracts with IQAir North America for the installation of air filtration systems and/or provide maintenance for up to 10 years post installation in schools and residences; 2) authorize the Executive Officer to modify SEP agreements with CARB and Aliso Fund Committee for the installation and/or maintenance of air filtration systems in schools and residences; and, 3) execute new and modify existing site access agreements with schools for installation and/or maintenance of air filtration systems. (Reviewed: Technology Committee, May 16, 2025; Recommended for Approval)

6. Recognize Revenue and Appropriate Funds for U.S. EPA Pass Through Grant to Develop Reference Method for Validating Open-Path Remote Sensing Systems **Low/2269**

In September 2022, the Board recognized revenue from University of California, Los Angeles (UCLA) for the implementation of U.S. EPA competitive Science to Achieve Results (STAR) research grant. South Coast AQMD staff are co-investigators for this grant to develop a reference method for validating the performance of open-path remote sensing systems for air toxic measurements. In February 2025, U.S. EPA granted a no-cost extension for this grant. The May 2025 Administrative Committee separately approved revenue recognition from Virginia Polytechnic Institute and State University for a separate STAR grant award, but U.S. EPA is no longer providing funds for that project. This action is to recognize revenue up to $183,432 from UCLA through the STAR research grant into the General Fund, and appropriate up to $29,963 in the Monitoring and Analysis FY 2025-26 and/or FY 2026-27 Budgets to support efforts on this project. (Reviewed: Administrative Committee, May 9, 2025; Recommended for Approval)

7. Recognize Revenue, Appropriate Funds, and Issue Sole Source Purchase Orders for Air Monitoring Equipment **Low/2269**

South Coast AQMD is expected to receive up to $760,000 from U.S. EPA for the PM2.5 Monitoring Program. These actions are to: 1) recognize revenue and appropriate funds for the PM2.5 Monitoring Program into the Monitoring and Analysis FY 2024-25 and/or FY 2025-26 Budgets; and, 2) issue sole source purchase orders for air monitoring equipment. (Reviewed: Administrative Committee, May 9, 2025; Recommended for Approval)

8. Recognize Revenue, Appropriate Funds, and Issue Purchase Order for Air Monitoring Equipment **Low/2269**

South Coast AQMD is expected to receive grant funds up to $273,794 from U.S. EPA for the NATTS Monitoring Program. This action is to recognize revenue and appropriate up to $97,033 into the Monitoring and Analysis FY 2025-26 Budget and issue a sole source purchase order for air monitoring equipment. (Reviewed: Administrative Committee, May 9, 2025; Recommended for Approval)

9. Recognize Revenue, Appropriate and Transfer Funds, Issue Solicitation and Purchase Order for One Vehicle **Low/2269**

South Coast AQMD is expected to receive up to $2,238,000 from the U.S. Government for the Enhanced Particulate Monitoring Program. This action is to recognize revenue, appropriate and transfer funds between Major Objects in the Monitoring and Analysis Budget to realign expenditures and issue a solicitation and purchase order for one vehicle. (Reviewed: Administrative Committee, May 9, 2025; Recommended for Approval)

10. Appropriate Funds from the General Fund Undesignated (Unassigned) Fund Balance to Cover Unbudgeted Salary and Overtime Costs **Nakamura/3105**

This action is to appropriate $2,650,000 from the General Fund Undesignated (Unassigned) Fund Balance into the FY 2024-25 General Fund Budget, Salaries and Employee Benefits Major Object. Due to overtime incurred for emergency and compliance incidents, as well as projected costs to maintain appropriate staffing levels, a budget transfer is necessary to fund salary-related costs for the remainder of the fiscal year. (Reviewed: Administrative Committee, May 9, 2024; Recommended for Approval)

11. Recognize Revenue in FY 2025-26 and/or FY 2026-27 into the General Budget, Appropriate Funds in FY 2024-25, FY 2025-26 and/or FY 2026-27, Execute and/or Amend Contracts, and Issue Solicitations and Purchase Orders for Continued AB 617 Implementation **Jain/2804**

In November 2024, the Board approved $22,213,333 for the most recent allocation of the AB 617 implementation program funding. This action is to recognize revenue and appropriate funds up to $6,210,300 for AB 617 years six and/or seven implementation funds, in FY 2024-25, FY 2025-26 and/or FY 2026-27, Execute and/or Amend Contracts, and Issue Solicitations and Purchase Orders for continued AB 617 implementation. (Reviewed: Administrative Committee, May 9, 2025; Recommended for Approval)

12. Amend Contract for Security Guard Services at Diamond Bar Headquarters **Olvera/2309**

In June 2022, the Board approved the execution of a 3-year contract for security guard services with GSSi, Inc., DBA General Security Service, that includes an option to extend for two additional years. This action is to amend the contract with GSSi, Inc. DBA General Security Service to extend the contract to June 30, 2027, for a total amount not to exceed $1,477,453. Funding has been requested in FY 2025-26 and will be requested in FY 2026-27. (Reviewed: Administrative Committee, May 9, 2025; Recommended for Approval)

13. Appoint Regular and Alternate Public and Medical Members to South Coast AQMD Hearing Board for July 1, 2025 to June 30, 2028 Term **Thomas/3268**

The terms of office for the two Hearing Board Public Members and the Medical Member, as well as their alternates, will expire on June 30, 2025. In November 2024, South Coast AQMD posted a recruitment to solicit applications for the new term beginning July 1, 2025 through June 30, 2028. There were two applicants for the medical member positions and 42 applicants for the public member positions. As required by state law, an Advisory Committee appointed by five members of the Governing Board reviewed the applicants. The Advisory Committee scored and ranked the Public Member applicants and recommended that the Administrative Committee interview the top eight applicants. Both Medical Member applicants were recommended for interviews with the Administrative Committee. On May 9, 2025, the Administrative Committee interviewed nine of the ten candidates submitted by the Advisory Committee and recommended that the full Board reappoint the incumbents to the new term.

14. Approve Allocation as Approved by MSRC **McCallon**

The MSRC approved a $2,000,000 funding allocation to partner with South Coast AQMD on the Strategic Pathways for Extended Electric Drayage project to deploy Class 8 battery electric trucks and truck chargers in Southern California, develop and demonstrate a high-power charging-capable truck, collect truck and charger operational data, and develop and implement a workforce training program for battery electric trucks and charging equipment. The MSRC seeks Board approval of the allocation as part of the FYs 2024-27 Work Program. (Reviewed: Mobile Source Air Pollution Reduction Review Committee, May 15, 2025; Recommended for Approval)

Items 15 through 20 – Information Only/Receive and File

15. Legislative, Public Affairs and Media Report **Tanaka/3327**

This report highlights the April 2025 outreach activities of the Legislative, Public Affairs and Media Office, which includes: Major Events, Community Events/Public Meetings, Environmental Justice Update, Speakers Bureau/Visitor Services, Communications Center, Public Information Center, Small Business Assistance, Media Relations, and Outreach to Community Groups and Governments. (No Committee Review)

16. Hearing Board Report **Ali**

This reports the actions taken by the Hearing Board during the period of April 1 through April 30, 2025. (No Committee Review)

17. Civil Filings and Civil Penalties Report **Gilchrist/3459**

This report summarizes monthly penalties and legal actions filed by the General Counsel's Office from April 1, 2025 through April 30, 2025. An Index of South Coast AQMD Rules is attached with the penalty report. (Reviewed: Stationary Source Committee, May 16, 2025)

18. Intergovernmental Review of Environmental Documents and CEQA Lead Agency Projects **Krause/2706**

This report provides a listing of environmental documents prepared by other public agencies seeking review by South Coast AQMD between April 1, 2025 and April 30, 2025, and proposed projects for which South Coast AQMD is acting as lead agency pursuant to CEQA. (No Committee Review)

19. Rule and Control Measure Forecast **Rees/2856**

This report highlights South Coast AQMD rulemaking activities and public hearings scheduled for 2025.
(No Committee Review)

20. Status Report on Major Ongoing and Upcoming Projects for Information Management **Moskowitz/3329**

Information Management is responsible for data systems management services in support of all South Coast AQMD operations. This action is to provide the monthly status report on major automation contracts and planned projects. (Reviewed: Administrative Committee, May 9, 2025)

Items 21 through 26 – Reports for Committees, MSRC, and CARB

Note: The May 16, 2025 Mobile Source Committee meeting was cancelled. The next regular meeting of the Mobile Source Committee is June 20, 2025.

21. Administrative Committee (Receive & File) — Chair: Delgado — **Nastri/3131**

22. Legislative Committee — Chair: Cacciotti — **Tanaka/3327**

    Receive and file; and take the following action as recommended:

Agenda Item	Recommended Action
AB 471 (Hart)-County air Pollution control districts: Board members: compensation.	Support
AB 1305 (Arambula)-Air pollution control and air quality management districts; permit information: internet website.	Oppose
SB 526 (Menjivar)-South Coast air Quality Management District: air quality.	Work With Author

23. Stationary Source Committee (Receive & File) — Chair: McCallon — **Aspell/2491**

24. Technology Committee (Receive & File) — Chair: Rodriguez — **Katzenstein/2219**

25. Mobile Source Air Pollution Reduction Review committee (Receive & File) — Board Rep.: Hagman — **Katzenstein/2219**

26. California Air Resources Board Monthly Report (Receive & File) — Board Rep.: Lock Dawson — **Thomas/3268**

27. Items Deferred from Consent and Board Calendar

PUBLIC HEARINGS

28. Certify Final Subsequent Environmental Assessment for Proposed Amended Rule 1111– Reduction of NOx Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters; and Amend Rule 1111 and Rule 1121 — **Krause/2706**

    Proposed Amended Rule 1111 (PAR 1111) and Proposed Amended Rule 1121 (PAR 1121) establish requirements to reduce NOx emissions from space and water heating units, respectively. PAR 1111 and PAR 1121 establish manufacturer requirements for the sale of space and water heating units that meet low-NOx and zero-NOx emission standards that change over time, and include a mitigation fee for NOx-emitting units, with an option to pay a higher mitigation fee if manufacturers sell more low-NOx units than the targets. Alternatively, manufacturers that elect to sell only zero-emission space and water heating units, would not be subject to a per unit mitigation fee. This action is to adopt the Resolution: 1) Certifying the Final Subsequent Environmental Assessment for

Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters; and 2) Amending Rule 1111 and Rule 1121. (Reviewed: Stationary Source Committee, October 18 and December 20, 2024, February 21, March 21, April 18, and May 16, 2025)

29. Determine that Proposed Amended Rule 1171 – Solvent Cleaning Operations, Is Exempt from CEQA; and Amend Rule 1171 **Krause/2706**

Rule 1171 establishes VOC limits for commercial and industrial cleaning materials. The California Office of Environmental Health Hazard Assessment determined that two compounds, para-Chlorobenzotrifluoride (pCBtF) and tert-Butyl Acetate (t-BAc), have carcinogenic health effects. Both pCBtF and t-BAc are used in some solvent cleaning materials. Proposed Amended Rule 1171 (PAR 1171) includes a future effective prohibition for cleaning solvents formulated with pCBtF and t-BAc, allows for products in the supply chain to continue to be sold and used for specified periods of time, and includes alternative compliance options for certain cleaning activities. PAR 1171 also addresses the AB 617 South Los Angeles Community Emission Reduction Plan air quality objectives related to solvent cleaning materials used for the cleaning of automotive refinishing coating spray equipment by phasing out pCBtF and t-BAc. This action is to adopt the Resolution: 1) Determining that Proposed Amended Rule 1171 – Solvent Cleaning Operations is exempt from the requirements of the California Environmental Quality Act; and 2) Amending Rule 1171 – Solvent Cleaning Operations. (Reviewed: Stationary Source Committee, April 18, 2025)

BOARD MEMBER TRAVEL – (*No Written Material*)

Board member travel reports have been filed with the Clerk of the Boards, and copies are available upon request.

CLOSED SESSION -- (*No Written Material*) **Gilchrist/3459**

CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
It is necessary for the Board to recess to closed session pursuant to Government Code sections 54956.9(a) and 54956.9(d)(1) to confer with its counsel regarding pending litigation which has been initiated formally and to which the South Coast AQMD is a party. The actions are:

- South Coast Air Quality Management District, et al. v. NHTSA, EPA, et al., United States Court of Appeals, D.C. Circuit, Case No. 20-1173 (consolidated with Competitive Enterprise Institute, et al. v. NHTSA, No. 20-1145);
- Natural Resources Defense Council, et al. v. City of Los Angeles, et al., San Diego Superior Court, Case No. 37-2021-00023385-CU-TT-CTL (China Shipping Case) (transferred from Los Angeles Superior Court, Case No. 20STCP02985); Fourth District Court of Appeal, Division One, No. D080902;
- In the Matter of South Coast Air Quality Management District v. Baker Commodities, South Coast AQMD Hearing Board Case No. 6223-1 (Order for Abatement);

- Western States Trucking Association, Inc. v. EPA, et al., Unites States Court of Appeals, United States Court of Appeals, D.C. Circuit, Case No. 23-1143 (amicus brief);
- Rinnai America Corp. et al. v. South Coast Air Quality Management District, U.S. District Court for the Central District of California, Case No. 2:24-cv-10482;
- Eng v. EPA, et al., United States Court of Appeals for Ninth Circuit, Case No. 25-138;
- Chanell Scott v. South Coast Air Quality Management District, et.al., Los Angeles Superior Court Case No. 25VCV00502;
- Jason Konopisos and Tara Norris v. South Coast Air Quality Management District et al., Los Angeles Superior Court Case No. 25STCV12152; and
- San Joaquin Valley Unified Air Pollution Control Dist. v. Setton Pistachio of Terra Bella, Inc., Court of Appeal, Fifth Appellate Dist., Civ. No. F088471 (amicus brief).

CONFERENCE WITH LEGAL COUNSEL – INITIATING LITIGATION
It is also necessary for the Board to recess to closed session pursuant to Government Code section 54956.9(a) and 54956.9(d)(4) to consider initiation of litigation (four cases).

- Communities for a Better Arvin, et al., v. U.S. Environmental Protection Agency, et al., 9th Circuit Court of Appeals No. 24-7270 (amicus brief).

CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION
Also, it is necessary for the Board to recess to closed session pursuant to Government Code section 54956.9(d)(2) to confer with its counsel because there is a significant exposure to litigation against the South Coast AQMD (two cases).

CONFERENCE WITH LABOR NEGOTIATORS
It Is also necessary to recess to closed session pursuant to Government Code section 54957.6 to confer with labor negotiators:

Agency Designated Representative: A. John Olvera, Deputy Executive Officer – Administrative & Human Resources;

- Employee Organization(s): Teamsters Local 911, and South Coast AQMD Professional Employees Association; and
- Unrepresented Employees: Executive Officer, General Counsel, Designated Deputies and Management and Confidential employees.

ADJOURNMENT

*****PUBLIC COMMENTS*****

Members of the public are afforded an opportunity to speak on any agenda item before consideration of that item. Persons wishing to speak may do so in person or remotely via Zoom or telephone. To provide public comments via a Desktop/Laptop or Smartphone, click on the "Raise Hand" at the bottom of the screen, or if participating via Dial-in/Telephone Press *9. This will signal to the host that you would like to provide a public comment and you will be added to the list.

All agendas are posted at South Coast AQMD Headquarters, 21865 Copley Drive, Diamond Bar, California, and website, http://www.aqmd.gov/home/news-events/meeting-agendas-minutes, at least 72 hours in advance of the meeting. At the beginning of the agenda, an opportunity is also provided for the public to speak on any subject within the South Coast AQMD's authority. Speakers may be limited to a total of three (3) minutes for the entirety of the Consent Calendar plus Board Calendar, and three (3) minutes or less for each of the other agenda items.

Note that on items listed on the Consent Calendar and the balance of the agenda any motion, including action, can be taken (consideration is not limited to listed recommended actions). Additional matters can be added and action taken by two-thirds vote, or in the case of an emergency, by a majority vote. Matters raised under the Public Comment Period may not be acted upon at that meeting other than as provided above.

Written comments will be accepted by the Board and made part of the record. Individuals who wish to submit written or electronic comments must submit such comments to the Clerk of the Board, South Coast AQMD, 21865 Copley Drive, Diamond Bar, CA 91765-4178, (909) 396-2500, or to cob@aqmd.gov, on or before 5:00 p.m. on the Tuesday prior to the Board meeting.

ACRONYMS

AQ-SPEC = Air Quality Sensor Performance Evaluation Center
AQIP = Air Quality Investment Program
AQMP = Air Quality Management Plan
AVR = Average Vehicle Ridership
BACT = Best Available Control Technology
BARCT = Best Available Retrofit Control Technology
Cal/EPA = California Environmental Protection Agency
CARB = California Air Resources Board
CEMS = Continuous Emissions Monitoring Systems
CEC = California Energy Commission
CEQA = California Environmental Quality Act
CE-CERT =College of Engineering-Center for Environmental Research and Technology
CNG = Compressed Natural Gas
CO = Carbon Monoxide
DOE = Department of Energy
EV = Electric Vehicle
EV/BEV = Electric Vehicle/Battery Electric Vehicle
FY = Fiscal Year
GHG = Greenhouse Gas
HRA = Health Risk Assessment
LEV = Low Emission Vehicle
LNG = Liquefied Natural Gas
MATES = Multiple Air Toxics Exposure Study
MOU = Memorandum of Understanding
MSERCs = Mobile Source Emission Reduction Credits
MSRC = Mobile Source (Air Pollution Reduction) Review Committee
NAAQS = National Ambient Air Quality Standards
NATTS =National Air Toxics Trends Station
NESHAPS = National Emission Standards for Hazardous Air Pollutants
NGV = Natural Gas Vehicle
NOx = Oxides of Nitrogen
NSPS = New Source Performance Standards
NSR = New Source Review
OEHHA = Office of Environmental Health Hazard Assessment
PAMS = Photochemical Assessment Monitoring Stations
PEV = Plug-In Electric Vehicle
PHEV = Plug-In Hybrid Electric Vehicle
PM10 = Particulate Matter $\leq$ 10 microns
PM2.5 = Particulate Matter $\leq$ 2.5 microns
RECLAIM=Regional Clean Air Incentives Market
RFP = Request for Proposals
RFQ = Request for Quotations
RFQQ=Request for Qualifications and Quotations
SCAG = Southern California Association of Governments
SIP = State Implementation Plan
SOx = Oxides of Sulfur
SOON = Surplus Off-Road Opt-In for NOx
SULEV = Super Ultra Low Emission Vehicle
TCM = Transportation Control Measure
ULEV = Ultra Low Emission Vehicle
U.S. EPA = United States Environmental Protection Agency
VOC = Volatile Organic Compound
ZEV = Zero Emission Vehicle

INSTRUCTIONS FOR ELECTRONIC PARTICIPATION

Instructions for Participating in a Virtual Meeting as an Attendee
As an attendee, you will have the opportunity to virtually raise your hand and provide public comment.

Before joining the call, please silence your other communication devices such as your cell or desk phone. This will prevent any feedback or interruptions during the meeting.

For language interpretation:
Click the interpretation Globe icon at the bottom of the screen
Select the language you want to hear (either English or Spanish)
Click "Mute Original Audio" if you hear both languages at the same time.

Para interpretación de idiomas:
Haga clic en el icono de interpretación el globo terráqueo en la parte inferior de la pantalla
Seleccione el idioma que desea escuchar (inglés o español)
Haga clic en "Silenciar audio original" si escucha ambos idiomas al mismo tiempo.

Please note: During the meeting, all participants will be placed on Mute by the host. You will not be able to mute or unmute your lines manually.

After each agenda item, the Chair will announce public comment.

Speakers may be limited to a total of 3 minutes for the entirety of the consent calendar plus board calendar, and three minutes or less for each of the other agenda items.

A countdown timer will be displayed on the screen for each public comment.

If interpretation is needed, more time will be allotted.

Directions to provide public comment on ZOOM from a DESKTOP/LAPTOP or SMARTPHONE:

Click on the "Raise Hand" feature at the bottom of the screen.
This will signal to the host that you would like to provide a public comment and you will be added to the list.

Directions to provide public comment via TELEPHONE:

Dial *9 on your keypad to signal that you would like to comment.

Directions for Spanish Language TELEPHONE line only:

- The call in number is the same (+1 669 900 6833)
- The meeting ID number is 928-3000-3925
- If you would like to make public comment, please dial *9 on your keypad to signal that you would like to comment.

Instrucciones para la línea de TELÉFONO en español únicamente:
- El número de llamada es el mismo (+1 669900 6833 o +1 93209559643)
- El número de identificación de la reunión es 928-3000-3925
- Si desea hacer un comentario público, marque *9 en su teclado para indicar que desea comentar.

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 1

MINUTES: Governing Board Monthly Meeting

SYNOPSIS: Attached are the Minutes of the May 2, 2025 Board Meeting.

RECOMMENDED ACTION:
Approve the May 2, 2025 Board Meeting Minutes.

Faye Thomas
Clerk of the Boards

FT

FRIDAY, MAY 2, 2025

Notice having been duly given, the meeting of the South Coast Air Quality Management District Board was conducted in a hybrid format of in-person attendance in the Dr. William A. Burke Auditorium at the South Coast AQMD Headquarters, 21865 Copley Drive, Diamond Bar, California 91765, and remotely via videoconferencing and telephone.

Members Present:

Senator Vanessa Delgado (Ret.), Chair
Senate Rules Committee Appointee

Councilmember Michael A. Cacciotti, Vice Chair
Cities of Los Angeles County – Eastern Region

Mayor Patricia Lock Dawson
Cities of Riverside County

Mayor Pro Tem Larry McCallon
Cities of San Bernadino County

Supervisor Holly J. Mitchell
County of Los Angeles

Supervisor Janet Nguyen
County of Orange

Councilmember Brenda Olmos
Cities of Los Angeles County – Western Region

Board Member Veronica Padilla-Campos
Speaker of the Assembly Appointee

Supervisor V. Manual Perez
County of Riverside

Councilmember Nithya Raman
City of Los Angeles

Mayor Pro Tem Carlos Rodriguez
Cities of Orange County

Members Absent: Supervisor Curt Hagman
County of San Bernadino

Vacant: Governor's Appointee

For additional details of the Governing Board Meeting, please refer to the recording of the Webcast at: Live Webcast (aqmd.gov)

CALL TO ORDER: Chair Delgado called the meeting to order at 9:03 a.m.

- Pledge of Allegiance: Led by Supervisor Holly J. Mitchell
- Roll Call

The following Board Members were not present for roll call and joined the meeting at the following times: Mayor Pro Tem Rodriguez at 9:05 a.m., Councilmember Raman at 9:09 a.m., Board Member Padilla Campos at 9:07 a.m., and Supervisor V. Manuel Perez at 9:16 a.m.

- Opening Comments

Vice Mayor Olmos thanked staff for joining her on April 10, 2025 for a tour of areas of Calabasas affected by debris being transported from the Palisades fire to the Calabasas Landfill. For additional details, please refer to the Webcast beginning at 6:31.

Executive Officer Wayne Nastri announced that the Public Hearing for PARs 1111 and 1121 is scheduled for the June Board meeting and that a comment letter from the South Coast AQMD Local Government & Small Business Advisory Group regarding PARs 1111 and 1121 was included as part of Agenda Item No. 18 in today's package. Executive Officer Nastri reported on the timeframe for this year's Summer Internship program and the number of interns that were selected. He also reported that air monitoring efforts and data reporting continued for the Eaton and Palisades fires and the results can be viewed on South Coast AQMD's website.

Chair Delgado congratulated Mayor Lock Dawson on her appointment by Governor Newsom to the California Air Resources Board.

PUBLIC COMMENT PERIOD – (Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3)

The Public Comment Period on Non-Agenda Items was opened. The following individuals addressed the Board. For additional details, please refer to the Webcast beginning at 9:33, 44:23, and 52:29.

Patrick Walsh, Apex Logistics International, commented on the mitigation fee for the WAIRE Program; however, he was interrupted and asked to comment during the public comment period for that item, Agenda Item No. 27.

The following individuals spoke in opposition of PARs 1111 and 1121.

- Kevin Barker, SoCalGas, expressed concerns with the cost and limited consumer choice of appliances. He urged the Board to vote against the rules as written, develop a feasibility fuel neutral regulation that imposes lower NOx limits to protect consumer choice, still achieves meaningful emission reductions and get SIP credit.

- George Boutrous, Orange County Business Council, expressed concerns with the cost, impact to the housing market, and jobs. He requested that staff continue to engage with stakeholders and the public to develop cost effective and practical solutions.

Thomas Jelenić, Pacific Merchant Shipping Association, expressed concern that there are still unanswered questions about the Port ISR and the public process for the proposed rule. He urged the Board to direct staff to complete the schedule they laid out for the public process before starting the formal rulemaking process. For additional details, please refer to the Webcast beginning at 17:22.

Alejandra Ruiz, Ontario resident and Coalition for Humane Immigrant Rights
Ezekiel Franco, Ontario resident
Aurora Vasquez, Community organizer and former Commissioner for Los Angeles Department Water & Power
Fernando Gaytan, Earthjustice
DeForest Barnette, Riverside resident and Center for Community Action & Environmental Justice (CCAEJ)
Chris Chavez, Coalition for Clean Air
Theral Golden, West Long Beach Neighborhood Association
Al Sattler, a member of the public
Cecile Diroll, Riverside resident and University of California, Riverside (UCR) student
Tony Sirna, Evergreen Action
Azarely Bedolla, Riverside resident and CCAEJ
Pete Marsh, Long Beach resident
Ayn Craciun, Climate Action Campaign
Tomas Castro, Irvine resident and Climate Action Campaign
David Martinez, Orange County resident and Climate Action Campaign
Wynn Tucker, Green and Healthy Homes Initiative
Angel Teo, UCR student and People's Collective for Environmental Justice
Gary Tavetian, Los Angeles resident
Margee Hills, Brea resident and Sierra Club Santa Lucian Chapter
Dalinef Leon, Inland Empire resident
Uma Armien Funk, California State Polytechnic University, Pomona student
Jennifer Cardenas, Sierra Club

Key comments from the above speakers include:

PAR 1111 and PAR 1121

- Expressed support for PAR 1111 and PAR 1121 and highlighted their importance;
- Commented on the health and economic benefits of the rules;
- Questioned some of the misinformation that has been presented and thanked staff for their outreach efforts to dispel that information; and
- Urged for the proposals to be strengthened and passed without further delay.

Port ISR

- Expressed support for a Port ISR;
- Pointed out that the proposal is an infrastructure plan;
- Urged for staff to keep the current schedule and move forward with rulemaking; and
- Called for action on the ports.

Laura Rosenberger Haider, Fresnans Against Fracking, commented on safety hazards associated with the use of natural gas and urged for the passage of PARs 1111 and 1121. For additional details, please refer to the Webcast beginning at 27:47.

(Comments from the following individuals were moved from the Consent and Board Calendar public comment period: Margee Hills, Dalinef Leon, Uma Armien Funk, and Jennifer Cardenas. Please refer to the Webcast beginning at 44:23 and 52.29 for their comments.)

There being no further requests to speak, the public comment period was closed for Non-Agenda Items.

Written Comments Submitted Regarding Sunshine Canyon Landfill

- Nurha Hindi-Chahayed & Erick Fefferman, Protect North San Fernando Valley; and Jane Williams, California Communities Against Toxics

Written Comments Submitted Regarding Port ISR

- Thomas Jelenić, Pacific Merchant Shipping Association

Written Comments Submitted Regarding PARs 1111 and 1121

(See Attachment A)

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CONSENT AND BOARD CALENDAR

Items 1 and 2 – Action Items/No Fiscal Impact

1. Approve Minutes of April 4, 2025 Board Meeting
2. Set Public Hearing June 6, 2025 to Consider Adoption of and/or Amendments to South Coast AQMD Rules and Regulations:

   Determine That Proposed Amended Rule 1171 – Solvent Cleaning Operations, Is Exempt from CEQA; and Amend Rule 1171

Items 3 through 11 – Budget/Fiscal Impact

3. Execute Contract to Evaluate Performance and Emissions of Linear Generator

4. Transfer Funds for Development of Carl Moyer Program Grant Management System
5. Appropriate Funds, Execute Agreement for EV Hardware at South Coast AQMD Headquarters and Authorize Removal of Fixed Assets Inventory
6. Transfer Funds Between Major Objects and Issue Purchase Order for AQ-SPEC Program
7. Authorize Purchase of Onbase Software Support
8. Authorize Purchase of Virtual Meeting Software Support
9. Amend Contract to Provide Short- and Long-Term Systems Development, Maintenance and Support Services
10. Approve Compensation Adjustments for Board Member Assistants and Board Member Consultants for FY 2025-26
11. Approve Modified Award as Approved by MSRC

Items 12 through 17 – Information Only/Receive and File

12. Legislative, Public Affairs and Media Report
13. Hearing Board Report
14. Civil Filings and Civil Penalties Report
15. Intergovernmental Review of Environmental Documents and CEQA Lead Agency Projects
16. Rule and Control Measure Forecast
17. Status Report on Major Ongoing and Upcoming Projects for Information Management

Items 18 through 24 – Reports for Committees, MSRC, and CARB

18. Administrative Committee
19. Legislative Committee
20. Mobile Source Committee
21. Stationary Source Committee
22. Technology Committee
23. Mobile Source Air Pollution Reduction Review Committee
24. California Air Resources Board Monthly Report
25. Items Deferred from Consent and Board Calendar
    There were no items deferred.

Disclosures

Councilmember Raman reported that she had no financial interest in Agenda Item No. 11 but is required to identify for the record that she is a Councilmember for the City of Los Angeles, which is involved in this item.

Supervisor Nguyen announced that she was recusing herself from Agenda Item No. 8 because of a financial interest in Zoom Video Inc., which is materially affected by this item.

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Supervisor Nguyen expressed concerns that PAR 1171 could be overly prescriptive and its impact on the UV/EB/LED industry. She requested that staff work with that industry to work toward a consensus. Executive Officer Nastri responded that staff would reach out to Ms. Rita Loof of RadTech International to discuss the issues. For additional details, please refer to the Webcast beginning at 41:48.

Supervisor Nguyen and Mayor Pro Tem Rodriguez asked for the record to show that they are in support of the following legislation in Agenda Item No. 19: AB 605 (Muratsuchi) – Lower Emissions Cargo Handling Equipment Pilot program; and SB 712 (Grove) – Smog check: collector motor vehicles: exemption. For additional details, please refer to the Webcast beginning at 56:23 and 1:02.13.

The public comment period was opened for Agenda Item Nos. 1 through 24 . The following individuals addressed the Board. For additional details, please refer to the Webcast beginning at 45:51.

Agenda Item No. 2

Rita Loof, RadTech International
Perri Katzman, International Ultraviolet Association
Howard Ragin, UV Specialties, LLC

Key comments from the above speakers include:

- Cannot support current proposed amendments to Rule 1171;
- Opposes new additional requirements for reporting, recordkeeping and labeling;
- Seeks exemption for materials associated with UV/EB/LED processes and at essential public water treatment facilities; and
- Concerned about safety issues associated with the use of electrical equipment around highly flammable acetone-based cleaners and water-borne materials.

Agenda Item No. 19

Al Sattler commented on AB 306 (Schultz), a proposed legislation that would impose a moratorium on the adoption or modification of new state and local building standards affecting residential units through 2031. He recommended that staff seek an amendment to the legislation to require that energy efficient measures be included.

(Margee Hills, Dalinef Leon, Uma Armien Funk, and Jennifer Cardenas commented on PARs 1111 and 1121, and/or the Port ISR therefore, their comments were moved to the General Public Comment Period for Non-agenda items portion of the meeting.)

There being no further requests to speak, the public comment period was closed for Agenda Item Nos. 1 through 24.

In response to Mayor ProTem McCallon's inquiry regarding comments on PAR 1171, Dr. Sarah Rees, Deputy Executive Officer/Planning, Rule Development and Implementation, pointed out that staff is working with stakeholders to address their issues and that the focus of the rulemaking is to eliminate toxic components. For additional details, please refer to the Webcast beginning at 56:47.

Mike Krause, Assistant Deputy Executive Officer/Planning, Rule Development and Implementation, commented that staff has been working with the water districts and that the proposed usage limits were established with input from the Los Angeles Department of Water and Power and the Metropolitan Water District. Staff could revisit the usage limit at a future date, if the utilities have some increased usage. For additional details, please refer to the Webcast beginning at 57:30.

Supervisor Perez requested an update on SB 712, specifically asking what amendments staff is seeking and whether it is better to leave the bill as proposed.

Philip Crabbe, Senior Public Affairs Manager/Legislative, Public Affairs, and Media, explained that SB 712 is in the Appropriations Committee and is moving through the legislative process. Executive Officer Nastri explained that part of the concern was a rolling exemption that would increase the number of cars that would be exempt from smog checks. For additional details, please refer to the Webcast beginning at 58:38.

Supervisor Mitchell commented that she would like to see a distinction between a classic car and an old car that is not considered a classic. For additional details, please refer to the Webcast beginning at 58:06.

Supervisor Nguyen recommended that staff ask the legislator to better define what cars would be eligible for the exemption and commented that she believes that this will narrow the exemption.

Vice Chair Cacciotti commented that he prosecuted smog check stations for 20 years and that these cars can be serious sources of air pollution. For additional details, please refer to the Webcast beginning at 1:03:42.

Supervisor Perez asked for clarification on AB 712. Executive Officer Nastri explained that it was his understanding that staff is going back to the author to better define the exemption such as model year and wanted to underscore the importance of the air quality benefits. For additional details, please refer to the Webcast beginning at 1:06:52.

Board Action (Items 1 – 24)

MOVED BY CACCIOTTI AND SECONDED BY MITCHELL TO APPROVE AGENDA ITEM NOS. 1 THROUGH 24 AS RECOMMENDED, RECEIVE AND FILE THE COMMITTEE, MSRC, AND CARB REPORTS, AND APPROVE THE RECOMMENDATIONS ON LEGISLATION AS SET FORTH BELOW

THE MOTION PASSED BY THE FOLLOWING VOTE:

AYES: Cacciotti, Delgado, Lock Dawson, McCallon, Mitchell, Nguyen*, Olmos, Padilla-Campos, Perez, Raman, and Rodriguez*
(*except for recommendations on AB 605 and SB 712)

NOES: Rodriguez and Nguyen (only on recommendations for AB 605 and SB 712)

RECUSE: Nguyen (only Item No. 8)

ABSENT: Hagman

Legislation	Recommendation	
AB 605 (Muratsuchi)-Lower Emissions Cargo Handling Equipment Pilot Program	Oppose Unless Amended	Support position for Nguyen and Rodriguez
AB 914 (Garcia)- Air pollution: indirect sources toxic air contaminants.	Watch	
SB 318 (Becker)- Air pollution: stationary sources best available control technology: indirect sources.	Oppose	
SB 712(Grove)-Smog check: collector motor vehicle: exemption.	Oppose Unless Amended	Support position for Nguyen and Rodriguez

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STAFF PRESENTATION/BOARD DISCUSSION/RECEIVE & FILE

26. Incident Response Overview and Efforts Related to Los Angeles Wildfires (Presentation in Lieu of Board Letter)

Due to time constraints, this item was carried over to a future meeting.

PUBLIC HEARINGS

27. Determine That Proposed Amendments to Regulation III – Fees Are Exempt from CEQA; Amend Regulation III – Fees; and Adopt Executive Officer's Proposed Goals and Priority Objectives, and Proposed Budget for FY 2025-26

Sujata Jain, Chief Financial Officer/Deputy Executive Officer, gave the staff presentation on the Executive Officer's Proposed Goals and Priority Objectives, and Proposed Budget for FY 2025-26; and Mike Krause, Assistant Deputy Executive Officer/ Planning, Rule Development and Implementation, gave the staff presentation on the proposed amendments to Regulation III. For additional details, please refer to the Webcast beginning at 1:15:19.

Supervisor Nguyen inquired about the increase in permitting fees and whether South Coast AQMD fees are comparable to other air districts. Executive Officer Nastri explained that staff did not have this information readily available, but would provide data comparing South Coast AQMD fees to the other large air districts in California at a later date. For additional details, please refer to the Webcast beginning at 1:27:12.

The public comment period was opened for Agenda Item No. 27 and the following individuals addressed the Board.

Curt Coleman, Southern California Air Quality Alliance, commended the reasonable and necessary increase in fees. He reinforced prioritizing actions to reduce the permit backlog, expediting permit evaluations and filling Engineering & Permitting vacancies. He thanked Chair Delgado and the Board for making permit processing a priority and committed to continue working with staff to address issues to remove bottlenecks in the permitting process. For additional details, please refer to the Webcast beginning at 1:28:21.

Patrick Walsh, Apex Logistics International, expressed opposition to an increase to the WAIRE mitigation fee. Staff confirmed that the Regulation III increases do not impact the WAIRE mitigation fees. For additional details, please refer to the Webcast beginning at 1:30:00.

Bill Quinn, California Council for Environmental and Economic Balance, expressed support for the budget process, the 3 percent fee increase, staff's proposal to review the Rule 1180 and 1180.1 monitoring fees for a possible later update, and the focus on permitting and permit streamlining. For additional details, please refer to the Webcast beginning at 1:31:43.

There being no further requests to speak, the public comment period was closed for Agenda Item No. 27.

Board Action (Item 27)

MOVED BY LOCK DAWSON AND SECONDED BY CACCIOTTI TO APPROVE AGENDA ITEM NO. 27 AS RECOMMENDED AND SET FORTH BELOW.

1. ADOPT RESOLUTION 25-8:

   A. DETERMINING THAT THE PROPOSED AMENDMENTS TO REGULATION III – FEES, WHICH INCLUDE PROPOSED AMENDED RULE 301 – PERMITTING AND ASSOCIATED FEES, PROPOSED AMENDED RULE 303 – HEARING BOARD FEES, PROPOSED AMENDED RULE 304 – EQUIPMENT, MATERIALS AND AMBIENT AIR ANALYSES, PROPOSED AMENDED RULE 304.1 – ANALYSES FEES, PROPOSED AMENDED RULE 306 – PLAN FEES, PROPOSED AMENDED RULE 307.1 – ALTERNATIVE FEES FOR AIR TOXICS EMISSIONS INVENTORY, PROPOSED AMENDED RULE 308 – ON-ROAD MOTOR VEHICLE MITIGATION OPTIONS FEES, PROPOSED AMENDED RULE 309 – FEES FOR REGULATION XVI AND REGULATION XXV, PROPOSED AMENDED RULE 311 – AIR QUALITY INVESTMENT PROGRAM (AQIP) FEES, PROPOSED AMENDED RULE 313 – AUTHORITY TO ADJUST FEES AND DUE DATES, PROPOSED AMENDED RULE 314 – FEES FOR ARCHITECTURAL COATINGS, PROPOSED AMENDED RULE 315 – FEES FOR TRAINING CLASSES AND LICENSE RENEWAL, PROPOSED AMENDED RULE 316 – FEES FOR RULE 2305, AND PROPOSED AMENDED RULE 316.2 – FEES FOR RULE 2306, ARE EXEMPT FROM THE REQUIREMENTS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT; AND

   B. AMENDING REGULATION III – FEES, WHICH INCLUDES PROPOSED AMENDED RULES 301, 303, 304, 304.1, 306, 307.1, 308, 309, 311, 313, 314, 315, 316, AND 316.2. 2.

2. APPROVE THE EXECUTIVE OFFICER'S PROPOSED GOALS AND PRIORITY OBJECTIVES, AND PROPOSED BUDGET FOR FY 2025-26;

3. REMOVE FROM RESERVES AND DESIGNATIONS ALL AMOUNTS ASSOCIATED WITH THE FY 202425 BUDGET;

4. APPROVE APPROPRIATIONS IN THE MAJOR OBJECTS FOR FY 2025-26 OF:

Salary and Employee Benefits	$183,377,267
Services and Supplies	32,700,978
Capital Outlays	1,550,000

Transfers Out	2,000,000
Total	$219,628,245

5. APPROVE REVENUES FOR FY 2025-26 OF $215,441,340;
6. APPROVE THE ADDITION OF FIVE NET AUTHORIZED/FUNDED POSITIONS AS DETAILED IN THE FY 2025-26 BUDGET; AND
7. APPROVE A PROJECTED JUNE 30, 2026 FUND BALANCE OF THE FOLLOWING:

Classification[1]	Reserves/Unreserved Designations	Amount
Committed	Reserve for Encumbrances	$26,800,000
Nonspendable	Reserve for Inventory of Supplies	80,000
Assigned	Designated for Enhanced Compliance Activities	883,018
Assigned	Designated for Other Post Employment Benefit (OPEB) Obligations	2,952,496
Assigned	Designated for Permit Streamlining	234,159
Assigned	Designated for Self-Insurance	2,000,000
Assigned	Designated for Unemployment Claims	80,000
Total Reserved & Unreserved Designations		$33,029,673
Unassigned	Undesignated Fund Balance	$74,580,212
[1]The fund balance classifications of Committed, Nonspendable, Assigned, and Unassigned are established by the Government Accounting Standards Board 54.		

THE MOTION PASSED BY THE FOLLOWING VOTE:

AYES: Cacciotti, Delgado, Lock Dawson, McCallon, Nguyen, Olmos, Padilla-Campos, Perez, Raman, and Rodriguez

NOES: None

ABSTAIN: Mitchell

ABSENT: Hagman

28. Report on South Coast AQMD Vacancies, and Recruitment and Retention Efforts for 2024

John Olvera, Deputy Executive Officer/Administrative & Human Resources, gave the staff presentation on Agenda Item No. 28. For additional details, please refer to the Webcast beginning at 1:15:19.

The following South Coast AQMD employees addressed the Board on behalf of the SCPEA and Teamsters Local 911 bargaining units: Brian Vlasich, SCPEA and Jennifer Nessler and Keith Brown, Teamsters.

Supervisor Mitchell thanked the representatives from the bargaining units for bringing forward their recommendations and asked Mr. Olvera whether the data collected

from exit interviews have identified a pattern of reasons behind the departure of employees. Mr. Olvera responded that the data reflects varied reasons for employees leaving. For additional details, please refer to the Webcast beginning at 1:51:40.

Supervisor Perez suggested that staff conduct a market compensation analysis to see how salaries and benefits compare to other agencies. He commented on the importance of finding the right balance between internal and external recruitment and suggested employing a holistic approach that bridges the gap between practical experience and academic knowledge. For additional details, please refer to the Webcast beginning at 1:53:05.

In response to Mayor Lock Dawson's inquiry about a salary survey and reclassification study, Mr. Olvera responded that it was agreed to in last year's labor negotiations to conduct salary surveys for the Teamsters benchmark classifications and a full compensation study for the SCPEA positions. Both studies are in the final stages and will be finalized this month. For additional details, please refer to the Webcast beginning at 1:57:03.

The public comment period was opened for Agenda Item No. 28. The following individual addressed the Board.

Bettina Burleigh Sanchez-Castro, a South Coast AQMD employee and SCPEA member, expressed concerns with communication from leadership and how it impacts employee morale and productivity. She commented on how important it is to acknowledge and show appreciation to employees for their hard work and contributions to the agency and urged the Board to direct management to actively work to increase employee engagement and help promote open and honest information sharing. For additional details, please refer to the Webcast beginning at 1:58:15.

Al Sattler expressed support for South Coast AQMD employees and commented on the swift response and professionalism of staff that he has experienced. For additional details, please refer to the Webcast beginning at 2:01:45.

There being no further requests to speak, the public comment period for Agenda Item No. 28 was closed.

Supervisor Perez commented on the value of communication in an organization and expressed support for efforts to improve overall communication at the South Coast AQMD. He commented on the importance of creating a safe space where employees feel comfortable sharing their ideas and concerns and suggested exploring ways to improve communication. For additional details, please refer to the Webcast beginning at 2:02:40.

Vice Chair Cacciotti inquired about the reason for the high vacancy rate in the Technical & Enforcement and Office Clerical & Maintenance bargaining units. For additional details, please refer to the Webcast beginning at 2:05:05.

Mr. Olvera explained that many of those vacancies resulted from employees being promoted to a higher-level position within the organization. The internal promotions create vacancies at the lower-level positions, resulting in a continual effort to balance the different priorities. For additional details, please refer to the Webcast beginning at 2:06:50.

Vice Chair Cacciotti commented on the current trend that shows employers moving away from teleworking. He asked Mr. Olvera to comment on the South Coast AQMD survey that shows a high percentage of employees consider telework as the top factor that contributes to them working and staying at the South Coast AQMD. For additional details, please refer to the Webcast beginning at 2:08:14.

Mr. Olvera commented that the revised telework program was implemented effective April 1, 2025 and nearly all employees have submitted their telework applications. He reported that there has been a good response to the program, but noting that some employees would like to telework more. For additional details, please refer to the Webcast beginning at 2:08:38.

Mayor Pro Tem Rodriguez expressed appreciation for the thoughtful comments and recommendations from the bargaining units and recognized their desire for collective empathy and an understanding of their perspective. Mayor Pro Tem Rodriguez recommended that staff provide a status update to the Board at a future meeting on these issues. For additional details, please refer to the Webcast beginning at 2:09:29.

Councilmember Raman appreciated hearing the perspective of the bargaining units and that management continues to engage with employees and refine the metrics. She commented on looking forward to ensuring that the issues brought up today would be addressed. Mayor Pro Tem McCallon agreed with the comments of his colleagues and highlighted the need to provide support to employees. For additional details, please refer to the Webcast beginning at 2:11:37.

(This was a receive and file item; no action was required from the Board.)

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CLOSED SESSION

The Board recessed to closed session at 11:13 a.m. pursuant to Government Code sections:

CONFERENCE WITH LEGAL COUNSEL – INITIATING LITIGATION
Government Code § 54956.9(a) and § 54956.9(d)(4), to consider initiation of litigation:

- San Joaquin Valley Air Pollution Control Dist. v. Setton Pistachio of Terra Bella, Inc., Fifth District Court of Appeal, No. F088471 (amicus brief).

CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION
Government Code § 54956.9(d)(2), to confer with legal counsel on anticipated litigation:

Significant exposure to litigation.

Following closed session, General Counsel Bayron Gilchrist announced that a report of any reportable actions taken in closed session will be filed with the Clerk of the Board.

ADJOURNMENT

There being no further business, the meeting was adjourned by General Counsel Bayron Gilchrist at 11:24 a.m.

The foregoing is a true statement of the proceedings held by the South Coast Air Quality Management District Board on May 2, 2025.

Respectfully Submitted,

Faye Thomas
Clerk of the Boards

Date Minutes Approved: _____

_____
Vanessa Delgado, Chair

Attachment A – PAR 1111 and PAR 1121 Public Comments

ACRONYMS

CARB = California Air Resources Board
CEQA = California Environmental Quality Act
FY = Fiscal Year
ISR = Indirect Source Rule
MSRC = Mobile Source Air Pollution Reduction Review Committee
PAR = Proposed Amended Rule
SCPEA = South Coast Professional Employees Association
UV/EB/LED = Ultraviolet/Electron Beam/Light Emitting Diode
WAIRE = Warehouse Actions and Investments to Reduce Emissions

Attachment A to the Minutes – May 2, 2025 Governing Board Meeting
PAR 1111 AND PAR 1121 PUBLIC COMMENTS

GENERAL COMMENTS

- Kevin Barker, SoCalGas
-Mayor Cindy Warren, City of Murrieta
- One letter signed by the following organizations: - Adrian Martinez/Fernando Gaytan/Matt Vespa/, Earthjustice; Chris Chavez, Coalition for Clean Air; Gracyna Mohabir, California Environmental Voters; and Kimberly Orbe, Sierra Club Angeles Chapter

COMMENTS OPPOSING PAR 1111 AND PAR 1121

-Resolution No. 2025-024, City of Anaheim

Mayor L. Anthony Beall, City of Rancho Santa Margarita
Katherine Johansen, Trident Management LLC
Councilman Sean Mill, City of Riverside
Mayor Jim Steiner, City of Corona
Daniel M. Yukelson, Apartment Association of Greater Los Angeles

Dee Ashley
Victor Barrett
Ashton Bartlett
Dr. Dale Broome, Redlands
Krista Cole
Estrella Craft
Jerry Crowden
Diane Dale
Debbie
Ben Granger
Marilyn Granger, Upland
Jamee Hendricker
Geraldine Hilbig, San Bernardino County
Howard Homan
Ernest Tery Jakel, Orange
Kathi Kisiel, Riverside
Jay Loggins
Mary Lund
Alan Meinicke, Banning
Walter Mirczak, Laguna Niguel
Dr. Robert Moreta, Huntington Beach
Jerry Myers, Laguna Beach
Suzanne Owens
Kimberly Racette
Valerie Rodriguez
Cheryl Van Gelder
David S Watkins
Dixie Watson
Lawrence Westen
Norma Yaeger
Gaylene Young

COMMENTS SUPPORTING PAR 1111 AND PAR 1121

-Paul J Miller, Northeast States for Coordinated Air Use Management (NESCAUM)

Connie Perez Moreno
Janet Albaugh, Beverly Hills
Kevin Brandon, Palm Desert
Rhonda Church, San Clemente
Lissette Rodriguez, Pasadena
Denise Vandermeer, Woodland Hills
Nora Coyle, Anaheim
D. Fachko, Buena Park
Pat Wong, Yorba Linda
Linda Rosenberger Haider
Bonnie Biddison, Oak Park
Susan Savage, Studio City

- Letters submitted by 350.org signed by the following individuals:

Charles Abele, Berkley
Mike W. Abler, Santa Cruz
Inger M. Acking, Berkely
Victoria Maxson Ada, Mountain View
Julie Adelson, San Pedro
Storm E. Ainsely, Winters
Katherine Aker, Tujunga
John Alexander, Oceanside
Zsanine Alexander, Burbank
David D. Allen, Encino
Anne M. Van Alstyne, Redondo Beach
Cristina Amarillas, Santa Rosa
Jon Anderholm, Cazadero
Judith Graham Anderson, San Luis Obispo
Frank and Jane Anderson, San Pedro
Dorothy Anderson, Weymouth
Joan Anderson, Berkley
JL Angell, Rescue
Bonnie Joy Arbuckle, Riverbank
Carlos A. Arnold, Santa Maria
Linda Christine Artiaga, San Diego
Tom Atha, Alhambra
Ed Atkins, Boulder Creek
Nancy Attanasio, Pasadena
Gina Axsom, Los Osos
Marc Azar, Los Angeles
B. E. Westlake Village
David Baca, Berkley
Ron Bachelor, Chula Vista
Lois Bacon, Watsonville
Steven Balch, Gualala
Sharon Bambridge, San Francisco
Soraya Barabi, Los Angeles
Susannah Barley, Fairfax
Rob Barnes, Junction City
Warren Barton, Valley Village
Michael Batek, Sunnyvale
Lori Bates, Oxnard
Gary Baxel, Cathedral
Joslyn Baxter, Mill Valley
David Beaulieu, Los Angeles
Paul Bechtel, Redlands
Gary Beckerman, Santa Ynez
Kae Bender, Lancaster
Elaine E. Benjamin, Alpine
Sue Anne Bennett, Citrus Heights
Christopher Bennett, Napa
Annette Benton, Pittsburg
Abbie Rachel Bernstein, West Hollywood
Yolanda Berumen, Baldwin
Blaze Bhence, Cypress
Robert A Blackey, Claremont
Elaine Boles, Santa Cruz
Martha L Booz, El Sobrante
Michael Bordenave, Fresno
Kate Bordisso, Mill Valley
Roxanne Bornowski, San Diego
Bunny Bornstein, Mountain View
Vic Bostock, Altadena
Lauren Bouyea, Muir Beach
Aileen Boyce, Santa Barbara
Diane Boyd, Oakland
Esther Bradley-DeTally, Altadena
Danielle Bratis-Smith, Lakewood
Pam Brigg, El Cerrito
Lisabette A. Brinkman, Santa Barbara
Susan A. Brisby, Lancaster
Holger Brix, Altadena
Damon Brown, Los Angeles
Paula May Buel, Berkley
Tammy Jo Bullock, Ramona
Russell Burke, Gurneville
David Burtis, Calistoga
Sam Butler, Los Angeles
Vicki Call, Santee
Allan Campbell, San Jose
Christa C Cape, Cotati
Len Carella, San Francisco
Eric. L. Carlson, Ventura
Cathleen Carlson, Torrance
Josh Carman, Berkley
Jim Carnal, Bakersfield
Willaim Carney, San Rafael
Patrick Carr, Arcata
Stephen J. Carrillo, Albany
Colleen Carroll, Santee
Linda Carroll, Santa Rosa
Diana L Cassady, Sacramento
Susan J Cavalieri, Santa Cruz
Daniel Chandler, Trinidad
Daniel W. Chandler, Trinidad
Scott Chapman, San Luis Obispo
Mahin Heidary Charles, San Francisco
Charles B., Tarzana
Charlie A., Soulsbyville
Meera Cheriyan, Los Angeles

Lisa Chipkin, North San Juan
Yasmin Chitty, San Francisco
AJ Cho, San Leandro
Abdul Chowdhury, Chino Hills
Gail Church, El segundo
Lori CL, Agoura Hills
Pam Clark, San Diego
Sarada Cleary, Oceanside
Shiela Cockshott, Belmont
Lynette C. Coffey, Shasta Lake
Jennie A. Cohen, Pasadena
Cynthia Coley, Lake Forest
BethAnn F. Coombs, Sacramento
James Cooper, Ojai
Susan Cooper, Concord
Ruth H. Cooper, Ojai
John C. Copoulos, San Francisco
Linda D. Cornejo, Fullerton
Karen Cornell, Placerville
Ramona Coronado, Pasadena
Ronit Corry, Santa Barbara
Pablo Cortes, North Hollywood
Edythe E. Corum, Clovis
Nora Coyle, Anaheim
John Crahan, Los Angeles
Willaim Crist, Pacifica
Margaret Crocco, Santa Barbara
C. S., San Diego
Cynthia Cudaback, Oakland
Kermit F. Cuff, Mountain View
John Curtiss, Los Angeles
Laura Daniels, Cambria
Jessica J. Dardarian
Janet Daughtery, San Diego
Jill Davine, Culver City
Donald R. Davis, Calabasas
Ellen Davis, Los Angeles
Miriam Davis, Caspar
Melissa Davis, Paso Robles
James Dawson, Davis
Patricia Day, Victorville
Slyvia D. De Baca, San Dimas
Terri L. Decker, Redding
Lee Dedini, Bayside
Paula DeFelice, Richmond
Cheryl Demmon, Vallejo
Karla Denise, San Ysidro
Marilyn B. Dennis, North Hills
Carol Devoss, St. Charles
Natashja Dewolf, San Francisco
Wendy Diamond, Berkley
Carol A. DiBenedetto, San Francisco
Barbara Diederichs, Poway
Dennis Dierks, Bolinas
Susan M. Digiulio, Los Angeles
J Howard Dillon, Bolinas
Barbara Dincau, Ventura
Sheila Dixon, Concord
Sheila K. Dixon, Concord
Irene Dobrzansk, Arcadia
Jacoba Dolloff, La Mesa
Andrea Dorn, El Cerrito
Ann Dorsey, Northridge
Larry Dorshkind, Redwood
Arnaud Dunoyer, Venice
Tracy Durden, Martinez
Elaine Durson, San Diego
Deborah Ebersold, West Hollywood
Volker Eckl, San Francisco
Charles Eigenbrot Burlingame
Greg A. Eisenberg, Pasadena
Roma Eisenstark, Los Angeles
Nishanga Elizabeth, Berkley
Stephanie Ellis, San Francisco
John Engell, San Jose
Victoria Erickson, Aptos
Manuel Jose Espinosa, Santa Clara
Dan Esposito, Manhattan Beach
Ian Evans, Santa Barbara
Leah Fagundes, Richmond
Da W Farwell, Carmel-by-the-sea
David K Faubion, Fontana
Tony Federico, San Diego
James E. Feezor, Windsor
Paul Felice, Long Beach
Peter J Fenczik, San Francisco
Reed Fenton, Lake Balboa
Valerie Ferguson, Calabasas
David R Field, Santa Cruz
Thomas Filip, Moorpark
Larry Fish, Moreno Valley
Marcia Flannery, Oakland
Marla Flores-Jaurequi, Sacramento
Smone F Fonseca, Victorville
Joel P Foster, Murrieta
Nicole Fountain, Lincoln
Michelle Fox, Downey
Laruie Fraker, EL Centro
Linda Frankel, Berkley
Heather R. Freeman, Long Beach
Adrian R Fried, Novato
Lawrence Friedrich, Simi Valley

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PAR 1111 AND PAR 1121 PUBLIC COMMENTS

Susan Fuchs, Granada Hills
H. G., Citrus Heights
B. G., Santa Cruz
Richard Gallo, Santa Cruz
Sandra Gamble, Ridgecrest
Pete L. Gang, Petaluma
Ked Garden, Lemon Grove
Darrell W. Gauff, Santa Rosa
Lisa Geiszler, Lodi
Catherine George, Napa
Marion Gerlind, Oakland
Michael Keith Gertz, San Francisco
Christopher Andrew Geukens, Northridge
Lisa Gherardi, Los Gatos
Tracy C. Gibbons, Los Altos
Phoneix Giffen, Petaluma
Harry Gifford, Palm Springs
Patricia Gil, Pico Rivera
Tracy Gilbert, Rialto
Michael Gilgun, Chula Vista
Lynda Gilgun, Chula Vista
Mary Gilman, Vista
Mark Ginsburg, Santa Cruz
MaryAnne Glazar, Oakland
Diana Goad, Dublin
Gary A. Goetz, Pacific Grove
Martha Goldin, San Francisco
Chip Goldstein, Half Moon
Mark Golembiewski, Pacifica
Isabel Gomez, Pleasanton
Yazmin Gonzalez, Bellflower
Patricia Goodson, Clearlake
Melinda Gorden, Covina
Rebecca Gordon, San Mateo
Dara L. Gorelick, Van Nuys
Jenny Gottstein, Volcano
Mark Gotvald, Pleasant Hill
Arthur Gould, Grass Valley
Scott Graham, Santa Cruz
Caryn Graves, Berkley
Jamie Green, Ventura
Christine Griffin, Blue Lake
Edric Guise, El Segundo
Jeff Haas, Los Angeles
Caroline Van Haeften, Ventura
Sharon Rose Hafner, Eureka
Judy Haggard, McKinleyville
Brenda Haig, Long Beach
Lucia Hall, San Diego
Leah Halper, Santa Rosa
Laura Hamai, Palo Alto
James Hamilton, Palos Verdes Estates
Elizabeth Hamilton, La Jolla
Robin A. Hamlin, McKinleyville
Roland Hansson, Redlands
Barbara A. Harper, Castroville
Charesa Harper, Napa
Elaine Harpster, San Diego
Rodney Harris, Sacramento
Susan L. Harris, Walnut Creek
Michael Harrop, Riverside
Ali Hart, Los Angeles
Penny Hartman, Sonoma
Nancy Hartman, Lafayette
Brenda Hattisburg, Oakland
Nancy Havassy, Oakland
Priscilla M. Hawkins, Lee Vining
Cheryl Hay, Ramona
Noah Haydon, Daly City
Helen Hays, Walnut Creek
Daniel J. Heffernan, El Cerrito
Janet G. Heinle, Santa Monica
Lesle Helgason, Pelle beach
Nancy Helgeson, San Diego
Karen K. Hellwig, Los Angeles
Elliot Helman, San Francisco
Charlene Henley, San Jose
Margartia Garcia Hernandez, Daivs
Laura Herndon, Burbank
Beth Hernodobler, Pasadena
Ana Herold, Pacifica
Lacel L. Hicks, Fremont
Susan Hix, Oro Grand
Lauren Ho, Huntington
Lynn Hoang, Fullerton
Helen D. Hobart, Sacramento
Dan Hodapp, San Francisco
Dannyboy Hodul, Fairfax
Sharon Hoffmann, Mariposa
Donald Holcomb, El Cajon
Carla Holgun, Los Angeles
Karla Holmberg, Concord
Jane C Holt, Los Altos
Joan Holtzman, Palo Alto
Kwana Hood, Antioch
Winifred Hopkins, Fullerton
Andrea Horbinski, Kensington
Andrea Horbinski. Kensington
Judy Hornaday, San Luis
Caleb Horton, Chicago IL
Martin A. Horwitz, San Francisco
Joe Houde, Vista

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PAR 1111 AND PAR 1121 PUBLIC COMMENTS

Tim Howard, Arcata
Trudi Howell, San Diego
Sherrie Howell, Pleasanton
Molly Huddleston, Santa Rosa
Roland Von Huene, Los Gatos
Myphon Hunt, Healdsburg
Jeffrey A. Hurwitz, San Francisco
Melissa Hutchinson, Pacific Grove
Nancy R. Ihara, Arcata
J. B. Antelope
Joann Jackson, Altadena
William Jacobson, San Jose
Karen Jacques, Sacramento
Dhaani Jeevani, San Jose
Lizann Keyes, Santa Cruz
Jim P. San Jose
Lawrence Jimenez, Los Angeles
Deanna Johnson, Davis
Lisa Johnson, Santa Cruz
Robert Johnson, El Segundo
Craig Johnson, Oakland
Michael A. Johnston, San Diego
Jan Jones, El Cerrito
Shawn Jones, Pismo Beach
Alena Jorgensen, Temple City
Scott W. Jung, South Pasadena
Marti Jurick, Moorpark
Karen Justin, Irvine
Cynthia L. Juvinall, San Gabriel
Saran K. Los Angeles
N Kaluza, El Sobrante
Julie Ann Kanoff, Sacramento
Vicki Kaplan, Glendale
Tim Katz, Calabassas
Marjory A. Keenan, Berkley
Ben A. Keller, Oakland
Lisa Kellman, San Francisco
Kris Kelly, Sonoma
Thomas Kennedy, Ventura
Charlene Kerchevall, Oceanside
Jerry Kessinger, Lynwood
Catherine Kessler, Oakland
Dr. Mha Atma Khalsa, Los Angeles
John Kim, Mountain View
Sue King, Pleasanton
Jeanette King, Livermore
Judith S. Kirk, Redwood
Karen Kirschling, San Francisco
Betty Kissilove, San Francisco
Dan and Lilly Kittredge, La Mesa
Renee Klein, Marina del Rey
Linda Klein, El Segundo
Diana Kliche, Long Beach
George F. Klipfel II, Cathedral City
Susan Knee, La Jolla
Susanna E Knittel, Santa Monica
Kent Koontz, Fresno
Diane Krell-Bates, San Diego
Ann Krooth, Berkley
Judy Kukuruza, Bakersfield
Beth Lander, San Diego
Martha B. Landrum, Stockton
Mitch S. Langelle, Valley Village
Kenneth Lapointe, Los Angeles
Venetia Large, Altadena
Stephanie Larro, Woodland Hills
Hugh Lawarence, Carlsbad
Laura Layton, South Pasadena
Cathering Lazl, Encinitias
Gail Lee, San Bruno
Peter B. Lee, San Franscisco
Janet Leen, Rancho Mission Viejo
Cynthia Lees, Santa Barbara
Lynda Leigh, Santa Cruz
Laura Leipzig, Berkley
Mary Leveque, Santa Rosa
Chris Leverich, Playa del Rey
Marilyn Levine, Palo Alto
Laurie A Lewis, Berkley
Kathleen Licatorto, San Rafael
George Licina, Santa Rosa
Naomi Lidicker, Kensington
Sharon Lieberman Annapolis
Ivan Light, Inverness
Carolyn Lilly, Santee
Alice Lin, Moreno Valley
Lauren Linda, Laguna Woods
Connie K Lindgren, Arcata
Ramona Lione, San Jose
Ellen D. Little, Studio City
Suzanne Llewellyn, Walnut C
John Lloyd, Emeryville
George William Lloyd, Placerville
Melanie Loo, Sacramento
Frank E. Lorch, San Francisco
Lanelle Lovelace, Columbia
Penny Luce, Santa Barbara
Nancy Lund, Benicia
Bill Lundeen, Fort Bragg
Steve Lustgarden, Santa Cruz
Rick Luttmann, Rohnert Park
Rhonda Lyle, Granada Hills

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Marsha R. Lyon, San Diego
Laura Madjedi, Kneeland
Maureen Mahon, Los Angeles
Cathy Mahoney, Oakland
Janet Anne Maker, Los Angeles
Janet Maker, Los Angeles
Amira Mansour, Irvine
Marina Marcroft, Oakland
Martin Marcus, San Diego
Kevin Markoe, Watsonville
Karen Markus, San Francisco
Sally Marone, Livermore
Susanna S. Marshland, Kensington
Rebecca Martin, Sacramento
Irene Martin, Los Angeles
Nico Martinez, San Diego
Meryl Martino, Mammoth
Lisa Marvin, Concord
Dave Massen, San Francisco
Deborah Materi, Novato
Diana Sayler Matsushima, Glendale
Dana May, Garden Grove
Carl May, Moss Beach
Julie May Los Angeles
Toni S. Mayer, El Cerrito
James M. McArdie, Ukiah
Mary McAuliffe, Los Angeles
Susanne McCandless, La Jolla
Cynthia McCarthy, Ladera Ranch
Karen McCaw, Los Angeles
Jane McCullough, Pasadena
Evan McDermit, Fullerton
Bernard Mcgrane, San Clemente
Rohana McLaughlin, San Anselmo
Michael McMahan, Huntington Beach
MaryLou Meeks, Palo Alto
Marianna Mejia, Soquel
Lily Mejia, Hemet
Leo Melena, Escondido
Mark Mendelsohn, Ventura
Karynn Merkel, Eureka
Evan Merz, San Jose
Cindy Meyers, La Selva Beach
Hildy Meyers, Huntington
Connie Miatech, Nevada City
Adrianne Micco, Vacaville
Veronica L. Michael, Fairfield
Heidi Miller, North Hills
Stephanie Miller, Santa Ana
Bee Mittermiller, La Jolla
Jane L. Moad, Santa Rosa
Erin Marie Moilanen, Santa Rosa
Carol E. Mone, Trinidad
Gsry Mono, Fairfax
Dana Monroe, National City
Cecile Moochnek, Berkley
Hugh Moore, Los Angeles
David Moore, Los Angeles
Hugeutte Marie Moran, Long Beach
Tod Moreland, Apple Valley
Henry J. Morgen, Los Angeles
Sue Lee Mossman, Arcata
Glenda Mullis, Covina
George Munoz, Stockton
Saara Muscat, San Francisco
Raquel Narvios, San Francisco
Tem Narvios, San Francisco
Filomeno Narvios, San Francisco
Utkarsh Nath, Fremont
Carlos Navarrette, Los Angeles
Julie A Neidich, Ladera Ranch
Dency Nelson, Hermosa Beach City
Scott Nelson, Carnelian Bay
Carolyn C. Nettles, Oakland
Suzanne Nevins, Warner Springs
Roberta E. Newman, Mill Valley
Alice Nguyen, San Jose
Loan K. Nguyen, Murrieta
Jana Mariposa Niernberger, Santa Rosa
Elizabeth Weber Novak, Saint Helena
Maria Nowicki, San Francisco
Tom Nulty Jr, Laguna Hills
Angela Oakley, Claremont
Abraham Oboruemuh, Riverside
Charles O'Brien, San Francisco
John Oda, San Francisco
Christine Oda, San Francisco
Joan Odwyer, Los Angeles
Grant Olin, Fall River Mills
Chris Omalley, San Diego
Steve Ongerth, Richmond
Kay Opsital, Woodacre
Michelle Orengo-McFarlane, El Sobrante
Julie Osborn, Folsom
Hillary Ostrow, Encino
Toshio Ozawa, San Gabriel
Henry D. Paden, Richmond
Trisha Pahmeier, Vista
Sharon Paltin, Laytonville
Jane M. Paneitz, Healdsburg
Tyyne Parakhen, San Diego
Benjamin Park, West Hollywood

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Oliver Parker, Washington DC
Tony Parker, Sacramento
Elaine Leitmann Parker, Berkley
Katherine Patterson, Fort Bragg
Karen Patterson, Oakdale
James Patton, Los Altos
Juliet S Pearson, Grass Valley
Deborah Peri, Santa Cruz
Tiziana Perinotti, San Francisco
Anne R. Perkins, Los Angeles
Gregory Perkins, Long Beach
Susan Perry, Cambria
Dawn Peterson, Sonoma
Davin Robert Peterson, Eureka
Carolyn Pettis, Saugus
William Pevec, Sacramento
Patricia E. Philipps, Grass Valley
Ellen H. Phillips, Berkley
Carol Phillips, Spring Valley
Sherry L. Pimsler, Santa Rosa
Sydney Pitcher, Lemon Grove
Tom Pitman, Burbank
Ryan Plume, Temple City
Alice Polesky, San Francisco
Bret Polish, Reseda
Jackie Pomies, San Francisco
Terry Poplawski, Ukia
John Poss, Fresno
Isabella Potenzini, Los Angeles
Ann Poulson, Redwood City
Judith Poxon, Sacramento
Karen Preuss, Cotati
Marilyn Price, Mill Valley
Nora Privitera, Oakland
Cynthia Radford, Calistoga
Annette M. Raible, Petaluma
Maria Elena Ramirez, Ojai
Paul Ramos, Santa Ynez
Eury Ivan Ramos, Hayward
Alvaro Ramos, San Leandro
Sidney Ramsden, Pebble Beach
Ben Ramsden-Stein, Santa Cruz
Joan Raphael, San Diego
Barbara Rasmussen, San Diego
Thomas F. Ray, Novato
Nancy Rea, Los Angeles
Edward C. Redig, Paso Robles
Maryellen Redish, Palm Springs
Robert Reed, Laguna Beach
Mike Register, Laguna Woods
Courtney Reid, Calabasas
John Reid, Davis
Indiana M. Reid-Shaw, Santa Cruz
Jennifer Reinish, Santa Barbara
F. Carlene Reuscher, Costa Mesa
Debra Reuter, Vacaville
Ruth M Rezos, Sacramento
Jay S. Rice, Novato
Lonna Richmond, Muir Beach
Kat Riley, Boston
Wendy Ring, Bayside
Jeanne Ripp, Bellingham
Barbara Lynn Rivenes, Grass Valley
Virginia Robbins, Pasadena
Marnin Robbins, Blue Lake
Chuck Rocco, Simi Valley
Christina Roe, Fresno
Thomas Rogers, Chatsworth
Margaret Rogers, Redwood City
Joyce E. Romano, San Francisco
Greg Rosas, Castro Valley
Chris Rose, Petaluma
Stephen S. Roseblum, Palo Alto
Ken Rosen, Beverly Hills
Ken Rosenblad, Berkley
David Rosenstein, Santa Monica
Michael Rotcher, Mission Viejo
Donald J. Rothberg, Berkley
Jen Rund, Novato
Sher Russel, Van Nuys
Michael Russell, Santa Paula
Nancy Lee Ruyter, Claremont
Derek T. Ryder, Los Angeles
Stephanie Saccardi, Redwood City
Steve Sacks, Fresno
Roy Sakamoto, Fresno
Elizabeth Sala, Rancho Palos Verdes
Jan C. Salas, Santa Cruz
Robert Salinger, Claremont
Jonathan Sampson, Santa Rosa
Ken Sanford, Escondidio
Alfa Santos, Chula Vista
Michael Sarabia, Stockton
Anonio Sarmiento, La Jolla
Rondi Saslow, Oakland
Pamela Alice Saulter, Perris
Alan Jay Saunders, Sacramento
Laura Saunders, San Francisco
Robert Saunders, Sacramento
Richard Saunders, Oakland
Kevin Schader, Pleasant Hill
Carol Schaffer, San Pablo

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Amy Schaffer, San Diego
Myra Schegloff, Santa Monica
Laurie Schick, Santa Monica
Laurie Schick, Beverly Hills
Bob Schildgen, Annapolis
Nancy Schimmel, Berkely
Madeline Schleimer, Pasadena
Fred Schloessinger, Huntington
Susan von Schmact, Watsonville
Diane Schnitzer, Hemet
Diane Schulz, Santa Rosa
Anna Scotti, Burbank
Pauline Margaret Seales, Santa Cruz
Chris Seaton, Santa Barbara
Lisa L. Selby, Santa Rosa
Monica Sena, Whittier
Mehry Sepanlou, Beverly Hills
Karina Serrato, Anaheim
Bonnie Shand, Bayside
Madeline Shapiro, Whittier
Avi M. Shapiro, Berkeley
Laura J. Shapiro, San Francisco
Skip Shaputnic, San Diego
Donna Sharee, San Francisco
Donna Shaw, Simi Valley
A.F. Shayne, Los Angeles
Margaret Dawn Shekell, Los Angeles
Ruth Sheldon, Brisbane
Mary Loyd Shell, Ridgecrest
Erika Shershun, San Francisco
Valerie Shiderler, Olviehurst
Theresa Shiels, Half Moon Bay
Dave Shukla, Long Beach
Marguerite Shuster, Pasadena
Marc Silverman, Los Angeles
Philip Simon, San Rafael
Carole Sky, Vallejo
Kevin Slauson, Alameda
Mews Small, Santa Monica
Martin J Smallen, Morgan Hill
Joe Smith, El Cajon
Judith Smith, Oakland
Marilynn M Smith, San Jose
Terrie Lee Smith, Spring Valley
Alex Sokolow, Santa Monica
Joel B. Sokolsky, Walnut Creek
Alan L. Solomon, Palm Desert
Jan Sownie, Bellflower
Marci Lynn Marc Spencer, Castro Valley
Edh Stanley, Sacramento
Stef B, San Francisco
Mayoor Steinberg, Berkley
Neal Steiner, Los Angeles
Alyssa Steiner, Santa Cruz
Matt Stempeck, MA
Wayne Steneck, Novato
Kat Stephens, Santa Rosa
John Steponaitis, San Francisco
Dana L. Stewart, Lakeside
Brian Still, San Diego
Blackie Straussburg, El Segundo
Laura Strom, Los Angeles
Liz Stromath, Manhattan Beach
Anne-Christine Strugnell, San Rafael
Carol Studebaker, La Jolla
Carrey Suckow, San Francisco
Sylvia Sullivan, Goleta
Cindy Sumida-Scott, Menlo Park
Susan Summers, Carmichael
Diana Sutton, Daly City
Joe Swift, Camarillo
Juliet Sybil Pearson, Grass Valley
Robert Taft, Salinas
Christopher Tan, Rancho Cucamonga
Elmira Tap, San Francisco
John P Teevan, Chula Vista
Deborah Temple, San Rafael
Jean Tepperman, Berkley
Doug Thompson, Morongo Valley
Erh-yen To, Sacramento
A. Somerset Tokken, San Francisco
Michael Tomczyszyn, San Francisco
Nicole Tominberg, North Hollywood
Karen Toyohara, La Mesa
Nancy J. Treffy, Aromas
Dennis Trembly, Rancho Palos Verdes
Charles Tribbey, Pismo Beach
Dana Trick, Moorpark
Susan Trivisonno, San Jose
Carl Trumello, Palo Alto
Justin Truong, San Francisco
Tallulah Turner, Palo Alto
Bibbie M. Upson, Oceanside
Athya Uthayakumar, Sunnyvale
Consuelo Valenzuela, Biggs
Zoe Vanderschmidt, La Crescenta
John Varga, Rancho Mirage
Bud Veliquette, Occidental
Ana Vertel, Berkley
Alexander Vollmer, San Rafael
Roger Vortman, Santa Cruz
Inge Wagner, Los Angeles

Susan V. Walker, Lake Arrowhead
Patrice Wallace, Santa Cruz
Paul Waller, Woodland Hills
Hunter Wallof, Soulsbyville
Ernie A. Walters, Union City
Penelope Ward, Topanga
Christopher Ware, Fremont
Rahima E. Warren, Healdsburg
Barbara Wasserman, Chatsworth
Bonnie Wassmer, Lathrop
Melissa Waters, Laguna Niguel
Richard Watson, Long Beach
Michael R. Watson, Sonoma
L. Watts, Richmond
Susan Watts, Riverside
Dream Weaver, Cazadero
Jacki K. Weber, Santa Monica
Janet Rebecca Weil, Palm Desert
Nona Weiner, San Jose
Linda Weiner, San Francisco
Alan Weiner, Agoura Hills
Rona Weintraub, Mill Valley
Steve Weiss, Burbank
Casey Welch, Sun Valley
Linda Whetstine, Poway
Marie Whidden, Oakland
Ree Whitford, Napa
Kenneth Wilcox, Sacramento
Wayne Williams, Sherman Oaks
Barbara Williamson, Albany
Linda M. Wilson, San Diego
Lori Wilson-Ho, Auburn
Judith Windt, Menlo Park
Margaret Wirth, Riverside
Michael Wisniewski, Hacienda
Bill Wood, Mount Shasta
Sharlotte Woods, Kingsburg
Lacey R Wozny, Los Angeles
Blake Wu, Lafayette
Natasha Zabriskie, San Leandro
David Zebker, San Francisco
Rudy Zeller, Benecia
Pamela Zimmerman, Santa Rosa

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 2

PROPOSAL: Set Public Hearings August 1, 2025 to Consider Adoption of and/or Amendments to South Coast AQMD Rules and Regulations:

A. Set Public Hearing August 1, 2025 to Determine That Proposed Amended Rule 462 – Organic Liquid Loading, Is Exempt from CEQA; Amend Rule 462; and Submit Rule 462 Into the State Implementation Plan

Proposed Amended Rule 462 will further reduce VOC emissions from organic liquid loading facilities by requiring the use of enhanced leak detection technology and establishing a lower VOC limit for vapor control systems. Additionally, PAR 462 will introduce a contingency measure to fulfill Clean Air Act requirements. This action is to adopt the Resolution: 1) Determining that Proposed Amended Rule 462 – Organic Liquid Loading, is exempt from the requirements of the California Environmental Quality Act; and 2) Amending Rule 462 – Organic Liquid Loading; and 3) Directing staff to submit Proposed Amended Rule 462 – Organic Liquid Loading for inclusion into the State Implementation Plan.(Reviewed: Stationary Source Committee, May 16, 2025)

B. Determine That South Coast Air Basin Contingency Measure SIP Revision for 2015 8-Hour Ozone Standard Is Exempt from CEQA; and Adopt South Coast Air Basin Contingency Measure SIP Revision for 2015 8-Hour Ozone Standard

The South Coast Air Basin is classified as “extreme” nonattainment of the 2015 8-hour ozone National Ambient Air Quality Standard. The 2022 AQMP outlined a strategy to meet the standard and aimed to satisfy all federal Clean Air Act (CAA) requirements applicable to extreme nonattainment areas, except for the contingency measure requirement, due to the lack of U.S. EPA guidance. In December 2024, U.S. EPA finalized its

contingency measure guidance. The South Coast Air Basin Contingency Measure SIP Revision for the 2015 8-Hour Ozone Standard was developed in response to U.S. EPA's new guidance to fulfill the requirements specified in CAA sections 172(c)(9) and 182(c)(9). The contingency measures for this standard include three South Coast AQMD rules to achieve additional VOC reductions and CARB's California Smog Check Contingency Measure. This action is adopt the Resolution: 1) Determining that the South Coast Air Basin Contingency Measure SIP Revision for the 2015 8-Hour Ozone Standard is exempt from the requirements of CEQA; and 2) Adopting the South Coast Air Basin Contingency Measure SIP Revision for the 2015 8-Hour Ozone Standard and directing staff to forward the SIP Revision to CARB for approval and submission to U.S. EPA for inclusion in the SIP. (Reviewed: Mobile Source Committee, April 18, 2025)

The complete text of the proposed amended rule, SIP revision for the 2015 8-hour Ozone Standard, and other supporting documents will be made available from the South Coast AQMD's Public Information Center at (909) 396-2001, or Ms. Lisa Tanaka – Deputy Executive Officer/Public Advisor, South Coast AQMD, 21865 Copley Drive, Diamond Bar, CA 91765, (909) 396-3327, ltanaka@aqmd.gov and on the Internet (www.aqmd.gov) as of July 1, 2025.

RECOMMENDED ACTIONS:
Set Public Hearings August 1, 2025 to: 1) Determine that Proposed Amended Rule 462 is Exempt from CEQA and Amend Rule 462; and 2) Determine that the South Coast Air Basin Contingency Measure SIP Revision for the 2015 8-Hour Ozone Standard is exempt from CEQA; and Adopt the South Coast Air Basin Contingency Measure SIP Revision for the 2015 8-Hour Ozone Standard

Wayne Nastri
Executive Officer

FT

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 3

PROPOSAL: Adopt Resolution and Accept Terms and Conditions, Recognize Revenue, Execute Agreements to Deploy Battery Electric Trucks and Chargers, and Demonstrate a Fast-Charging Capable Truck, Transfer Funds, and Reimburse General Fund

SYNOPSIS: CARB and CEC awarded South Coast AQMD $41,295,211 for the Strategic Pathways for Extended Electric Drayage (SPEED) project to deploy Volvo Class 8 battery electric trucks and truck chargers in Southern California, develop and demonstrate a high-power charging-capable truck, collect truck and charger operational data, and develop and implement a workforce training program for battery electric trucks and charging equipment under the CARB and CEC joint Advanced Technology Demonstration and Pilot Projects (ATDPP) program. Also, on May 3, 2024, the Board recognized funding for a project to electrify Balboa Island Ferries and install supporting charging infrastructure (BIF) under ATDPP. These actions are to: 1) adopt a Resolution, accept terms and conditions of the ATDPP solicitation for both SPEED and BIF, commit to $3,250,000 as South Coast AQMD cost share for SPEED, authorize the Executive Officer to execute necessary agreements with CARB and CEC, and recognize, upon receipt, $41,295,211 for SPEED into the GHG Reduction Projects Special Revenue Fund (67); 2) transfer $3,250,000 of South Coast AQMD SPEED project cost share into GHG Reduction Projects Special Revenue Fund (67); 3) transfer $2,000,000 as a temporary loan for SPEED from the Clean Fuels Program Fund (31) into GHG Reduction Projects Special Revenue Fund (67); 4) authorize the Executive Officer to execute agreements with Volvo Group North America LLC, WattEV Inc., and the Regents of the University of California, Riverside, to implement the SPEED project; 5) Authorize the Executive Officer to take all necessary steps to carry out this Resolution, including making modifications to the agreements for SPEED and BIF projects; and 6) reimburse the General Fund up to $3,560,000 for SPEED administrative costs from the GHG Reduction Projects Special Revenue Fund (67).

COMMITTEE: Technology, May 16, 2025; Recommended for Approval

RECOMMENDED ACTIONS:

1. Adopt the attached Resolution for Strategic Pathways for Extended Electric Drayage (SPEED) and Electrification of Balboa Island Ferries and Installation of Supporting Charging Infrastructure (BIF) per the CARB and CEC joint Advanced Technology Demonstration and Pilot Projects (ATDPP) solicitation, accept the terms and conditions of the ADTPP solicitation, commit to $3,250,000 as South Coast AQMD cost share for SPEED, execute necessary agreements with CARB and CEC, and recognize, upon receipt, $41,295,211 for SPEED, which includes $22,000,000 from the California Climate Investment Program and the State's General Fund and $19,295,211 from CEC's Clean Transportation Program funds of which $3,560,000 will be used for administrative costs for South Coast AQMD, into the GHG Reduction Projects Special Revenue Fund (67);
2. Transfer up to $3,250,000 from the Clean Fuels Program Fund (31) into the GHG Reduction Projects Special Revenue Fund (67) for SPEED project cost-share by South Coast AQMD;
3. Transfer up to $2,000,000 as a temporary loan for SPEED, as needed, from the Clean Fuels Program Fund (31) into the GHG Reduction Projects Special Revenue Fund (67);
4. Authorize, upon recognition and receipt of award funding, the Executive Officer to execute agreements for SPEED with the following entities:
    a. Volvo Group North America LLC. to deploy Class 8 battery electric trucks and Combined Charging System (CCS) ports, demonstrating a high-power charging-capable truck, battery recycling, and conduct workforce training, public engagement, and media communication in an amount not to exceed $37,428,950, consisting of $35,428,950 from the GHG Reduction Projects Special Revenue Fund (67) and, pending Board approval, $2,000,000 from the Mobile Source Air Pollution Reduction Fund (23);
    b. WattEV, Inc. to develop a truck charging facility with 15 CCS ports and chargers in an amount not to exceed $4,999,725 from the GHG Reduction Projects Special Revenue Fund (67);
    c. The Regents of The University of California, Riverside (UCR), to conduct data collection for the deployed trucks and chargers in an amount not to exceed $556,536 from the GHG Reduction Projects Special Revenue Fund (67);
5. Authorize the Executive Officer to take all steps necessary to carry out this Resolution, including making modifications to the agreements with CARB and CEC, as needed, for the SPEED and BIF projects; and

6. Reimburse the General Fund up to $3,560,000 from the GHG Reduction Projects Special Revenue Fund (67) for administrative costs necessary to implement the SPEED project.

Wayne Nastri
Executive Officer

AK:MW:VP:FX

Background

On October 26, 2023, South Coast AQMD submitted a proposal for the SPEED project in response to a joint CARB and CEC solicitation for CARB's Fiscal Year (FY) 2021-2022 and FY 2022-2023 ATDPP. On January 15, 2025, CARB notified South Coast AQMD of the preliminary award. On February 6, 2025, CEC released a Notice of Proposed Awards in which South Coast AQMD was awarded $22,000,000 in CARB funds and $19,295,211 in CEC funds for the SPEED project. On May 3, 2024, the Board approved the grant for the BIF project, which was also under the FY 2021-2022 and FY 2022-2023 ATDPP solicitation. The CARB ATDPP solicitation requires a Resolution of the grantee's governing board prior to execution of the grant agreements. The resolution for both the SPEED and BIF projects is attached.

Following the success of the Volvo Low Impact Green Heavy Transport Solutions (LIGHTS) zero-emission truck deployment project, which deployed 70 class 8 Volvo battery electric trucks to several fleets across Southern California for regional freight distribution and drayage, South Coast AQMD, in partnership with Volvo, is leading a collaborative effort to expand the truck deployment in the South Coast AQMD jurisdiction and beyond. This new initiative will further advance battery electric truck (BET) technologies by developing and demonstrating a high-power (750 kW) charging-capable truck for regional transportation between Southern California and the Central Valley. This project also aims to meet the workforce needs driven by the growing adoption of battery electric trucks, supporting infrastructure, and the upcoming rollout of high-power truck charging technologies. The project aligns with the goal of ATDPP to strategically accelerate the advancement of innovative and economically viable technologies into the commercial marketplace.

Proposal

Under the SPEED project, it is anticipated that Volvo plans to deploy 100 Class 8 Volvo battery electric trucks with approximately 10 truck fleets in the South Coast AQMD and San Diego County Air Pollution Control District (SDCAPCD) areas. Each truck deployed within the South Coast AQMD area will receive funding up to $242,222 and each truck deployed within SDCAPCD area will receive funding up to $220,000. An

estimated seventy-nine (79) CCS ports, each receiving funding up to $80,000, will be deployed at the participating fleets' depots.

Volvo plans to execute contracts with individual truck fleets for the deployment of the battery electric trucks and support the installation of the truck charging ports at the fleet depots. The participating truck fleets may include King Fio Trucking, LLC, Pacific American Fish Company, Bali Express, Junction Collaborative Transports, Mountain Valley Express, West Coast Trucking, Quick Container Drayage, Inc., Tradelink Transportation, Inc., RPM Transportation, Inc., 4 Gen Logistics, and others. A backup truck list will be pursued if participating trucks withdraw for unforeseen reasons.

The SPEED project plans to develop a fast-charging capable truck, a workforce training and battery recycling programs, a truck charging facility, and will collect truck operational and charger data. Specifically:

Fast-Charging Capable Truck
In response to increasing demands for faster charging compared to diesel refueling times, Volvo plans to develop and demonstrate a truck capable of charging at 750 kW (referred to here as high-power charging). The truck will be pilot tested in cross-regional transportation between Southern California and surrounding areas. Two megawatt chargers will be installed to charge the truck during its day trips. Data on the demonstration unit will be collected to produce a technical industry report and lessons learned.

Workforce Training and Public Engagement
Volvo plans to execute contracts with the following project partners in the SPEED application, Cerritos College, Clean Fuels Education, TRC Environmental Corporation, CharIN, Inc., and Mightycomm to conduct workforce training and development activities and public engagement. Specifically, enhanced training courses will be provided to technicians that work on battery electric trucks, charging infrastructure, and electric vehicles. In addition, training will be provided to first responders on fire safety, especially for high-energy charging infrastructure. A toolkit will be developed to help truck fleets understand BETs and infrastructure, improve and optimize their uptime, develop electrification plans, and share best practices. Educational events will be organized for megawatt charging standards, rapid charging, and their impact on drayage operations.

Battery Recycling
As part of this project, Volvo would develop a battery recycling program to repurpose used truck batteries for second life applications and to recycle used truck battery materials. The efforts will outline the first and second uses of the truck batteries and set parameters for a cost-effective and sustainable process to recover materials and support battery production for Volvo product lines. The program will help improve truck battery

design for first and second life uses and further improve recycling efforts. Results from this program will be reported as part of this project's deliverables.

Truck Charging Facility
As part of the proposal submitted under the ATDPP solicitation, a truck charging station with 15 CCS ports and 3 megawatt chargers will be developed by WattEV to enhance the regional truck charging network. The site will also provide public accessibility for truck charging and truck charging data will be collected. In the event that WattEV is unable to deliver this implementation in a timely manner, an alternative station operator will be identified to develop an equivalent truck charging station site.

Data Collection and Analysis
University of California, Riverside, will collect operational data of deployed trucks and chargers for a minimum of one year to gain more insight about the performance and challenges of truck electrification following the requirements set in the grant agreements with CARB and CEC. The data would include but will not be limited to vehicle usage, load weight, battery health, driver experience, electricity usage, charging patterns, number and duration of charging sessions, charger uptime percentage, average downtime, operation cost, and repair and maintenance records.

Sole Source Justification
Section VIII.B.2. of the Procurement Policy and Procedure includes four possible provisions under which a sole source award may be justified. The request for sole source awards for the technology and fleet partners in this project is made under the provisions B.2.c.(1): The unique experience and capabilities of the proposed contractor or contractor team; B.2.c.(2): The project involves the use of proprietary technology; and B.2.d.(1): Projects involving cost-sharing by multiple sponsors. Volvo, CARB, CEC, MSRC, truck fleets, WattEV, workforce training providers, including Cerritos College, Clean Fuels Education, TRC Environmental Corporation Companies, and CharIN, Inc. and other partners have extensive knowledge and experience in advanced EV technologies that are needed to complete this project successfully. The manufacturer will utilize their proprietary technologies to develop high-power capable trucks for future Class 8 battery electric truck production design for the North American market. The Project's megawatt chargers will support the future state of high-power heavy-duty truck charging. The request for sole source award to The Regents of UCR is made under section B.2.d.(8): Research and development efforts with educational institutions or nonprofit organizations. The Project will be cost-shared by project partners as discussed in the Resource Impacts section.

Benefits to South Coast AQMD

The SPEED project supports the acceleration of battery electric truck development and progresses the development of high-power charging infrastructure and trucks, which aligns with the Technology Advancement Office Clean Fuels Program 2025 Plan Update, specifically the categories of "*Develop and Demonstrate Electric and Hybrid Vehicles*" and "*Zero Emission Infrastructure.*" Successful completion of the SPEED project will contribute to further development of infrastructure, deployment of zero-emission trucks, and further enhancement of workforce on BET and supporting infrastructure to progress towards attainment of National Ambient Air Quality Standards in the South Coast Air Basin by eliminating PM and NOx emissions.

Resource Impacts

The execution of agreements with CARB, CEC, and the project partners will include the cost-share contributions presented in the following table.

Proposed Project Funding

Source	Amount	Percent
CARB	$22,000,000	25%
CEC	$19,295,211	22%
MSRC	$2,000,000*	2%
Volvo	$6,095,000	7%
Volvo/Participating Fleets	$30,320,000**	34%
WattEV	$4,999,725**	6%
South Coast AQMD *(requested)*	$3,250,000	4%
Total	**$87,959,936**	**100%**

*Pending approval by MSRC Committee

** Volvo/Participating Fleets and WattEV may supplement the funding from other sources, such as SCE Drayage Truck Rebate program and VW Environmental Mitigation Trust Fund, subject to final awards and approval by South Coast AQMD, CARB and CEC.

The MSRC is contributing up to $2,000,000 from the Mobile Source Air Pollution Reduction Fund (23) towards this project, pending approval by the South Coast AQMD Board under a separate item. Sufficient funds will be available from CARB and CEC in the GHG Reduction Projects Special Revenue Fund (67) and, upon Board approval, the Mobile Source Air Pollution Reduction Fund (23) to execute agreements for the SPEED project. Sufficient funds are available from the Clean Fuels Program Fund (31) to transfer up to $3,250,000 for South Coast AQMD project cost-share, and up to $2,000,000 as a temporary loan, as needed, to provide cash flow for contractor payments as a buffer for the slower CARB and CEC cost-reimbursement process into the GHG Reduction Projects Special Revenue Fund (67) for the SPEED project.

The Clean Fuels Program Fund (31) is established as a special revenue fund resulting from the state mandated Clean Fuels Program. The Clean Fuels Program, under Health and Safety Code Sections 40448.5 and 40512 and Vehicle Code Section 9250.11, establishes mechanisms to collect revenues from mobile sources to support projects to increase the utilization of clean fuels, including the development of the necessary advanced enabling technologies. Funds collected from motor vehicles are restricted, by statute, to be used for projects and program activities related to mobile sources that support the objectives of the Clean Fuels Program.

Attachment
Resolution

RESOLUTION NO. xx

A Resolution of the South Coast Air Quality Management District (South Coast AQMD) Board Recognizing Funds and Accepting Grant Funds from the California Energy Commission (CEC) and California Air Resources Board (CARB) Joint Advanced Technology Demonstration and Pilot Projects program

WHEREAS, under Health & Safety Code §40400 et seq., the South Coast Air Quality Management District (South Coast AQMD) is the local agency with the primary responsibility for the development, implementation, monitoring and enforcement of air pollution control strategies, clean fuels programs and motor vehicle use reduction measures; and

WHEREAS, the South Coast AQMD is authorized by Health & Safety Code §§40402, 40440, and 40448.5 to implement programs to reduce transportation emissions, including programs to encourage the use of alternative fuels and zero and low emission vehicles; to develop and implement other strategies and measures to reduce air contaminants and achieve the state and federal air quality standards; and

WHEREAS, the Governing Board has adopted several programs to reduce emissions from on-road and off-road vehicles, as well as emissions from other equipment, including infrastructure, and participated extensively in projects intended to demonstrate new technologies for on-road and off-road vehicles with the intention of reducing emissions of air pollutants; and

WHEREAS, CARB and CEC announced the availability of $225,000,000 million in funds to support commercial and pre-commercial zero and near-zero emission on-road or off-road vehicles, vessels, and equipment, supported with new or innovative systems or infrastructure, education and outreach, and workforce development.; and

WHEREAS, the solicitation was open to local air districts, California-based public entities(e.g., public agencies, municipalities, counties, cities, special districts), and California-based non-profit organizations; and

WHEREAS, on October 26, 2023, the South Coast AQMD submitted five proposals in response to the Fiscal Year (FY) 2021-22 and FY 2022-23 Advanced Technology Demonstration and Pilot Projects Solicitation including a project for the electrification of Balboa Island Ferries (BIF) and installation of supporting charging infrastructure to replace or repower three BIF diesel ferries with three ZE electric ferries; and another project that partners the Mobile Source Air Pollution Reduction Review Committee (MSRC), Volvo Group North America LLC, WattEV, Inc, participating fleets (4 Gen Logistics, Bali Express, Junction Collaborative Transports, King Fio Trucking LLC, Mountain Valley Express, Pacific American Fish Company, Quick Container Drayage Inc, RPM Transportation Inc, Tradelink Transportation Inc, West Coast Trucking) , TRC Companies Inc, CharIN, Clean Fuels Education, Cerritos College, and

Mightycomm to deploy 100 Volvo Class 8 battery electric trucks and 99 charging ports, demonstrate a fast-charging capable truck, conduct workforce training, and demonstrate battery recycling; and

WHEREAS, on March 7, 2024, CEC released a Notice of Proposed Awards in which South Coast AQMD was awarded $8,297,549 in CARB funds for South Coast AQMD's Electrification of Balboa Island Ferries (BIF) and Installation of Supporting Infrastructure Project; and on January 7, 2025, CEC released a Revised Notice of Proposed Awards in which South Coast AQMD was awarded $22,000,000 in CARB funds and $19,295,211 in CEC funds for the Strategic Pathways for Extended Electric Drayage (SPEED) Project; and

WHEREAS, On March 7, 2024, CARB released a Preliminary Award Letter in which South Coast AQMD was awarded $8,297,549 in CARB funds for the BIF Project; and on January 15, 2025, CARB released a Preliminary Award Letter in which South Coast AQMD was awarded $22,000,000 in CARB funds and $19,295,211 in CEC funds for the SPEED Project; and

WHEREAS, the Governing Board, in regular session assembled on May 3, 2024, accepted the BIF grant award and recognized up to $8,297,548 in CARB funds and committed to cost-share by South Coast AQMD and its project partners in the amount of up to $250,000 for the electrification of Balboa Island Ferries (BIF) and installation of supporting charging infrastructure to replace or repower three BIF diesel ferries with three ZE electric ferries; and

WHEREAS, CARB and CEC require applicants to submit a resolution of its Governing Board prior to execution of the grant agreements that commit the agency to comply with the requirements of the solicitation, accept the funds, and commit to cost- share provided by South Coast AQMD and its project partners.

THEREFORE, BE IT RESOLVED that the Governing Board, in regular session assembled on June 6, 2025, does hereby accept the SPEED grant award and recognizes up to $22,000,000 in CARB funds and $19,295,211 in CEC funds, and commit to $3,250,000 as South Coast AQMD cost share to deploy 100 Volvo Class 8 battery electric trucks and 99 charging ports, demonstrate a fast-charging capable truck, conduct workforce training, and demonstrate battery recycling.

BE IT FURTHER RESOLVED that the Governing Board agrees to comply with the terms in the FY 2021-22 and FY 2022-23 Grant Solicitation for the Advanced Technology Demonstration and Pilot Projects program and commits to cost-share by South Coast AQMD and its project partners in the amount of up to $3,250,000 at the time that South Coast AQMD executes grant agreements with CARB and CEC.

BE IT FURTHER RESOLVED that the Executive Officer is authorized and

directed to take all steps necessary to carry out this Resolution, including making modifications to the grant agreements with CARB and CEC, as needed, to implement the SPEED and BIF Project.

_____ _____

Date Faye Thomas, Clerk of the Board

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 4

PROPOSAL: Issue RFP for Battery Electric Switcher Locomotives for CPRG INVEST CLEAN Program

SYNOPSIS: In September 2024, the Board recognized an award of $499,997,415 from the U.S. EPA Climate Pollution Reduction Grant program titled Infrastructure, Vehicles, and Equipment Strategy for Climate, Equity, Air Quality, and National Competitiveness (INVEST CLEAN). The program consists of four measures, including the deployment of battery electric Class 8 trucks and last mile freight vehicles, cargo handling equipment, switcher locomotives, and truck charging. A total of up to $190,800,000 is available for the Battery Electric Switcher Locomotive Measure. This action is to issue and, if necessary, re-issue an RFP to solicit project proposals for the Battery Electric Switcher Locomotive measure under INVEST CLEAN.

COMMITTEE: Technology, May 16, 2025, Recommended for Approval

RECOMMENDED ACTIONS:
Issue, and if necessary, re-issue RFP #2025-15 to solicit project proposals for the Battery Electric Switcher Locomotive Measure under Infrastructure, Vehicles, and Equipment Strategy for Climate, Equity, Air Quality, and National Competitiveness (INVEST CLEAN).

Wayne Nastri
Executive Officer

AK:MW:TL:FX:AY

Background
The Inflation Reduction Act (Public Law 117-169) created the U.S. EPA Climate Pollution Reduction Grant (CPRG) program, allocating $4.6 billion in competitive grants to states, local governments, tribes, and territories. In April 2024, South Coast AQMD joined by two Metropolitan Statistical Areas (MSAs), which cover Los

Angeles-Long Beach-Anaheim and Riverside-San Bernardino-Ontario, submitted a regional CPRG proposal titled INVEST CLEAN. In October 2024, the South Coast AQMD was awarded $499,997,415 in funding for the INVEST CLEAN initiative.

The INVEST CLEAN initiative focuses on reducing emissions from the goods movement sector by implementing incentive measures and electrifying the Southern California goods movement corridor. The four Measures include: (1) Charging Infrastructure Deployment Incentive Program to provide incentives to install electrical charging equipment to support heavy duty Battery Electric (BE) vehicles; (2) BE Freight Vehicle and Last Mile Freight Vehicle Deployment Incentive Program; (3) BE Cargo Handling Equipment (CHE) Deployment Incentive Program that replace or convert CHE with BE equipment and supporting infrastructure used at facilities such as warehouses, intermodal railyards, airports, ports, or freight facility centers; and, (4) BE Switcher Locomotive Program to replace diesel locomotives domiciled in the MSAs region with BE Switchers. The expected total cumulative GHG emission reductions include 3.6 million metric tons of Carbon Dioxide Equivalent (CO_2e) or $139/metric ton CO_2e over a 5-year period and 12 million metric tons CO_2e or $42/metric ton CO_2e over a 25-year period.

INVEST CLEAN's investments in electrification for locomotives, vehicles, other equipment, and charging infrastructure included in the four incentive measures are projected to generate approximately 470 high-quality jobs in California while supporting and creating approximately 4,700 high-quality jobs nationwide. The measure's collaboration with labor, academia, and non-government organizations strengthens the potential for significant job creation and workforce development, which are critical for implementing, maintaining, and sustaining the implementation of new technologies in the freight sector.

Battery Electric Switcher Locomotive Program Measure

Switcher locomotives work in and around railyards, which are often located within communities. Under normal conditions, locomotives have long service lives, so encouraging the transition of diesel locomotives to ZE technologies will provide substantial long-term reductions in diesel particulate matter emissions which is a toxic air contaminant in California along with other pollutant emission. Additionally, thousands of gallons of diesel fuel can be saved annually when BE switcher locomotives are deployed. Infrastructure will be paired with equipment to support successful deployment.

The BE Switcher Locomotive Program is the first Measure that will be implemented under INVEST CLEAN. According to CARB's Off-Road Emissions Inventory, over 340 switcher locomotives operate within the South Coast AQMD Air Basin and release an estimated 2.71 tons/day of NOx. Up to $190,800,000 is available for the deployment of the battery electric switcher locomotives and the supporting infrastructure.

In conjunction with this Measure, INVEST CLEAN will implement a data validation and program evaluation process through work with the National Renewable Energy Laboratory, which is operated by the Alliance for Sustainable Energy.

Proposal
The proposal is to issue RFP #2025-15 to solicit project proposals for the Battery Electric Locomotive Measure. The solicitation will be open to operators, equipment manufacturers, and other entities and will aim to select at least eighteen battery electric switcher locomotive projects that operate within the two MSAs. Proposals are due on September 30, 2025, at 12:00 pm.

Proposal Evaluation
Proposals received will be selected based on the evaluation criteria stated within the RFP, and successful bidders will be retained through agreements(s) based on their qualifications. Proposals submitted in response to the RFP will be reviewed and scored by a panel of three evaluators, which may include South Coast AQMD staff, representatives from other government agencies, and/or external consultants, based on the evaluation criteria outlined in the RFP.

Outreach
In accordance with South Coast AQMD's Procurement Policy and Procedure, a public notice advertising the RFP and inviting bids will be published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and Riverside County's Press Enterprise newspapers to leverage the most cost-effective method of outreach to the four counties in the two MSA region. Additionally, potential bidders may be notified utilizing South Coast AQMD's own electronic listing.

Benefits to South Coast AQMD
INVEST CLEAN's Battery Electric Locomotive Measure will deliver significant environmental benefits through the replacement of diesel locomotives with battery electric switcher locomotives and the installation of supporting charging infrastructure. Successful implementation of this program will result in estimated annual emission reductions of 285 tons of NOx, 9 tons of PM2.5, and 10 tons of diesel particulate matter (DPM). INVEST CLEAN is also expected to decrease carbon dioxide equivalent (CO_2e) emissions by 42,476 metric tons between 2025 and 2030. The deployed locomotives and infrastructure are expected to operate for many years after the projects end, which provides long-term emission reduction benefits. The data collected will be utilized to accelerate adoption and continue the evolution of battery electric locomotive technology. Under this Measure, it is estimated that approximately 1,500 direct and indirect jobs will be created nationwide as the result of this program, with approximately 140 jobs in California.

Resource Impacts
Board approval will be sought prior to execution of agreements in the U.S. EPA CPRG Special Revenue Fund (Fund 90) for at least eighteen locomotive projects and supporting infrastructure up to $190,800,000, as specified in the workplan approved by the U.S. EPA for the Battery Electric Locomotive Measure.

Attachment
RFP #2025-15 - Battery Electric Locomotives Under INVEST CLEAN

South Coast Air Quality Management District

INVEST CLEAN

Climate Pollution Reduction Grant

U.S. Environmental Protection Agency

Request for Proposals #2025-15

Battery Electric Locomotives

Open: June 6, 2025

Submission Deadline: September 30, 2025, at 12 PM PST

Section 1 – Introduction

The Inflation Reduction Act (Public Law 117-169) created the U.S. EPA Climate Pollution Reduction Grant (CPRG) program which provides $4.6 billion in grants. Note, the availability of CPRG Funding is contingent upon the timely receipt of funds from the U.S. EPA.

In July 2024, U.S. EPA awarded CPRG funds to the South Coast Air Quality Management District (South Coast AQMD) to implement the Infrastructure, Vehicles, and Equipment Strategy for Climate, Equity, Air Quality, and National Competitiveness (INVEST CLEAN) in Los Angeles-Long Beach-Anaheim and Riverside-San Bernardino-Ontario Metropolitan Statistical Areas (MSAs). The two MSAs include the following four counties: Los Angeles, Orange, Riverside, and San Bernardino. INVEST CLEAN targets the limiting factors and challenges to the electrification transformation of the Southern California goods movement corridor.

Under this Request for Proposals (RFP), the South Coast AQMD is soliciting proposals for Measure 4 of the INVEST CLEAN initiative, the Battery Electric (BE) Locomotive Program. This measure focuses on deploying battery electric switcher locomotives to modernize freight rail operations in the two MSAs mentioned above, which serve as the West Coast gateway to international commerce. Measure 4 provides funding for the development and operation of battery electric switcher locomotives, as well as the installation of chargers and supporting infrastructure as needed to operate battery electric locomotives.

South Coast AQMD places a high level of emphasis on deploying BE switcher locomotives that:

- Provide real, measurable, and verifiable emission reductions.
- Present a business case for the new BE switchers with a supporting infrastructure plan, including a continuation plan that thoroughly explains how the BE switcher locomotive will continue to operate.
- Operate in areas adjacent to or near residential areas, schools, public facilities, high-density urban or suburban communities.

The following sections describe the eligibility requirements to participate in the INVEST CLEAN program and guidelines for proposal preparation under this RFP.

Section 2 – RFP Overview & Eligibility Requirements

Measure 4 of the INVEST CLEAN program provides funding for the deployment of BE switcher locomotives and the supporting infrastructure in the two MSA geographic areas. This measure encourages the domestic production of locomotives and charging infrastructure.

2.1 Available Funding

The total incentive amount of CPRG Funding allocated for Measure 4 is $190.8 million. Should South Coast AQMD receive proposals with total requests less than the amount allocated, or if proposals are deemed non-meritorious, South Coast AQMD reserves the right to reduce the total funding available

and reallocate funds to other INVEST CLEAN Measures and/or reopen another BE switcher locomotive solicitation. South Coast AQMD also reserves the right not to fund any of the proposals received, irrespective of the merits of the proposals submitted.

2.2 Geographical Funding Minimum

South Coast AQMD has not established a Geographical Funding Minimum for each county within the two MSAs, but the funding intent is to allocate projects throughout the two MSAs, if feasible, following the completion of proposal evaluation, scoring, and ranking.

2.3 Eligibility Requirements

For this RFP, the following eligibility requirements apply:

- Eligible Applicant:
    - Locomotive manufacturers who are partnering with a rail operator to develop and deploy switcher locomotives, and/or
    - Owners and/or operators of switcher locomotives who are directly responsible for the operation, maintenance, or procurement of such equipment

  Partnerships between locomotive manufacturers and operators are required to ensure both technical feasibility and operational practicality of proposed projects.

- Location:
    - The project must be domiciled within the two MSA regions shown in the dotted areas on the map on the following page in Figure 1, which include the following four counties: Los Angeles, Orange, Riverside, and San Bernardino.

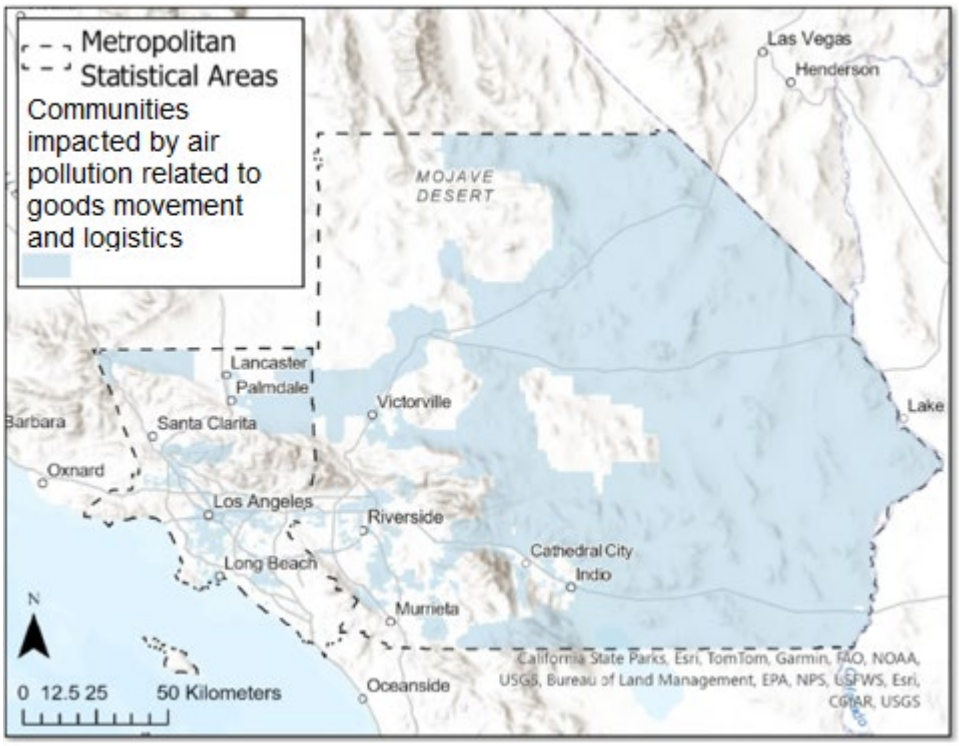

Figure 1: Area inside dotted line represents the two MSA qualified territories.

- Deployment of New BE switcher locomotives:
    - The new equipment should be operated within the two MSAs. At a minimum, 425 MWh per year of usage for each BE locomotive will be required to ensure emission reduction benefits are achieved, but if unforeseen circumstances prevent the operators from meeting this requirement, documentation must be provided.
    - To ensure a smooth operational transition, applicants should obtain training in best operating practices and safety from the manufacturer before accepting the delivery of the BE switcher locomotives.
    - Applicants are encouraged to secure at least one dedicated expert approved by the OEM to provide ground support to ensure safe and efficient operation of the BE locomotives, charging, service, and routine maintenance.

- Displacement Options of Old Locomotive:
  The old locomotive may be scrapped or displaced using the following two options. The applicant must choose an option at the time of RFP submission. Each option has its implications for project scoring and reporting requirements.

    - Scrap the Old/Baseline Locomotive at the Time of BE Switcher Locomotive Delivery (Preferred):
        - Proposals that propose this approach could score higher, as it ensures emission reductions (ER) and eliminates the need to track the old locomotive.

The operator may scrap only the locomotive engine(s), but the chassis should only be repowered to Tier 4 or cleaner.

- Delayed Scrapping and Parking the Old/Baseline Locomotive:
  The applicant may request that the replaced locomotive be parked at the time of delivery and scrapped after a successful preliminary deployment period ends (see definition below). Applicants who choose this option must:
  - Provide verification that the old locomotive will only be returned to service when the BE switcher locomotive is non-operational and undergoing repair that exceeds 15 business days.
  - Track parked old/baseline locomotives and monitor their usage.
  - Provide tracking data to the South Coast AQMD semi-annually.
  - Agree with the project period extension if the preliminary deployment period needs to be extended.
  - Destruction of old locomotives must meet the requirements listed in Section 2.3 under Emission Reductions.

- Preliminary Deployment Period and Determination of a Successful Preliminary Deployment Period:
  - The Preliminary Deployment Period is when the old/baseline locomotive is parked while the new BE switcher locomotive is operated within the two MSAs. The rail operator will scrap the parked locomotive at the end of a successful preliminary deployment period. At a minimum, 425 MWh per year of average usage over the 5-year period for each BE locomotive will be required to ensure emission reduction benefits are achieved. If unforeseen circumstances prevent the operators from meeting this requirement, documentation must be provided.
  - At the end of the preliminary deployment period, the operator will continue operating the BE switcher locomotives if successful until the end of their useful life. The successful preliminary deployment includes the BE unit's ability to provide rail operators with the day-to-day operational needs of the replaced equipment, with supporting infrastructure sufficient to charge the equipment. The service or maintenance of the BE equipment can be scheduled without extended periods of downtime, and operators are fully trained to operate and charge the BE equipment safely. However, if the applicant and the OEMs determine that the preliminary deployment period is unsuccessful, a report detailing the deficiencies, communication with the OEMs, and efforts to correct the issues must be provided. EPA and South Coast AQMD will determine the actions to take.

- Emission Reductions:
  - Emission reductions should be local, real, measurable, and verifiable.
  - The baseline locomotive that will be removed from operation must be diesel-fueled. Locomotives with high annual fuel usage provide the most carbon emission

reduction benefits for INVEST CLEAN, and they will be scored higher in the cost-effectiveness category compared to units with lower fuel usage.

- The applicant must complete the equipment form located at INVEST CLEAN (https://www.aqmd.gov/home/technology/implementation/invest-clean) to provide information for the baseline locomotive for emission reduction verifications.
- As mentioned above, not operating the old/baseline locomotive in lieu of scrapping during a five-year preliminary period is allowable and outlined in the section describing Figure 2 Project Flowchart. If there are issues with the new BE switcher that result in downtime, the baseline locomotive may be brought back with limited operation and immediate notification to South Coast AQMD. A plan must be submitted, including a detailed description of the old locomotive's daily usage and the BE locomotive's repair plan. Upon notification, the sub-awardee must obtain South Coast AQMD and EPA's approval. In addition, tracking and documenting new BE switcher locomotive downtime and old locomotive operating periods will be required.
    - If South Coast AQMD staff verify that the preliminary deployment was unsuccessful, the OEM and operator must attempt to correct the issues and prepare the BE switcher locomotive for a new preliminary deployment period.
    - Destruction of all locomotives (chassis and engines) or locomotive engines shall be conducted, and the documentation should be submitted as described below:
        - A hole in the engine block and destroyed in such a manner to eliminate the possibility of future operation of the engine, or
        - Other equivalent methods of destruction are acceptable if approved by the South Coast AQMD and the EPA.
            - Photo or recorded video documentation of the destruction must be provided to South Coast AQMD
    - Please note that the solicitation accounts for the accumulated emission reductions instead of annual emission reductions.

- Charging Equipment and Supporting Infrastructure:
    - To effectively deploy the new BE switcher locomotive, potential awardees will need to provide documentation showing the design, construction, and installation plan of the charging infrastructure.
    - Construction and installation of infrastructure will be required to adhere to Build America Buy America and other Federal requirements, a non-exhaustive list of which is provided below in Section 3.7.

2.4 Project Workflow:

The flowchart in Figure 2 depicts the workflow of the project after the subaward is granted. The table provides a detailed explanation of the steps. Projects will start with the execution of the agreements between the South Coast AQMD and the sub-awardee(s) for the final deployment of the BE locomotive, the commissioning of the supporting charging infrastructure, and the required reporting:

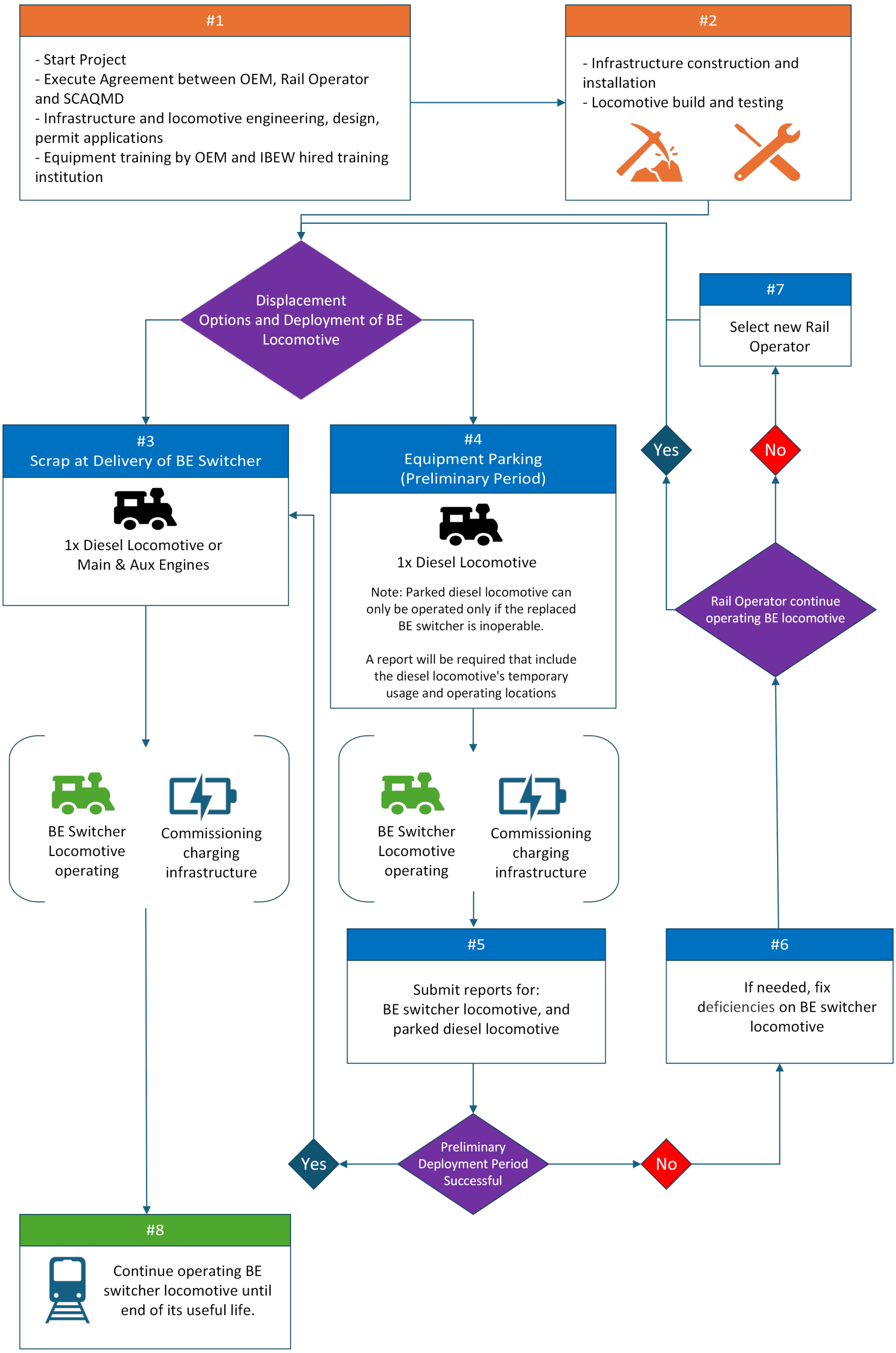

Figure 2: Project flowchart to deploy BE switcher locomotive(s)

The Table below offers a step-by-step explanation of the flow chart. Please refer to the flow chart's box number and the corresponding process description:

Chart Process #	Description of Process
1	Process begins with executing agreement(s) between the locomotive manufacturer (OEM), rail operator, and South Coast AQMD. Agreements clarify roles and milestones on locomotive manufacturing and charging infrastructure development and installation. Rail operator and OEM begin with the order of the switchers and charging infrastructure development in tandem to ensure the chargers can be commissioned when the new locomotive is delivered. Milestones for both the locomotive and charging infrastructure design, engineering, build, and testing are established to ensure project progress and payments can be made as milestones are achieved. Workforce training by the locomotive OEM and/or IBEW-contracted training institutions are initiated. If the charger is funded by INVEST CLEAN, the installation must be performed by IBEW/NECA workforce.
2	The charging infrastructure project must proceed in parallel with the locomotive build. Progress reports will be provided to South Coast AQMD and tested against milestones in the agreement. Progress payments can be made as indicated in the agreement with an invoice submittal that includes the deliverables for that payment.
	BE switcher locomotive is ready for delivery, operator proceeds with the displacement option of choice as indicated in the approved proposal, which is to either **scrap the locomotive engines at the time of delivery** of BE switcher locomotive or **delay scrapping and parking the old/baseline switcher during a preliminary deployment period**. The Preliminary deployment period must be five years and is intended to ensure the BE locomotive meets operational needs.
Scrap at Time of Delivery	
3	If the operator chose the "**Scrap at Time of Delivery**" option, the locomotive or locomotive engine must be scrapped at this step. The instruction for the scrapping is in Section 2.3 - Eligibility Requirements – Emission Reductions. When the operator takes delivery of the BE locomotive, construction and commissioning of the charging infrastructure must be completed. Projects with scrap at time of delivery may receive funding priority.
8	Operator that scraps the old locomotive at the time of delivery will operate the BE locomotive to meet the minimum 425 MWh per year, which will be stated in the agreement and subject to change; and operator will, to the best of their abilities, continue operation until the end of the locomotive's useful life.
Preliminary Deployment Period – Delayed Scrapping	
4	If the operator chooses the "Locomotive Parking" option, a diesel locomotive operating in the two MSAs will be parked during the preliminary deployment period. Operation of the parked locomotive (referred to as the baseline locomotive) is prohibited unless the BE locomotive is non-operational, undergoing repairs or other situations approved by the South Coast AQMD or

	EPA. Telematics are required for the parked locomotive for tracking purposes. Logs on the baseline locomotive usage, along with justification of the usage and downtime/repair records of the new locomotive, must be maintained. In addition, inspections as described in the inspection section may be performed by South Coast AQMD staff or South Coast AQMD subcontractor to verify compliance with the parked locomotive protocol. When the operator takes delivery of the BE locomotive, old locomotive parking requirements must be met; additionally, construction and commissioning of the charging infrastructure must be completed.
5	The tracking data report mentioned in **Process #4** must be maintained on site and should be provided to the South Coast AQMD semi-annually.
	After the preliminary deployment period of five years is complete, the operator will notify South Coast AQMD to declare whether the preliminary deployment was successful. If it was deemed unsuccessful, a detailed report describing equipment deficiencies, communications with OEMs, services, repairs, maintenance and other efforts made to resolve the issues should be included. If it was deemed successful, the operator follows the scrapping procedure of **Process #3** then completes the project with **Process #8.**
6	If the preliminary deployment was not successful, the OEM will be tasked to repair or update the locomotive to address the issues.
	After the OEM repairs the locomotive, the original operator will be given the option to continue operating the repaired unit. If the original operator continues, the preliminary deployment period repeats and the baseline locomotive will be scrapped after the preliminary deployment is deemed successful.
7	If the original operator no longer wishes to continue with the repaired locomotive, a new rail operator will be selected to operate the locomotive. An agreement with the new operator will be executed.
	The new operator repeats the cycle and may choose to **scrap a diesel locomotive at time of delivery** or **delay scrapping and parking the old/baseline locomotive**. If the latter is chosen, the old locomotive will be scrapped after a successful five-year preliminary deployment.

Section 3 – Funding & Conditions

3.1 Total Maximum Project Funding

Up to $10.6 million may be awarded for the cost of one new BE switcher locomotive, including the required maintenance, services such as batteries, and supporting charging infrastructure site engineering and installation.

No additional funding will be available if project costs exceed the subgrantee's grant amount.

3.2 Payment

Selected Measure 4 projects will be paid either on a reimbursement basis or through progress payments set on milestones. If the awardee opts for reimbursement, the payment will be made after

the BE locomotive is delivered. If the progress payment is proposed, a payment schedule with applicable deliverables will be specified, and invoice payments will need to be accompanied by supporting documents, including but not limited to proof of payments and documentation showing the milestone was met. Progress payments may be made as the BE locomotive is being manufactured and the infrastructure installation occurs. The final invoice under this RFP will need to be submitted with supporting documents by March 30, 2029. The term of the Subaward agreements under this RFP will end at least five years from the last payment date to ensure emission reductions occur for at least 425 MWh per year of average usage over a 5-year period or until the useful life of the locomotive is achieved, whichever comes first.

The sub-awardee will be encouraged to obtain the most recent price estimate and place the purchase order as soon as the contract is executed to secure the equipment pricing.

Applicants should be aware that funding awarded through this grant may only be used to implement measures set forth in the EPA approved workplan for this CPRG implementation grant and all costs charged to the award to support these activities must meet the requirements for allowability under 2 CFR Part 200, Subpart E as well as applicable provisions of 2 CFR 1500.

3.3 Inspections

The old locomotives may be inspected before, after, or during destruction. The inspections of the BE switcher locomotives will be conducted during the preliminary deployment period. Each grantee funded under each measure is subject to inspection based on South Coast AQMD and EPA's discretion.

3.4 Reporting

Selected awardees will be required to submit semi-annual reports. Awardees will be provided with data collection requirements to ensure the South Coast AQMD has the necessary environmental information and other data to evaluate project performance. The data will be collected in real-time or through telematic equipment, which may include, but will not be limited to, locomotive availability (percent of time the BE switcher locomotive is ready and available for use), duty cycle coverage (percent of typical diesel switcher tasks completed within one full battery cycle), hours operated, maintenance and operating costs, operational fit, interoperability and operator feedback, miles traveled, energy used, charging frequency, charging rate, charger uptime downtimes and other challenges encountered during the reporting period. Selected applicants must ensure performance data is properly provided and equates to the usage requirements in the agreement. South Coast AQMD reserves the right to verify the information provided.

The National Renewable Energy Laboratory (NREL), the designated third-party data verification organization under INVEST CLEAN, will collect and analyze vehicle data to verify the Measure's performance and emission reductions. Once NREL develops specific data collection and reporting procedures, they will be provided.

Additional reporting will be required if the baseline locomotive is not scrapped at the time of the new locomotive delivery.

3.5 Access to Records and Retention

Materials, reports, photos, and other documentation submitted pursuant to the project may be released in part or in whole pursuant to either the Freedom of Information Act or the California Public Records Act. The EPA or SCAQMD may make publicly available on their website copies or portions of project information.

EPA and SCAQMD also reserve the right to access records of the subgrantee pertinent to this award, to perform audits, execute site visits, or for any other official use. This right of access also includes timely and reasonable access to the subgrantee's personnel for the purpose of interviewing and discussion related to such documents or the Federal award in general. This right of access shall continue as long as the records are retained.

In accordance with 2 CFR 200.334, the recipient must retain all Federal award records, including but not limited to, financial records, supporting documents, and statistical records for at least three years from the date of submission of the final financial report. The records must be retained until all litigation, claims, or audit findings have been resolved and final action has been taken if any litigation, claim, or audit is started before the expiration of the three-year period. Examples of the required records include: (1) time and attendance records and supporting documentation; and (2) documentation of compliance with statutes and regulations that apply to the project.

In accordance with 2 CFR 200.337, the EPA, the Inspector General, the Comptroller General, and the pass-through entity, or any of their authorized representatives, have the right of access to any documents, papers or records of the recipient which are pertinent to the grant award. The rights of access are not limited to the required retention period, but last as long as the records are retained.

3.6 Use of Logos

Use of the EPA's logo, along with logos of other participating entities, on outreach materials, websites, or reports, must adhere to the requirements of both the General Terms and Conditions, Paragraph Q, and California Health and Safety Code Section 40730.

3.7 EPA Terms and Conditions

All selected applicants will be considered subgrantees of the EPA CPRG grant. Subgrantees will be required to comply with all applicable provisions outlined in 2 CFR, Part 200, and Part 1500, 40 CFR Chapter 1, Subchapter B, and all applicable terms and conditions set forth in the EPA General Terms and Conditions, which is located at https://www.epa.gov/system/files/documents/2024-10/fy_2025_epa_general_terms_and_conditions_effective_october_1_2024_or_later.pdf, , the EPA Subaward Policy, which is located at Grants Policy Issuance (GPI) 16-01: EPA Subaward Policy for EPA Assistance Agreement Recipients | US EPA, the INVEST CLEAN Grant Agreement (Grant No. 97T15501) and any amendments made thereto, which includes both the Programmatic and Administrative Terms and

Conditions, which are included as Appendix A, as well as , as well as any other applicable federal requirements. Subgrantees are subject to all federal grant requirements, including subaward reporting requirements on the overall performance to ensure the goals and objectives of the subaward are achieved. Examples of items that must be reported include but are not limited to:

- Summaries of results of reviews of financial and programmatic reports;
- Environmental results the subrecipient achieved;
- Summaries of audit findings and related pass-through entity management decisions; and
- Full documentation and proof of the project spending of the CPRG funding. Please refer to the EPA websites for the General Terms and Conditions
  EPA General Terms and Conditions effective October 1, 2024 or later
- EPA Subaward Policy
  https://www.epa.gov/grants/grants-policy-issuance-gpi-16-01-epa-subaward-policy-epa-assistance-agreement-recipients
- Air Quality Resilience
  To the extent practicable, the recipient agrees to incorporate current and future change risk in planning, siting, design, and operation of the project. Approaches for incorporating air quality change risk may make use of air quality change data and information (e.g., projections and emission scenarios) that are reflective of the project's anticipated lifespan. This includes consideration of the air quality change risks posed to the individuals, communities, local governments, organizations, or other entities served by the project over its anticipated lifespan.
- Cybersecurity
    a. The recipient agrees that when collecting and managing environmental data under this assistance agreement, it will protect the data by following all applicable State or Tribal law cybersecurity requirements.
    b. Any connection between the recipient's network or information system and EPA networks to transfer data under this agreement must be secured. For purposes of this Section, a connection is defined as a dedicated persistent interface between an Agency IT system and an external IT system for the purpose of transferring information. Transitory, user-controlled connections such as website browsing are excluded from this definition. If the recipient's connections as defined above do not go through the Environmental Information Exchange Network or the EPA's Central Data Exchange, the recipient agrees to contact the EPA PO no later than 90 days after the date of this award and work with the designated Regional/Headquarters Information Security Officer to ensure that the connections meet EPA security requirements, including entering into Interconnection Service Agreements as appropriate. This condition does not apply to manual entry of data by the recipient into systems operated and used by the EPA's regulatory programs for the submission of reporting and/or compliance data.

- Subawards for For-Profit Entities
  For-profit subrecipients must comply with Subparts A through F of the Uniform Grant Guidance (2 CFR Part 200) and the Federal cost principles applicable to for-profit entities located at 48 CFR Part 31, with the exception of the method of payment to for-profit subrecipients must be "reimbursement" rather than "advance". For-profit subrecipients must provide documentation for incurred eligible and allowable costs prior to receiving EPA funds.
- Procurement of Systems, Equipment and Devices
  a. When purchasing replacement systems, equipment and/or devices, the replacement systems, equipment or device:
     i. will continue to perform a similar function and operation as the system, equipment or device that is being permanently rendered inoperable;
     ii. will achieve the estimated emission reductions included in the subaward agreement; and
     iii. is consistent in its intended use, operation and location as described in the subaward agreement.

  The procurement of systems, equipment or devices should follow the EPA's Best Practice Guide for Procuring Services, Supplies, and Equipment Under EPA Assistance Agreements (https://www.epa.gov/grants/best-practice-guide-procuring-services-supplies-and-equipment-under-epa-assistance).
- Signage Requirements
  a. Investing in America Emblem: The recipient will ensure that a sign is placed at construction sites supported in whole or in part by this award displaying the official Investing in America emblem and must identify the project as a "project funded by United States President's Inflation Reduction Act" as applicable. The sign must be placed at construction sites in an easily visible location that can be directly linked to the work taking place and must be maintained in good condition throughout the construction period. The recipient will ensure compliance with the guidelines and design specifications provided by the EPA for using the official Investing in America emblem.
  b. Consistent with section 6002 of RCRA, 42 U.S.C. 6962, and 2 CFR 200.323, recipients are encouraged to use recycled or recovered materials when procuring signs. Signage costs are considered an allowable cost under this assistance agreement provided that the costs associated with signage are reasonable.
- Public or Media Events
  a. The EPA encourages the recipient to notify the EPA Project Officer listed in this award document of public or media events publicizing the accomplishment of significant events related to construction projects as a result of this agreement and provide the opportunity for attendance and participation by federal representatives with at least ten (10) working days' notice.

Also, as noted above, the subgrantees will be subject to all applicable Federal requirements. Please refer to the attachments and links listed above for a more detailed overview of these applicable requirements. The following list highlights only a portion of those requirements but is not an exhaustive list.

- Build America Buy America (BABA)
  Projects with supporting infrastructure funded under this program are subject to domestic content sourcing requirements under the Build American Buy America (BABA) provisions of the Infrastructure Investment and Jobs Act (IIJA) (P.L. 117-58, §§70911-70917). Please note that none of the funds provided under the Grant award may be used for an infrastructure project unless:
  1. All iron and steel used in the project are produced in the United States – this means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States;
  2. All manufactured products used in the project are produced in the United States – this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55% of the total cost of all components of the manufactured product, unless another standard that meets or exceeds this standard has been established under applicable law or regulation for determining the minimum amount of domestic content of the manufactured product; and,
  3. All construction materials are manufactured in the United States – this means that all manufacturing processes for the construction material occurred in the United States,

  For further information regarding BABA requirements including but not limited to, information regarding construction material standards and applicability of waivers, please refer to Paragraph 49 of the EPA General Terms and Conditions, which can be found at *EPA General Terms and Conditions effective October 1, 2024 or later.

  Please note that the manufacturer of the manufactured products and materials must provide a certification letter of BABA compliance in company letterhead. A template of the letter can be found here: Certification Letter Template for Manufactured Products Covered Under the Build America, Buy America Act. Applicants must implement these requirements in their procurements, and these requirements must flow down to all contracts at any tier. For legal definitions and sourcing requirements refer to EPA's Build America, Buy America website.

  Applicants selected for funding under the INVEST CLEAN Battery Locomotives Program must work with South Coast AQMD to provide documentation demonstrating equipment and materials sourced adhere to the BABA requirements.

- For more information on BABA, please visit:
  - https://www.epa.gov/baba.
  - *EPA General Terms and Conditions effective October 1, 2024 or later
  - eCFR :: 2 CFR Part 184 -- Buy America Preferences for Infrastructure Projects
- For more information on the Infrastructure Investment and Jobs Act (IIJA) visit: https://www.congress.gov/bill/117th-congress/house-bill/3684/text

- Davis-Bacon and Related Acts (DBRA) is a collection of labor standards provisions administered by the Department of Labor that are applicable to grants involving construction. Under DBRA, all contractors and subcontractors performing construction must be paid no less than the locally prevailing wage and fringe benefits for corresponding work on similar projects in the area. Weekly certified payrolls must be submitted to South Coast AQMD and maintained for no less than three years after work completion. By accepting a contract under INVEST CLEAN, the selected applicant acknowledges and agrees to the terms provided in the DBRA Requirements for Contractors and Subcontractors Under EPA Grants: https://www.epa.gov/system/files/documents/2023-10/dbra_requirements_for_contractors_and_subcontractors_under_epa_grants.pdf

- Endangered Species Act (16 U.S.C. §1531 et seq.): The Endangered Species Act requires a biological assessment to determine if any endangered or threatened species, or their critical habitat, could be adversely affected by the proposed construction activities. The assessment must be completed within 180 days after the date it was initiated and must be completed prior to any contract for construction and before any construction has begun. The assessment process is outlined as follows:
  - A desktop review to identify species and habitats in the vicinity of the construction site using the U.S. Fish and Wildlife Service's (USFWS) IPaC tool: https://ipac.ecosphere.fws.gov/
  - If species or habitats are potentially impacted, a consultation with the USFWS may be required
  - Avoidance and Mitigation measures such as protective buffers, erosion control, and other Best Management Practices (BMP) may be proposed.
  - The USFWS must agree with the assessment and resolution before the project can commence.
    - Information on the Endangered Species Act: https://www.epa.gov/laws-regulations/summary-endangered-species-act
    - Procedures explained in 50 CFR Part 402: 50 CFR Part 402-- Interagency Cooperation—Endangered Species Act of 1973, as Amended

- National Historic Preservation Act (16 U.S.C. §470 et seq.): This Act requires a review of potential adverse effects of federally funded activities on historic properties listed or eligible for listing on the National Register. This review should be completed prior to applying for permits.

- For more details see: https://www.nps.gov/subjects/archeology/national-historic-preservation-act.htm
- Selected applicants under this RFP are to provide South Coast AQMD with documentation demonstrating compliance with the National Historic Preservation Act (16 U.S.C. §470 et seq.) A mapping tool such as the link below from the U.S. Department of the Interior can be utilized to determine whether the construction site impacts a registered national historical property: https://www.nps.gov/orgs/1094/nrhp_spatialdata.htm
- The applicant must work with the EPA on any required consultation process with the State or Tribal Historic Preservation Office prior to commencing the project to ensure compliance with section 106 of the NHPA.

- Archeological and Historic Preservation Act (54 U.S.C. §§ 312501-312508): Similar to the National Historic Preservation Act, this Act applies to federally funded activities. It requires historic and archeological objects and materials to be saved that would otherwise be destroyed as a result of the activity.
  - For more details see: https://uscode.house.gov/view.xhtml?req=granuleid%3AUSC-prelim-title54-chapter3125&edition=prelim
  - Selected applicants under this RFP are to report to South Coast AQMD and the EPA any historical or archeological objects and materials found in the process of construction.

- Farmland Protection Policy Act (7 U.S.C. §4201 et. seq.): The purpose of this Act is to minimize or prevent the irreversible conversion of farmland to nonagricultural uses. This act would require identification of the effects federally funded activities may have on farmlands and to consider alternative options.
  - For more details see: https://www.nrcs.usda.gov/conservation-basics/natural-resource-concerns/land/cropland/farmland-protection-policy-act
  - Applicants selected under this RFP must demonstrate adherence to the Farmland Preservation Policy Act (7 U.S.C. §4201 et. Seq.)
    - https://www.nrcs.usda.gov/conservation-basics/natural-resource-concerns/land/evaluation-and-assessment

- Coastal Zone Management Act (16 U.S.C. § 1451 et. seq.): This act requires the review of federally funded activities to determine if the goal of the Act is being met: “preserve, protect, develop and where possible, to restore or enhance the resources of the nation’s coastal zone.”
  - For more details see: https://coast.noaa.gov/czm/act/
  - Applicants selected under this RFP are to consult with the California Coastal Commission to ensure that the applicant’s project will be consistent with the state’s coastal zone management plan.

    - Map of California Coastal Zone: https://www.coastal.ca.gov/maps/
    - Information about obtaining a permit: https://www.coastal.ca.gov/enforcement/cdp_pamphlet.pdf

- Reporting Waste, Fraud and Abuse (2 CFR 200.113): Consistent with Federal requirements, subgrantees must promptly report in writing whenever there is credible evidence of the commission of a violation of federal criminal law involving fraud, conflict of interest, bribery, or gratuity violations per the requirements outlined in EPA's General Terms and Conditions, Paragraph 51, which can be found at: https://www.epa.gov/system/files/documents/2024-10/fy_2025_epa_general_terms_and_conditions_effective_october_1_2024_or_later.pdf

3.8 Agreement Structure

A formal agreement will be executed with the South Coast AQMD, the rail operator, and/or the original equipment manufacturer (OEM) for the construction and deployment of the BE switcher locomotives and the supporting infrastructures. This agreement will outline the OEM and rail operator's responsibilities, milestones and deliverables.

In cases where the OEM is also the applicant, the agreement may include milestone-based payments. However, parts and labor costs must be substantiated and submitted in advance of any milestone payment disbursements.

Concurrently, the rail operator will design and construct the required charging infrastructure for the BE switcher locomotives while they are being built. If the infrastructure component is awarded under the INVEST CLEAN program, it will be included under the same contractual agreement. If not funded through the INVEST CLEAN Program, required reporting will still be required to ensure timely and coordinated deployment.

OEMs or certified training institutions (such as those affiliated with the International Brotherhood of Electrical Workers (IBEW)) will provide necessary training with completion of both the BE switcher locomotive and the supporting charging infrastructure.

3.9 Performance

When a selected applicant is unable to meet the program requirements (e.g., annual reporting, operation, emission benefits, etc.) or terms specified in the contract, South Coast AQMD may consider the options to remedy the violation before seeking enforcement action. In addition, when a grantee cannot meet the average usage requirements or terms specified in the contract, South Coast AQMD may consider that the average usage for a contracted BE switcher locomotive(s) is less than the activity required in the contract.

Options for non-performance include, but are not limited to, the following:

- Extending the project agreement to allow for the makeup of the usage requirement shortfall
- Transfer ownership of the BE switcher locomotive to another entity committed to complying with the agreement and operating the BE switcher locomotives
    - The OEM will make its best effort to repair the locomotive and assist with identifying a new rail operator.
    - SCAQMD and EPA will review and approve the justification for the deployment failure before any operator transfer can be authorized.
    - The new operator will be allowed time to secure alternate funding for the necessary charging infrastructure.

3.10 Closeout

If selected for funding, Closeout of the agreement can occur once all required documentation has been received, and the recipient has fulfilled all obligations. In addition, the selected applicant agrees to use the BE switcher locomotive(s) purchased under the INVEST CLEAN program for which it was acquired, and for the duration of its useful life whether the project continues to be supported by the award. After the end of the grant period, the BE switcher locomotive(s) may be retained, sold, or otherwise disposed of with no further obligation to the EPA or South Coast AQMD.

Section 4 – RFP Timeline (These dates are subject to change)

Battery Electric Switcher Locomotive Workshop*	February 19, 2025
Release Solicitation	June 6, 2025
RFP Workshop and Community Information Meeting	TBD (will be posted on the INVEST CLEAN website: https://www.aqmd.gov/home/technology/implementation/invest-clean
Deadline for Submit Proposal	September 30, 2025, at 12:00 PM PT
Proposal Evaluation	October 2025 through December 2025
Subaward Agreement Execution	October 2025 through August 2027
Procurement and Deployment	January 2026 through September 2028
Invoice Review and Payment	June 2026 through March 2029
Performance and usage tracking	Starting after Locomotive Deployment

* Note: Copy of Workshop presentation slides can be found here: https://www.aqmd.gov/docs/default-source/invest-clean/investclean_locomotive_workshop_2-19-2025.pdf?sfvrsn=12

Section 5 – Proposal Preparation & Submittal Instructions

A proposal must be prepared and submitted in response to this RFP. Only a proposal following this RFP's instructions will be reviewed and evaluated. The following instructions are intended to assist the Applicant in preparing a proposal for consideration.

5.1 Proposal Preparation:

The following Sections must be included in the proposal seeking Measure 4 funding under INVEST CLEAN.

- Proposal Section 1: Applicant and Project Participant Information
    - Provide a brief description of the firm and key members of the proposed teams and their roles and responsibilities
    - Clearly define who owns the old locomotive and who will own and operate the new BE switcher locomotives, and
        - Provide proof of ownership, and/or
        - Provide a letter of commitment from the operator, including a commitment to long term operation of the BE locomotive
    - Provide equipment data in the worksheet found at: INVEST CLEAN (https://www.aqmd.gov/home/technology/implementation/invest-clean)

- Proposal Section 2: Project Approach and Implementation
    - Provide a summary of the project and how the project will meet the Measure 4 requirements and objectives as indicated in Section 2.3, Eligibility Requirements and Section 2. Workflow.
    - Describe the plan and operation for the deployment of a new BE switcher locomotive to operate a minimum of 425 MWh annually.
    - Describe how the project operation locations will be selected and if they will be adjacent to or near residential areas, schools, or public facilities
    - Describe the Emission Reduction Plan for the destruction timeline of the Existing Equipment, including:
        - Scrap or park the existing locomotive(s),
        - How real, measurable, and verifiable emission reductions can be achieved,
        - Method for monitoring and tracking of the old/parked locomotive(s) and their activities and emission reductions
    - Describe the new BE locomotive charging infrastructure plan that includes the following:
        - Review and evaluation of charging infrastructure space and available grid power to support the charging of the BE locomotives. If more than one BE locomotive will be deployed, include an assessment of how they can be supported. If more than one charger will be installed, include a description of the charger locations. If grid power needs supplementing, identify power

solutions or other charging assistance that may need to be utilized, such as a microgrid.
        - Include the description of any renewable energy onsite to help power the locomotives and other power production or management technologies anticipated to be used.
    - Describe who will own and operate (if different) the new BE locomotive and the supporting infrastructure.
        - If different, describe the financial responsibilities between the owner and the operator
        - Supporting infrastructure is potentially subject to BABA requirements, as Section 2.4 of this RFP indicates.
        - Construction and installation should be completed under a union labor agreement

- Proposal Section 3: Project Cost Breakdown
    - Provide pricing and cost information for the project. Include:
        - Vendor quote for new BE switcher locomotive(s)
            - The proposer should obtain the most recent and detailed quote for the project, as the award will not be increased once the project is awarded.
        - Total cost (including shipping/freight, taxes, and state fees)
        - Warranty information
        - Maintenance agreement and
        - Infrastructure costs (if applicable)
        - Planning/Design, engineering, permitting, equipment, and installation
        - The locomotive manufacturer and its contact information
        - The infrastructure manufacturer and its contact information
    - Provide a contingency plan to address the possibility of project costs increasing due to inflation or any other unforeseen circumstances.

- Proposal Section 4: Project Implementation Schedule and Continuation Plan
    - Provide a description/timeline of your project's readiness and implementation schedule
    - Describe the plan for the BE locomotive(s) and supporting infrastructure (if applicable) after closeout of the agreement.

- Proposal Section 5: Business Information Certifications, including:
    - Contact information of all participating parties/entities
    - Business Status Certification Form
    - W-9 IRS Form
    - 590 California Withholding Form

- Certificate Regarding Debarment, Suspension, and Other Responsibility Matters
- Campaign Contribution Disclosure Form

5.2 Proposal Submission Requirements:

All proposals must be submitted according to specifications set forth in the section above and in this section. Failure to adhere to these specifications may result in the proposal's rejection. Submit three (3) complete copies of the proposal in a sealed envelope, plainly marked in the upper left-hand corner with the name and address of the Applicant and the words "Request for Proposals #2025-15." Additionally, please provide an electronic copy of the proposal.

Due Date – All proposals are due or postmarked no later than 12:00 PM PST, Tuesday, September 30, 2025, and must be submitted to:

Procurement Unit
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
Phone: (909) 396-3520

Modification or Withdrawal – Once submitted, proposals cannot be altered without the prior written consent of South Coast AQMD. All proposals shall constitute firm offers and may not be withdrawn for a period of ninety (90) days after September 30, 2025.

5.3 RFP Amendments

South Coast AQMD Review Committee may modify the RFP and/or issue supplementary information or guidelines relating to the RFP during the Proposal preparation and acceptance period from June 6, 2025, at 12:00 PM PST to September 30, 2025, at 12:00 PM PST. Amendments will be posted on the INVEST CLEAN website at https://www.aqmd.gov/home/technology/implementation/invest-clean.

5.4 Confidentiality

Please ensure that any trade secret, confidential or proprietary information being provided is marked accordingly. Please see the following website for more details: https://www.aqmd.gov/docs/default-source/default-document-library/Guidelines/pra-guidelines.pdf

Section 6 – INVEST CLEAN Contact Information

This RFP can be obtained by accessing the INVEST CLEAN website at https://www.aqmd.gov/home/technology/implementation/invest-clean. South Coast AQMD staff members are available to answer questions during the proposal acceptance period. To expedite assistance, please direct your inquiries to investclean-locomotive@aqmd.gov.

Section 7 – Proposal Evaluation & Scoring

Proposals will be evaluated by the South Coast AQMD, and all eligible projects will be competitively ranked. Proposals will be evaluated based on the proposal demonstrating an understanding of the RFP objectives, on the demonstrated capability of the applicant to accomplish the work, and on the Geographic Funding consideration discussed in Section 2.2. The following evaluation criteria form the basis upon which proposal scoring and selection will be conducted. The maximum score available is 100 points. The highest ranked proposals will be considered for INVEST CLEAN funding.

The South Coast AQMD reserves the right not to make any awards.

Criteria #	Criteria	Percentage
1	Overall Project Cost-Effectiveness [Proposal Section 3]	25
2	Project Approach and Implementation [Proposal Section 2]	20
3	Supporting Infrastructure[1] (Existing or New) [Proposal Section 2]	15
4	Strategy to Achieve On-going Reductions [Proposal Section 4]	10
5	Operation Nearby Sensitive Receptors [Proposal Section 1]	10
6	Emission Reduction Plan [Proposal Section 2]	10
7	Applicant Experience with Battery-electric Technologies [Proposal Section 1]	5
8	Proposal Completeness at Time of Submittal [All Proposal Sections]	5
	Total	100

[1]Infrastructure installations are subject to Davis-Bacon and Related Acts and other Federal Regulations see Section 3.7 above.

1. Overall Project Cost-Effectiveness (25 points maximum)

   Proposals will be evaluated for the accumulated yearly tailpipe emission reductions of GHGs, oxides of nitrogen (NOx), and Particulate Matter 2.5 (PM2.5). Cost-effectiveness will be computed as the ratio of the INVEST CLEAN funding request amounts to the estimated emission reductions over the agreement term, using the methodology described in Section 8 of this RFP or using an alternative methodology deemed more appropriate by South Coast AQMD. GHG reduction will be assigned a higher weight than NOx and PM2.5 reduction when calculating the overall Cost-Effectiveness.

   The maximum score of 25 points will be assigned to the project deemed most cost-effective, with points assigned to all other proposals received on a prorated basis.

2. Project Approach and Implementation (20 points maximum)

   Proposals will be evaluated on timeline and readiness with respect to how soon the BE locomotives can be deployed and operating. If the applicant is not a rail operator, commitment from at least one operator must be provided along with details of where the locomotive will

operate. Proposal should address all requested information mentioned above in Proposal Section 2: Project Approach and Implementation.

3. Supporting Infrastructure (15 points maximum)
   To effectively implement the incentive funding and deploy the new locomotive, applicants are required to submit approaches to provide charging support for the new switcher locomotives. This plan will be evaluated with respect to how the BE locomotive will be charged and the readiness of the infrastructure that maybe installed. Evaluation factors include but are not limited to: the expected usage for the project period, fleet commitment to utilizing the infrastructure, power availability and utility coordination, the percentage of renewable sources, equipment throughput relative to cost, project implementation timeliness, and cost-share.

4. Strategy to Achieve On-going Reductions (10 points maximum)
   Applicants are required to discuss how the battery electric switcher locomotive project will continue beyond the agreement term with options to extend the in-service date as needed to meet the usage requirements of the BE switcher locomotive. Projects with a defined plan for continuing the switcher locomotive deployment will be awarded a higher point allocation.

5. Operation Nearby Sensitive Receptors (10 points maximum)
   Proposals will be evaluated on the location where the battery electric switcher locomotive operates. INVEST CLEAN funding will prioritize projects that replace existing switcher locomotives in operation in areas adjacent to or near residential areas, schools, or public facilities in the two MSAs. Geographical distribution of funds will be considered when making awards.

6. Emission Reduction Plan (10 points maximum)
   Applicants are required to submit a plan outlining how their project would achieve emission reductions. The proposal will be evaluated based on the applicant's proposed plan to manage the existing locomotive, such as through destruction, and the viability of the emission reduction claims. Proposal to scrap the old locomotive(s) at the time of BE locomotive delivery will score higher.

7. Applicant Experience with Battery-electric Technologies (5 points maximum)
   Proposals will be evaluated based on the applicant's knowledge and experience with battery-electric equipment and the ability to maintain and operate the equipment.

8. Proposal Completion at Time of Submittal (5 points maximum)
   Proposals will be evaluated on their completeness, accuracy, and responsiveness to the RFP and all its requirements.

SECTION 8 - Simple Methodology for Quantifying Emissions Reduction Using EPA Methods and Emission Factors

This methodology provides an optional approach to quantify emission reductions resulting from the adoption of BE switcher locomotive technologies. It is based on U.S. Environmental Protection Agency (EPA) standards and emission factors. Applicants may propose their method of calculating emission reductions but it will be subject to South Coast AQMD and/or EPA approval. The EPA Diesel Emissions Quantifier (DEQ) may also be used to help calculate emissions reductions for the project.

Baseline Locomotive (Old or Existing) Emissions Calculation Baseline emissions represent the amount of pollutants that would have been emitted by the locomotive fleet or other baseline diesel locomotive (old or existing) without the replacement with the BE switcher locomotives. The following steps outline the baseline calculation:

- Identify Locomotives: Determine the number, type, and duty cycle of switcher locomotives that will be selected for non-operational use or destroyed in the existing fleet.
- Determine Baseline Emission Factors: Use EPA's published emission factors (g/bhp-hr) for the specific locomotive engine model year and tier standard. Emission Factors are provided in the Emission Factor tables in the following pages.
- Fuel Consumption or Hourly Usage: Calculate the proposed equivalent average fuel consumption or hourly usage based.
- Calculate Baseline Emissions:
    - NOx and PM2.5 Emission Reductions from Diesel Switcher Locomotives by pollutant (tons/year)

$$E = \frac{(FC \times FConv \times EF)}{453.6\ \frac{g}{lb}} \times 2000\ \frac{tons}{lb}$$

Equation Variable	Description	Unit
FC	Fuel Consumption per Locomotive	gallons/year
EF	Emission Factor for Baseline Locomotive engine (NOx, $PM_{2.5}$)	g/hp-hr
FConv	Fuel conversion	hp-hr/gallon
E	Emissions (NOx, $PM_{2.5}$)	tons

FConv is estimated to be 15.2 hp-hr/gallon

    - CO_2 Emission Reductions from Diesel Switcher Locomotives by pollutant (tons/year)

$$E = 10.21 \frac{Kg \cdot CO_2}{gal} \times \frac{FC}{1000}$$

Equation Variable	Description	Unit
FC	Fuel Consumption per Locomotive	gallons/year
FConv	Fuel conversion	hp-hr/gallon
E	Emissions (CO_2)	tons

BASELINE EMISSION FACTORS

Table 1: Locomotive Emission Factors (EF) (g/bhp-hr) Based on 1998 Federal Standards for Switcher Locomotives

Engine Type	NOx	PM2.5
Uncontrolled	17.40	0.405
Tier 0	12.6	0.405
Tier 1	9.90	0.396
Tier 2	7.30	0.175

Note: These factors are to be used for the project baseline emissions if the baseline locomotive is certified or required to be certified to the 1998 federal locomotive remanufacture standards, and for the reduced emission locomotive if the project locomotive is remanufactured to these 1998 standards. Factors are based upon Regulatory Impact Analysis: Final United States Environmental Protection Agency (U.S. EPA) Locomotive Regulation (2008).

PM2.5 estimated at 92% of PM10(DPM)

Table 2: Locomotive Emission Factors (EF) (g/bhp-hr) Based on the 2008 Federal Standards

Engine Type	NOx	PM2.5
Tier 0	10.6	0.212
Tier 1	9.90	0.212
Tier 2	7.30	0.248
Tier 3	4.50	0.074
Tier 4	1.00	0.014

Note: These factors are to be used for the project baseline emissions if the baseline locomotive is certified or required to be certified to the new (2008) federal locomotive remanufacture standards, and for the reduced emission locomotive if the project locomotive is remanufactured to the new standards or meets Tier 3 standards. Factors are based upon Regulatory Impact Analysis: Final U.S. EPA Locomotive Regulation (2008).

PM2.5 estimated at 92% of PM10(DPM)

APPENDIX A

EPA Grant Award Attachments and Relevant Modifications

Attachment 1 - Project Description

The purpose of this award is to provide funding under the Inflation Reduction Act (IRA) to the South Coast Air Quality Management District. The recipient will implement greenhouse gas (GHG) reduction programs, policies, projects, and measures identified in three Priority Climate Action Plans (PCAPs) developed under three different Climate Pollution Reduction Grant (CPRG) planning grants. Activities conducted through this grant will benefit all residents and visitors to the South Coast Air Quality Management District in California, through four main objectives: implementation of ambitious measures that will achieve significant cumulative GHG reductions by 2030 and beyond; pursuit of measures that will achieve substantial community benefits, particularly in low-income and disadvantaged communities; complementing other funding sources to maximize these GHG reductions and community benefits; and, pursuit of innovative policies and programs that are replicable and can be "scaled up" across multiple jurisdictions.

This agreement provides full federal funding in the amount of $499,997,415. Preaward costs are approved back to 10/1/2024. Refer to Terms and Conditions. The South Coast Air Quality Management District (South Coast AQMD) is leading Infrastructure, Vehicles, and Equipment Strategy for Climate, Equity, Air Quality, and National Competitiveness (INVEST CLEAN) to implement zero-emission (ZE) transportation measures related to goods movement from the Priority Climate Action Plans (PCAPs) for the Los Angeles – Long Beach – Anaheim and Riverside – San Bernardino – Ontario Metropolitan Statistical Areas (MSA), and the state of California.

This grant will support the development and training of a workforce needed to implement, maintain, and sustain the zero emission transformation of the Southern California Goods Movement Corridor. It will support outreach and engagement opportunities for disadvantaged communities and ensure durability and permanence of the achieved emission reductions via internal combustion engine scrappage and new zero emission technology deployment.

The anticipated deliverables and outcomes include the following:

-Measure 1, Charging Infrastructure Deployment Incentive Program has estimated emission reductions of 3,427,178 (MT COe) by 2030 and 11,153,463 (MT COe) by 2050

-Measure 2, Battery Electric Freight Vehicle Deployment Incentive Program has estimated emission reductions of 67,391 (MT COe) by 2030 and 172,369 (MT COe) by 2050

-Measure 3, Battery Electric Cargo Handling Equipment Deployment Incentive Program has estimated emission reductions of 61,230 (MT COe) by 2030 and 143,567 (MT COe) by 2050

-Measure 4, Battery Electric Locomotive Program has estimated emission reductions of 42,476 (MT COe) by 2030 and 300,146 (MT COe) by 2050

Not only will these 4 Measures reduce greenhouse gas (GHG) emissions significantly, there are also significant co-benefits. Co-benefits include: reduced criteria and hazardous air pollutant impacts on low-income disadvantaged communities (LIDAC) and the opportunity to drive economic growth including job creation throughout the South Coast Air Quality Management District and beyond.

SCAQMD will provide a subaward to IBEW and/or identify other workforce training providers to support apprenticeship, and higher education, utilization of apprenticeships, support for certifications and other

services, and benchmarks for diversity and inclusion. The approach will integrate community college and universities with programs related to zero emission technologies to meet programmatic educational goals of workforce training organization and academic institutions.

SCAQMD will provide a subaward to Alliance for Sustainable Energy, which is a nonprofit that oversees all of the national labs, including NREL. The subaward will improve the national labs' data tools and enhance their research work, which are integral to their mission of solving the nation's energy challenges. The subawardee will develop locomotive operation reporting requirements, host the data, analyze charging data, verify emission reductions, prepare a scaling plan for ZE equipment deployment and infrastructure installation, and prepare data reports.

SCAQMD will provide subaward(s) to incentivize the purchase or lease of electric locomotives by railroad operators for a minimal of 5 years. The selection of rail operators receiving the incentives will be base on, but not limited to the following: quantity of electric switchers purchased or leased, number of years committed to operate the switchers, emission reduction, and number of operation hours.

Administrative Conditions

General Terms and Conditions

The recipient agrees to comply with the current Environmental Protection Agency (EPA) general terms and conditions available at: https://www.epa.gov/grants/epa-general-terms-and-conditions-effective-october-1-2024-or-later

These terms and conditions are in addition to the assurances and certifications made as a part of the award and the terms, conditions, or restrictions cited throughout the award.

The EPA repository for the general terms and conditions by year can be found at: https://www.epa.gov/grants/grant-terms-and-conditions#general.

A. Federal Financial Reporting (FFR)

For awards with cumulative project and budget periods greater than 12 months, the recipient will submit an annual FFR (SF 425) covering the period from "project/budget period start date" to **September 30** of each calendar year to the EPA Finance Center in Research Triangle Park, NC. The annual FFR will be submitted electronically to rtpfc-grants@epa.gov no later than **December 30** of the same calendar year.

Find additional information at https://www.epa.gov/financial/grants. (Per 2 CFR § 200.344(b), the grantee must submit the Final FFR to rtpfc-grants@epa.gov within 120 days.)

B. Procurement

The recipient will ensure all procurement transactions will be conducted in a manner providing full and open competition consistent with 2 CFR § 200.319. In accordance with 2 CFR § 200.324, the grantee and subgrantee(s) must perform a cost or price analysis in connection with applicable procurement actions, including contract modifications. *State and Tribal government entities must follow procurement standards as outlined in 2 CFR § 200.317.*

C. MBE/WBE Reporting, 40 CFR, Part 33, Subpart E (EPA Form 5700-52A)

The recipient agrees to submit a "MBE/WBE Utilization Under Federal Grants and Cooperative Agreements" report (EPA Form 5700-52A) annually for the duration of the project period. The current EPA Form 5700-52A with instructions is located at https://www.epa.gov/grants/epa-grantee-forms

This provision represents an approved exception from the MBE/WBE reporting requirements as described in 40 CFR Section 33.502.

Reporting is required for assistance agreements where funds are budgeted for procuring construction, equipment, services and supplies (including funds budgeted for direct procurement by the recipient or procurement under subawards or loans in the "Other" category) with a cumulative total that exceed the **Simplified Acquisition Threshold (SAT) currently set at $250,000** (the dollar threshold will be automatically revised whenever the SAT is adjusted; See 2 CFR Section 200.1), including amendments and/or modifications. All procurement actions are reportable when reporting is required, not just the portion which exceeds the SAT.

Recipients with expended and/or budgeted funds for procurement are required to report annually whether the planned procurements take place during the reporting period or not. If no budgeted procurements take place during the reporting period, the recipient should check the box in section 4A when completing the form.

When completing the annual report, recipients are instructed to check the box titled "annual" in section 1B of the form. For the final report, recipients are instructed to check the box indicated for the "Final Report (project completed)" in section 1B of the form.

The annual reports are due by October 30th of each calendar year and the final report is due within 120 days after the end of the project period, whichever comes first. The recipient will submit the MBE/WBE report(s) and/or questions to GrantsRegion9@epa.gov and the EPA Grants Specialist identified on page 1 of the award document.

D. Subaward(s)

The recipient's approved budget includes subaward(s). As applicable, the recipient will comply with the General Term and Condition on reporting of first tier subawards to www.fsrs.gov per "Reporting Subawards and Executive Compensation" requirement.

Programmatic Conditions

A.] Deliverables

The first phase of the Climate Pollution Reduction Grants (CPRG) program provided funding for designing Priority Climate Action Plans (PCAPs) that incorporate a variety of measures (i.e., programs, policies, measures, and projects) that reduce greenhouse gas (GHG) emissions. The purpose of this CPRG Implementation assistance agreement is to implement proposed measures within a specified PCAP identified in the CPRG Implementation Grant General Competition application. All programs, policies, measures, and projects contained in the final, approved CPRG implementation assistance agreement workplan are required deliverables.

The recipient agrees to implement GHG reduction programs, policies, projects, and measures (collectively referred to as "GHG reduction measures," or "measures") identified in a PCAP developed under a CPRG planning grant and included in the CPRG implementation grant workplan. The recipient agrees to ensure that each is successfully implemented before the end of the grant project period. The recipient agrees to successful project implementation, which includes the process of putting a decision or plan into effect; executing the program, policies, projects and/or measures, not just planning or designing the programs, policies, projects and/or measures. The recipient agrees to adequately describe the actual environmental outputs and outcomes achieved, including actual GHG emissions reduced, not just the expected outputs and outcomes of the proposed measures. Clean Air Act (CAA) section 137 also requires that CPRG Implementation grant recipients address the degree to which a grant reduces GHG emissions in total and with respect to low-income and disadvantaged communities, where "greenhouse gas" refers to the air pollutants carbon dioxide (CO_2), hydrofluorocarbons (HFCs), methane (CH_4), nitrous oxide (N_2O), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

To the best of their ability, the recipient agrees to:

- implement GHG emission reduction programs, policies, measures, and projects that are expected to reduce GHG emissions (or enhance GHG removals) by the estimated cumulative total GHG emission reductions from the final approved workplan;

- only report emission reductions occurring as a result of CPRG funding; and

- only report emission reduction data in units of million metric tons of carbon dioxide equivalent (MMTCO2e) where appropriate, calculated using the global warming potentials (GWP) in the International Panel on Climate Change's (IPCC) Fifth Assessment Report.

Refer to the Notice of Funding Opportunity, EPA-R-OAR-CPRGI-23-07 (https://www.epa.gov/system/files/documents/2023-09/CPRG General Competition NOFO.pdf), Appendix B, Global Warming Potentials for GHGs, for details about how to apply GWP values for different gases.

For the measures included in the final, approved assistance agreement work plan, the recipient agrees to provide transparent GHG emission reduction estimates based on high-quality, thorough, reasonable, and comprehensive methodologies, assumptions, and calculations. Examples of tools that could be used to assist in these GHG quantifications can be found at: https://www.epa.gov/inflation-reduction-act/climate-pollution-reduction-grants.

B.] Final Approved Work Plan and Modifications

including the roles, responsibilities, and commitments that each partner will provide to ensure project success, the operating model for the coalition, and the resources that each partner will contribute to the project. As established in the CPRG coalition's MOA, the lead applicant is accountable to the EPA and accepts full responsibility for effectively carrying out the full scope of work and proper financial management of the grant. Coalition members who are grant subrecipients are accountable to the lead applicant for proposed use of EPA funding and successful project implementation. The recipient shall not make changes to the signed MOA without prior written approval from the EPA.

C.] Performance Reporting and Final Performance Report

1. Performance Reports - Content

The recipient agrees to inform the EPA as soon as it is aware of problems, delays, or adverse conditions that will materially impair the recipient's ability to meet the outputs/outcomes specified in the final, approved assistance agreement work plan. The recipient agrees to inform the EPA immediately rather than waiting until the next performance report is due.

The recipient agrees to adequately describe the actual environmental outputs and outcomes achieved, not just the expected outputs and outcomes of the proposed measures. The recipient agrees to report out on each performance measures that will be the mechanism to track, measure, and report progress toward achieving the expected outputs and outcomes for each GHG reduction measure. The recipient agrees to track and report separately on the work conducted and GHG emissions reductions for each measure (program, policy, measure, or project) specified in the final, approved assistance agreement work plan. Recipients also agree to track and report separately on the budgets for each measure.

In accordance with 2 CFR 200.329, the recipient agrees to submit semi-annual, one-year, and final performance progress reports that include brief information on each of the areas specified below. To ensure the EPA can effectively monitor progress towards the achievement of measures, the recipient also agrees to report progress for each measure identified in the final, approved assistance agreement work plan as soon as work is completed and information is available.

a. Semi-Annual Report: The recipient agrees to submit semi-annual performance reports that include brief information on each of the following areas:

(1) a comparison of actual technical progress and milestones achieved during the reporting period to the outputs/outcomes and performance measures established in the final, approved assistance agreement work plan, which may include technical changes made to the project, public events conducted, websites published, release of public-facing documents or tools, or other reportable activities described in the work plan;

(2) a consolidated budget update with separate tracking for each measure (that is, how much was spent on equipment, supplies, contractors, subgrants, etc., during the reporting period and cumulatively) and, when appropriate, additional pertinent information such as analysis and explanation of cost overruns, high-unit costs, cost-share expenditures, program income, infrastructure costs subject to Buy America, Build America (BABA) compliance, or requested budget modifications (for example, when the recipient is requesting to move funding from one budget category to another);

(3) if necessary, a description of the reasons why any implementation timeline milestones or outputs/outcomes were missed for each measure established in the final, approved assistance

agreement work plan, including the recipient's strategy to address challenges faced and/or the recipient's approach to ensure that the approved outputs/outcomes for each measure will be achieved within the period of performance;

(4) documentation of community engagement activities conducted in low-income and disadvantaged communities for each measure, which describes how the activities were publicized, categorizes respondents/attendees (e.g., the number of people from Tribal governments, federal government, state government, local government, nonprofits, for profits, universities, and the public), explains how input from participants was considered in decisions for implementing the measure, and details how meaningful engagement with low-income and disadvantaged communities will be continuously included in the development and implementation of the measure;

(5) as applicable, strategies for mitigating environmental risks;

(6) a description of any climate resiliency planning, siting, design, and operation of the project.

(7) as applicable, updates to individuals, including those from coalition members, who serve as key contacts and/or any changes to the roles and responsibilities of key contacts involved in each measure and the reason(s) for the change(s);

(8) as applicable, updates regarding which organizations have the authority to implement each measure and the reason(s) for the change(s);

(9) as applicable, updates regarding changes to contracts, subgrants, and participant support costs;

(10) as applicable, progress on generating high-quality jobs with a diverse, highly skilled workforce and support of strong labor standards; and

(11) summary of anticipated activities for the next 6-month reporting period.

b. One-year report: As part of the second semi-annual progress report (*i.e.* the more detailed one-year report), the recipient agrees to report the additional data to the EPA using the reporting template from the EPA's Information Collection Request 2806.01, Office of Management and Budget (OMB) Control Number 2060-0763. The reporting template will be made available to grant recipients through an electronic data interface to be specified by EPA upon approval of the Information Collection Request. This includes co-pollutant emissions reductions of each pollutant impacted by each measure, the sector impacted, and the county in which the emissions change. In addition, the recipient agrees to report the Climate and Economic Justice Screening Tool (CEJST) Census tract IDs or the EPA's EJScreen Census block group IDs for areas affected by GHG reduction measures, consistent with the EPA's definition of low-income and disadvantaged communities for the CPRG program.

c. Final Report: The recipient also agrees to submit a detailed final report and to report certain data associated with the final report to the EPA using the reporting template from the EPA's Information Collection Request 2806.01, OMB Control Number 2060-0763.

d. Subaward Performance Reporting: Subawards establish a financial assistance relationship under which the subrecipient's employees and contractors implement programs and projects to accomplish the goals and objectives of the grant. Subrecipients (which includes Coalition members) are subject to the same federal requirements as the pass-through entity. (For more details, see General Terms and

Conditions 8. Establishing and Managing Subawards, applicable provisions of 2 CFR Part 200, the EPA's Subaward Policy). The recipient must report on its subaward monitoring activities under 2 CFR 200.332 (d). Examples of items that must be reported if the pass-through entity has the information available are:

(1) Summaries of results of reviews of financial and programmatic reports.

(2) Summaries of findings from site visits and/or desk reviews to ensure effective subrecipient performance.

(3) Environmental results the subrecipient achieved.

(4) Summaries of audit findings and related pass-through entity management decisions.

(5) Actions the pass-through entity has taken to correct deficiencies such as those specified at 2 CFR 200.332(e), 2 CFR 200.208 and the 2 CFR Part 200.339 Remedies for Noncompliance.

As with any EPA grant with a grant recipient subawarding to subrecipients, the grant recipient is accountable to the EPA and accepts responsibility for carrying out the full scope of work and proper financial management of the grant. In the event that a subawardee withdraws, the grant recipient continues to be subject to the EPA's terms and conditions for the grant, the subaward policy, and EPA grants policy. In circumstances where the EPA deems that the withdrawal of a coalition member or subawardee fundamentally alters the project or jeopardizes the project's success, the EPA will consider appropriate remedies and reserves the right to terminate an awarded grant (see 2 CFR 200.339 through 343)

2. Performance Reports - Frequency

The recipient agrees to submit **semi-annual** performance reports electronically to the EPA Project Officer within 30 days after the six-month reporting period ends. Semi-annual reports are due according to the following schedule. If a due date falls on a weekend or holiday, the report will be due on the next business day. If a project start date falls within a defined reporting period, the recipient must report for that period by the given due date unless otherwise noted. This semi-annual reporting schedule shall be repeated for the duration of the award agreement.

October 1 – March 31 Reporting Period: report due April 30

April 1 – September 30 Reporting Period: report due October 30

As part of the second semi-annual performance report that is submitted one year after the grant award, the recipient agrees to submit the **one-year** performance report that includes the additional details specified above in section C.1.b.

The recipient must submit the final performance report no later than 120 calendar days after the end date of the period of performance.

D.] Allowable and Unallowable Activities

The recipient agrees to only use this CPRG Implementation grant award funding to implement measures in the EPA approved workplan for this CPRG Implementation grant and follow the grant Terms and

Conditions. All costs charged to the award to support these activities must meet the requirements for allowability under 2 CFR Part 200, Subpart E as well as applicable provisions of 2 CFR Part 1500. In addition, the recipient agrees to obtain prior approval from the EPA Award Official prior to the expenditure of the award for financial assistance as well as other activities that involve acquiring real property, including related equipment purchases, if not already in the EPA approved work plan.

The recipient agrees to not use the award for the following unallowable activities: (a) activities that are not in the EPA approved work plan; (b) activities that support measures, activities or projects outside the boundaries of the ten EPA regions. The recipient also agrees not to use this CPRG award to replace existing program federal funding, but the recipient may use CPRG funds to supplement or expand existing programs. The recipient also agrees not to use the award for activities associated with defending against, settling, or satisfying a claim by a private litigant, except when either (a) the claim stems from the recipient's compliance with the terms and conditions of the award agreement or (b) the recipient has obtained prior written approval from the EPA Project Officer.

The recipient agrees to not use the award to aid regulated entities to comply with EPA regulatory requirements.

E.] Davis-Bacon Related Act

1. Program Applicability

a. Climate Pollution Reduction Implementation Grants.

b. Section 314 of the Clean Air Act.

c. Construction activities conducted under a Climate Pollution Reduction Implementation Grant.

d. The recipient must work with the appropriate authorities to determine wage classifications for the specific project(s) or activities subject to Davis Bacon under this grant.

2. Davis-Bacon and Related Acts

Davis-Bacon and Related Acts (DBRA) (https://www.dol.gov/agencies/whd/government-contracts/construction) is a collection of labor standards provisions administered by the Department of Labor, that are applicable to grants involving construction. These labor standards include the:

a. Davis-Bacon Act, which requires payment of prevailing wage rates for laborers and mechanics on construction contracts of $2,000 or more;

b. Copeland “Anti-Kickback” Act, which prohibits a contractor or subcontractor from inducing an employee into giving up any part of the compensation to which he or she is entitled; and

c. Contract Work Hours and Safety Standards Act, which requires overtime wages to be paid for over 40 hours of work per week, under contracts in excess of $100,000.

3. Recipient Responsibilities When Entering Into and Managing Contracts

a. Solicitation and Contract Requirements:

(1) Include the Correct Wage Determinations in Bid Solicitations and Contracts: Recipients are responsible for complying with the procedures provided in 29 CFR 1.6 when soliciting bids and awarding contracts.

(2) Include DBRA Requirements in All Contracts: Include the following text on all contracts under this grant:

"By accepting this contract, the contractor acknowledges and agrees to the terms provided in the DBRA Requirements for Contractors and Subcontractors Under EPA Grants (https://www.epa.gov/grants/contract-provisions-davis-bacon-and-related-acts)."

b. After Award of Contract:

(1) Approve and Submit Requests for Additional Wages Rates: Work with contractors to request additional wage rates if required for contracts under this grant, as provided in 29 CFR 5.5(a)(1)(iii).

(2) Provide Oversight of Contractors to Ensure Compliance with DBRA Provisions: Ensure contractor compliance with the terms of the contract, as required by 29 CFR 5.6.

4. Recipient Responsibilities When Establishing and Managing Additional Subawards

a. Include DBRA Requirements in All Subawards (including Loans): Include the following text on all subawards under this grant:

"By accepting this award, the EPA subrecipient acknowledges and agrees to the terms and conditions provided in the DBRA Requirements for EPA Subrecipients (https://www.epa.gov/grants/contract-provisions-davis-bacon-and-related-acts)."

b. Provide Oversight to Ensure Compliance with DBRA Provisions: Recipients are responsible for oversight of subrecipients and must ensure subrecipients comply with the requirements in 29 CFR 5.6.

5. Consideration as Part of Every Prime Contract Covered by DBRA

The contract clauses set forth in this Term & Condition, along with the correct wage determinations, will be considered to be a part of every prime contract covered by Davis-Bacon and Related Acts (see 29 CFR 5.1), and will be effective by operation of law, whether or not they are included or incorporated by reference into such contract, unless the Department of Labor grants a variance, tolerance, or exemption. Where the clauses and applicable wage determinations are effective by operation of law under this paragraph, the prime contractor must be compensated for any resulting increase in wages in accordance with applicable law.

F.] Cybersecurity

a. The recipient agrees that when collecting and managing environmental data under this assistance agreement, it will protect the data by following all applicable State or Tribal law cybersecurity requirements.

b. (1) The EPA must ensure that any connections between the recipient's network or information system

and EPA networks used by the recipient to transfer data under this agreement, are secure. For purposes of this Section, a connection is defined as a dedicated persistent interface between an Agency IT system and an external IT system for the purpose of transferring information. Transitory, user-controlled connections such as website browsing are excluded from this definition.

If the recipient's connections as defined above do not go through the Environmental Information Exchange Network or the EPA's Central Data Exchange, the recipient agrees to contact the EPA PO no later than 90 days after the date of this award and work with the designated Regional/Headquarters Information Security Officer to ensure that the connections meet EPA security requirements, including entering into Interconnection Service Agreements as appropriate. This condition does not apply to manual entry of data by the recipient into systems operated and used by the EPA's regulatory programs for the submission of reporting and/or compliance data.

(2) The recipient agrees that any subawards it makes under this agreement will require the subrecipient to comply with the requirements in (b)(1) if the subrecipient's network or information system is connected to EPA networks to transfer data to the Agency using systems other than the Environmental Information Exchange Network or the EPA's Central Data Exchange. The recipient will be in compliance with this condition: by including this requirement in subaward agreements; and during subrecipient monitoring deemed necessary by the recipient under 2 CFR 200.332(d), by inquiring whether the subrecipient has contacted the EPA Project Officer. Nothing in this condition requires the recipient to contact the EPA Project Officer on behalf of a subrecipient or to be involved in the negotiation of an Interconnection Service Agreement between the subrecipient and the EPA.

G.] Climate Resilience

To the extent practicable, the recipient agrees to incorporate current and future climate change risk in planning, siting, design, and operation of the project. Approaches for incorporating climate change risk may make use of climate change data and information (e.g., projections and emission scenarios) that are reflective of the project's anticipated lifespan. This includes consideration of the climate change risks posed to the individuals, communities, local governments, organizations, or other entities served by the project over its anticipated lifespan.

H.] Subawards

Refer to the General Terms and Condition, “Establishing and Managing Subawards” and EPA Subaward Policy webpage (https://www.epa.gov/grants/grants-policy-issuance-gpi-16-01-epa-subaward-policy-epa-assistance-agreement-recipients) for access to additional information, including a subaward agreement template found in Appendix D. The recipient must include the Build America, Buy America terms in any subawards, request for proposals, or solicitations for bids, and in all contracts.

I.] Subawards for For-Profit Entities

In addition to the EPA General Term and Condition “Establishing and Managing Subawards”, the recipient (i.e. “pass-through entity”) agrees to require that for-profit subrecipients comply with Subparts A through F of the Uniform Grant Guidance (2 CFR Part 200) and the Federal cost principles applicable to for-profit entities located at 48 CFR Part 31, with the exception of the method of payment to for-profit subrecipients must be “reimbursement” rather than “advance”. Pass-through entities must obtain documentation that the for-profit subrecipient has incurred eligible and allowable costs prior to releasing EPA funds to the subrecipient.

J.] Equipment and Devices

1. Procurement of Systems, Equipment and Devices

When purchasing replacement systems, equipment and/or devices, the recipient agrees the replacement systems, equipment or device:

a. will continue to perform a similar function and operation as the system, equipment or device that is being permanently rendered inoperable;

b. will achieve the estimated emission reductions included in the EPA-approved work plan; and

c. is consistent in its intended use, operation and location as described in the EPA-approved work plan.

The procurement of systems, equipment or devices should follow the EPA's Best Practice Guide for Procuring Services, Supplies, and Equipment Under EPA Assistance Agreements (https://www.epa.gov/grants/best-practice-guide-procuring-services-supplies-and-equipment-under-epa-assistance).

2. Operation and Maintenance

The recipient will assure the continued proper operation and maintenance of systems, equipment and devices funded under this agreement. Such practices shall be operated and maintained for the expected lifespan of the specific measure and in accordance with commonly accepted design standards and specifications. The recipient shall include a provision in every applicable sub-agreement (subaward or contract) awarded under this grant requiring that the management practices for the project be properly operated and maintained. Likewise, the sub-agreement will assure that similar provisions are included in any sub-agreements that are awarded by the sub-recipient.

3. Equipment Use and Management

Equipment is defined as tangible personal property having a useful life of more than one year and a per-unit acquisition cost which equals or exceeds the lesser of the capitalization level established by the non-Federal entity for financial statement purposes (see Capital assets at 2 CFR 200.1 Definitions), or the amount specified in Equipment at 2 CFR 200.1. Under 2 CFR 200.313, if the CPRG grant recipient purchases equipment with CPRG federally-awarded funds, title to the equipment vests in the grant recipient and there will be no ongoing requirements for the grant recipient for the purchased equipment after the end of the grant period.

These conditions must be met by the grant recipient for equipment use and management during the grant period:

a. Use the equipment for the authorized purposes of the project during the period of performance or until the property is no longer needed for the purposes of the project. If the equipment and/or equipment components are to be sold during the period of performance, the recipient must comply with the program income requirements (see the Program Income section below).

b. Not encumber the property without approval of the Federal awarding agency or pass-through entity.

c. Use and dispose of the property as described below. Equipment use and management instructions are applicable to assistance agreement recipients and subrecipients acquiring equipment under this award. Per 2 CFR 200.313(b), state agencies may use and manage equipment acquired through a Federal award by the state in accordance with state laws and procedures. Per 2 CFR 200.313(b), Indian Tribes must use, manage, and dispose of equipment acquired under a Federal award in accordance with tribal laws and procedures.

Recipient agrees that at the end of the project period the recipient will continue to use the equipment purchased under this assistance agreement in the project or program for which it was acquired as long as needed, whether or not the project or program continues to be supported by the Federal award. After the end of the grant period, equipment purchased under this award that is no longer needed, may be retained, sold, or otherwise disposed of with no further obligation to the Federal awarding agency.

Consistent with 2 CFR 200.313, unless instructed otherwise, a grant recipient may keep the equipment and continue to use it on the project originally funded through this assistance agreement or on other federally funded projects whether or not the project or program continues to be supported by Federal funds. When acquiring replacement equipment, the non-Federal entity may use the equipment to be replaced as a trade-in or sell the property and use the proceeds to offset the cost of the replacement property.

Subrecipients are subject to the same federal requirements as the grant recipient (also known as the "pass-through entity") and they must comply with applicable subaward provisions of 2 CFR Part 200, the EPA Subaward Policy, and the EPA's General Term and Condition for Subawards.

Under 2 CFR 200.313, if the CPRG grant recipient purchases equipment with CPRG federally-awarded funds, title to the equipment vests with the grant recipient and there will be no ongoing requirements for the grant recipient for the purchased equipment after the end of the grant period.

K.] Quality Assurance

Authority: Quality Assurance applies to all assistance agreements involving environmental information as defined in 2 C.F.R. § 1500.12 Quality Assurance.

The recipient shall ensure that subawards involving environmental information issued under this agreement include appropriate quality requirements for the work. The recipient shall ensure sub-award recipients develop and implement a Quality Assurance (QA) planning document in accordance with this term and condition; and/or ensure sub-award recipients implement all applicable approved QA planning documents.

1. Quality Management Plan (QMP)

a. Prior to beginning environmental information operations, the recipient must notify the EPA Project Officer (PO) in writing that their current, EPA-approved QMP is acceptable for this agreement. If their current, EPA-approved QMP is not acceptable for this agreement, the recipient needs to update the QMP, as directed by the PO, in coordination with the EPA Region 9 Quality Assurance Branch, and email the updated QMP to the PO for review and approval by EPA Region 9 Quality Assurance Manager or designee (hereafter referred to as QAM).

b. The recipient must review their approved QMP at least annually. These documented reviews shall be

pass-through entity, or any of their authorized representatives, have the right of access to any documents, papers or records of the recipient which are pertinent to the grant award. The rights of access are not limited to the required retention period, but last as long as the records are retained.

M.] Program Audit

The EPA will conduct random reviews of recipients to protect against waste, fraud, and abuse. As part of this process, the EPA, or its authorized representatives may request documentation from current recipients to verify statements made on the application and reporting documents. Recipients may be selected for advanced monitoring, including a potential site visit to confirm project details. The EPA, or its authorized representatives, may also conduct site visits to confirm documentation is on hand and that the project is completed as agreed upon, as well as confirm applicable infrastructure adheres to Build America, Buy America (BABA) requirements. Recipients are expected to comply with site visit requests and recordkeeping requirements and must supply the EPA with any requested documents for three years from the date of submission of the final expenditure report, or risk cancellation of an active grant application or other enforcement action.

N.] Use of Submitted Information

Applications and reporting materials submitted under this competition may be released in part or in whole in response to a Freedom of Information Act (FOIA) request. The EPA recommends that applications and reporting materials not include trade secrets or commercial or financial information that is confidential or privileged, or sensitive information that, if disclosed, would invade another individual's personal privacy (e.g., an individual's salary, personal email addresses, etc.). However, if such information is included, it will be treated in accordance with 40 CFR 2.203. (Review EPA clause IV.a, Confidential Business Information, under EPA Solicitation Clauses (https://www.epa.gov/grants/epa-solicitation-clauses))

The EPA may make publicly available on the EPA's website or another public website copies or portions of CPRG grant project information.

The EPA reserves a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use, and to authorize others to use, for federal purposes, submitted project photos, including use in program materials.

O.] Participant Support Costs

Participant support costs include rebates, subsidies, stipends, or other payments to program beneficiaries. Participant support costs are not subawards as defined by 2 CFR §200.1 and should not be treated as such. Program beneficiaries may be individual owner/operators or private or public fleet owners, however program beneficiaries cannot be employees, contractors or subrecipients of the grant recipient. The recipient may provide financial assistance and project-deployment technical assistance to enable low-income and disadvantaged communities to deploy and benefit from eligible zero emissions technologies in the form of participant support costs. The recipient agrees to the following eligibility, restrictions, timelines, and other programmatic requirements on participant support costs:

1. Participant support costs must be reasonable, incurred within the project period and otherwise allocable to the EPA assistance agreement. Participant support costs for rebates must be supported by guidelines issued by the recipient and approved by the EPA's Award Official or Grants Management Officer, defining the rules, restrictions, timelines, programmatic requirements, reporting and transaction

documentation requirements, eligibility, and funding levels that rebate beneficiaries must follow.

2. Recipient must abide by EPA Participant Support Cost regulation(s) and guidelines including but not limited to "Interim EPA Guidance on Participant Support Costs" (https://www.epa.gov/grants/rain-2018-g05-r1). "The EPA Guidance on Participant Support Costs" specifies requirements for rebate program approval by Authorized EPA Officials.

3. Recipient must enter into a written agreement with the program beneficiary that receives participant support costs. Such agreement should not be structured as a subaward agreement, and the administrative grant regulations under 2 CFR Part 200 and 2 CFR Part 1500, as well as the EPA's general terms and conditions do not flow down to program beneficiaries receiving participant support costs. Such written agreement is also required if a subrecipient or contractor intends to issue participant support costs to a program beneficiary. The written agreement must:

a. describe the activities that will be supported by rebates, stipends, subsidies or other payments;

b. specify the amount of the rebate, subsidy, stipend, or other payment;

c. identify which party will have title to equipment (if any) purchased with a rebate or subsidy or other payment;

d. specify any reporting required by the program beneficiary and the length of time for such reporting;

e. establish source documentation requirements (e.g., invoices) for accounting records; and

f. describe purchasing controls to ensure that the amount of the participant support cost is determined in a commercially reasonable manner as required by 2 CFR 200.404.

4. Recipient must obtain prior written approval from the EPA's Award Official if recipient wants to transfer funds budgeted for participant support costs to other budget categories. If the recipient's request would result in undermining the integrity of the competition this grant or cooperative agreement was awarded under, the EPA will not approve the request.

Rebates, subsidies, and similar one-time, lump-sum payments to program beneficiaries for the purchase of eligible emissions control technologies and vehicle replacements are eligible participant support costs under this award when the program participant rather than the recipient owns the equipment, per 2 CFR 1500.1(a)(1). Engine replacements, marine and locomotive shorepower projects, and most electrified parking space technology projects are not eligible as participant support costs. Rebates can only fund a participating fleet owner's equipment purchase and installation costs (i.e. parts and labor, including costs incurred to scrap the existing vehicle); if a participating fleet owner requires funding for project administration, travel, extensive design/engineering, construction, etc., in order to carry out the project a subaward is the more appropriate option. Questions regarding the use of rebates under this award should be directed to the EPA Project Officer. Rebates are not considered subawards/subgrants as defined in 2 CFR Part 200 and should not be treated as such under this award.

P.] Signage Requirements

1. Investing in America Emblem: The recipient will ensure that a sign is placed at construction sites

supported in whole or in part by this award displaying the official Investing in America emblem and must identify the project as a "project funded by President Biden's Inflation Reduction Act" as applicable. The sign must be placed at construction sites in an easily visible location that can be directly linked to the work taking place and must be maintained in good condition throughout the construction period. The recipient will ensure compliance with the guidelines and design specifications provided by the EPA for using the official Investing in America emblem available at: https://www.epa.gov/invest/investing-america-signage

2. Procuring Signs: Consistent with section 6002 of RCRA, 42 U.S.C. 6962, and 2 CFR 200.323, recipients are encouraged to use recycled or recovered materials when procuring signs. Signage costs are considered an allowable cost under this assistance agreement provided that the costs associated with signage are reasonable. Additionally, to increase public awareness of projects serving communities where English is not the predominant language, recipients are encouraged to translate the language on signs (excluding the official Investing in America emblem or the EPA logo or seal) into the appropriate non-English language(s). The costs of such translation are allowable, provided the costs are reasonable.

Q.] Use of Logos

If the EPA logo is appearing along with logos from other participating entities on websites, outreach materials, or reports, it must **not** be prominently displayed to imply that any of the recipient or subrecipient's activities are being conducted by the EPA. Instead, the EPA logo should be accompanied with a statement indicating that the South Coast Air Quality Management District (or name of the subaward recipient) received financial support from the EPA under an Assistance Agreement. More information is available at: https://www.epa.gov/stylebook/using-epa-seal-and-logo#policy

R.] Public or Media Events

The EPA encourages the recipient to notify the EPA Project Officer listed in this award document of public or media events publicizing the accomplishment of significant events related to construction projects as a result of this agreement and provide the opportunity for attendance and participation by federal representatives with at least ten (10) working days' notice.

S.] Fellowship, Internship Programs and Similar Programs Supported by EPA Financial Assistance

1. EPA funds for this program may only be used for participant support cost payments, scholarships, tuition remission and other forms of student aid for citizens of the United States, its territories, or possessions, or for individuals lawfully admitted to the United States for permanent residence.

2. The recipient and program participants are responsible for taxes, if any, on payments made to or on behalf of individuals participating in this program that are allowable as participant support costs under 2 CFR 200.1 or 2 CFR 200.456 and scholarships and other forms of student aid such as tuition remission under 2 CFR 200.466. EPA encourages recipients and program participants to consult their tax advisers, the U.S. Internal Revenue Service, or state and local tax authorities regarding the taxability of stipends, tuition remission and other payments. However, EPA does not provide advice on tax issues relating to these payments.

3. Participant support cost payments, scholarships, and other forms of student aid such as tuition remission are lower tiered covered Nonprocurement transactions for the purposes of 2 CFR 180.300 and EPA's Suspension and Debarment Term and Condition. Recipients, therefore, may not make participant

support cost payments to individuals who are excluded from participation in Federal Nonprocurement programs under 2 CFR Part 180. Recipients are responsible for checking the eligibility of program participants in the System for Award Management (SAM) or obtaining eligibility certifications from the program participants.

See EPA Guidance on Participant Support Costs: https://www.epa.gov/sites/default/files/2020-11/documents/epa-guidance-on-participant-support-costs.pdf.

T.] Competency of Organizations Generating Environmental Measurement Data

In accordance with Agency Policy Directive Number FEM-2012-02, Policy to Assure the Competency of Organizations Generating Environmental Measurement Data under Agency-Funded Assistance Agreements, the Recipient agrees, by entering into this agreement, that it has demonstrated competency prior to award, or alternatively, where a pre-award demonstration of competency is not practicable, Recipient agrees to demonstrate competency prior to carrying out any activities under the award involving the generation or use of environmental data. Recipient shall maintain competency for the duration of the project period of this agreement and this will be documented during the annual reporting process. A copy of the Policy is available online at https://www.epa.gov/sites/production/files/2015-03/documents/competency-policy-aaia-new.pdf or a copy may also be requested by contacting the EPA Project Officer for this award.

U.] Geospatial Data Standards

All geospatial data created must be consistent with Federal Geographic Data Committee (FGDC) endorsed standards. Information on these standards may be found at https://www.fgdc.gov/.

V.] Health and Safety Plan

Before beginning field work, the recipient must have a health and safety plan in place providing for the protection of on-site personnel and area residents, unless specifically waived by the award official. This plan need not be submitted to the EPA but must be made available to the EPA upon request. The recipient's health and safety plan must comply with Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120, entitled "Hazardous Waste Operations and Emergency Response."

W.] Foreign Entity of Concern

The recipient agrees to not directly transfer EPA funds through a subaward, contract, or participant support costs to a foreign entity of concern (FEOC). The EPA considers FEOCs to include foreign entities that are owned by, controlled by, or subject to the jurisdiction or direction of a government of a foreign country that is a covered nation as defined by Congress in Section 40207 of the Infrastructure Investment and Jobs Act. The EPA uses the proposed interpretive rule from the U.S. Department of Energy (DOE) to provide additional guidance in determining FEOCs. See 88 Fed. Reg. 84,082 (Dec. 4, 2023). If DOE finalizes an interpretive rule that differs in material respects from the proposal, the EPA may amend the award agreement accordingly.

Additionally, the recipient agrees to develop and implement internal controls that ensure EPA funds are not directly transferred to FEOCs, including through subawards, contractors, and participant support costs.

X.] Leveraging

The recipient agrees to provide the proposed leveraged funding that is described in its proposal dated **April 1, 2024**. If the proposed leveraging does not materialize during the period of award performance, and the recipient does not provide a satisfactory explanation, the Agency may consider this factor in evaluating future proposals from the recipient. In addition, if the proposed leveraging does not materialize during the period of award performance then EPA may reconsider the legitimacy of the award; if EPA determines that the recipient knowingly or recklessly provided inaccurate information regarding the leveraged funding the recipient described in its proposal dated **April 1, 2024**, EPA may take action as authorized by 2 CFR Part 200 and/or 2 CFR Part 180 as applicable.

Y.] Historic Preservation

National Historic Preservation Act (NHPA)

Section 106 of the NHPA requires all federal agencies to consider the effects of their undertakings, including the act of awarding a grant or cooperative agreement, on historic properties, and to provide the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings. The recipient must assist the EPA Project Officer in complying with NHPA if any activities funded under this grant impact a historic property. Historic properties include: (a) land or buildings listed in or eligible for listing on the National Register of Historic Places; (b) archaeologically sensitive areas or in an area where traditional cultural properties are located; and (c) properties that are associated with significant historic events, are associated with significant people, embody distinctive characteristics, and contain important precontact information.

The recipient should work with their Project Officer to ensure that subrecipients are available to work with EPA on any required consultation process with the State or Tribal Historic Preservation Office prior to commencing the project to ensure compliance with Section 106 of the NHPA.

If NHPA compliance is required, necessary Section 106 consultation activities, such as historic or architectural surveys, structural engineering analysis of buildings, public meetings, and archival photographs, can be considered allowable and allocable grant costs.

Archeological and Historic Preservation Act (AHPA)

This law applies if archeologically significant artifacts or similar items are discovered after an EPA-funded construction project has begun, and compliance may be coordinated with the NHPA, discussed above. The AHPA requires federal agencies to identify relics, specimens, and other forms of scientific, prehistorical, historical, or archaeologic data that may be lost during the construction of federally-sponsored projects to ensure that these resources are not inadvertently transferred, sold, demolished or substantially altered, or allowed to deteriorate significantly. The recipient must ensure that subrecipients performing construction projects are aware of this requirement, and the recipient must notify EPA if the AHPA is triggered.

Z.] Other Federal Requirements

In addition to the statutes outlined in the Labor and Equitable Workforce Programmatic Term and Condition, Build America, Buy America Programmatic Act Term and Condition, Historic Preservation Programmatic Term and Condition, the recipient must comply with all federal cross-cutting requirements.

These requirements include, but are not limited to:

- Endangered Species Act, as specified in 50 CFR Part 402: Non-Federal entities must identify any impact or activities that may involve a threatened or endangered species. Federal agencies have the responsibility to ensure that no adverse effects to a protected species or habitat occur from actions under Federal assistance awards and conduct the reviews required under the Endangered Species Act, as applicable.

- Federal Funding Accountability and Transparency Act: Recipients of financial assistance awards must comply with the requirements outlined in 2 CFR Part 170, Reporting Subaward and Executive Compensation and in the General Term and Condition "Reporting Subawards and Executive Compensation."

- Farmland Protection Policy Act: This statute requires EPA to use criteria developed by the Natural Resources Conservation Service (NRCS) to identify the potential adverse effects of Federal programs on farmland and its conversion to nonagricultural uses, to mitigate these effects, and to ensure that programs are carried out in a manner that is compatible with the farmland preservation policies of state and local governments, and private organizations. Recipients may need to work with EPA or NRCS, as appropriate, to ensure compliance.

- Coastal Zone Management Act: Projects funded under federal financial assistance agreements must be consistent with a coastal State's approved management program for the coastal zone.

For additional information on cross-cutting requirements visit https://www.epa.gov/grants/epa-subaward-cross-cutter-requirements.

END OF DOCUMENT

Budget Summary Page

Table A - Object Class Category (Non-Construction)	Total Approved Allowable Budget Period Cost
1. Personnel	$ 7,860,685
2. Fringe Benefits	$ 4,350,890
3. Travel	$ 0
4. Equipment	$ 0
5. Supplies	$ 0
6. Contractual	$ 1,000,000
7. Construction	$ 0
8. Other	$ 476,200,000
9. Total Direct Charges	$ 489,411,575
10. Indirect Costs: 0.00 % Base : see General T/C	$ 10,585,840
11. Total (Share: Recipient 0.00 % Federal 100.00 %)	$ 499,997,415
12. Total Approved Assistance Amount	$ 499,997,415
13. Program Income	$ 0
14. Total EPA Amount Awarded This Action	$ 0
15. Total EPA Amount Awarded To Date	$ 499,997,415

EPA Funding Information

FUNDS	FORMER AWARD	THIS ACTION	AMENDED TOTAL
EPA Amount This Action	$ 499,997,415	$ 0	$ 499,997,415
EPA In-Kind Amount	$ 0	$ 0	$ 0
Unexpended Prior Year Balance	$ 0	$ 0	$ 0
Other Federal Funds	$ 0	$ 0	$ 0
Recipient Contribution	$ 0	$ 0	$ 0
State Contribution	$ 0	$ 0	$ 0
Local Contribution	$ 0	$ 0	$ 0
Other Contribution	$ 0	$ 0	$ 0
Allowable Project Cost	$ 499,997,415	$ 0	$ 499,997,415

Assistance Program (CFDA)	Statutory Authority	Regulatory Authority
66.046 - Climate Pollution Reduction Grants	Clean Air Act: Sec. 137	2 CFR 200, 2 CFR 1500 and 40 CFR 33

Programmatic Conditions

Previous Programmatic Conditions remain the same; except Condition W. is updated and AA. applies.

W.] Foreign Entity of Concern (Updated 01/07/25)

As part of carrying out this award, Recipient agrees that they are not:

1. an entity owned by, controlled by, or subject to the direction of a government of a "covered nation" as defined at 10U.S.C. §4872(d);
2. an entity headquartered in a "covered nation" as defined at 10U.S.C. §4872(d); or
3. a subsidiary of an entity described above in (1) or (2).

As of the date these terms and conditions become effective, covered nations under 10 U.S.C. § 4872(d) are the Democratic People's Republic of North Korea; the People's Republic of China; the Russian Federation; and the Islamic Republic of Iran.

AA.] Termination

Notwithstanding the General Term and Condition "Termination," EPA maintains the right to terminate the Assistance Agreement only as specified in 2 CFR 200.339 and the version of 2 CFR 200.340 effective as of October 1, 2024, when the noncompliance with the terms and conditions is substantial such that effective performance of the Assistance Agreement is materially impaired or there is adequate evidence of waste, fraud, or abuse, prompting adverse action by EPA per 2 CFR 200.339, through either a partial or full termination. If EPA partially or fully terminates the Assistance Agreement, EPA must (1) de-obligate uncommitted funds and re-obligate them to another Eligible Recipient to effectuate the objectives of Section 137(c) of the Clean Air Act, 42 USC § 7437(c) within 90 days of the de-obligation and (2) amend the Recipient's Assistance Agreement to reflect the reduced amount, based on the de-obligation. In accordance with 2 CFR 200.341, EPA will provide the Recipient notice of termination.

END OF DOCUMENT

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 5

PROPOSAL: Modify Contracts and SEP Agreements for Installation and/or Maintenance of Air Filtration Systems in Schools and Residences and Execute New and Modify Existing School Site Access Agreements

SYNOPSIS: Delays due to the COVID-19 pandemic and school closures have resulted in a need for no-cost term extensions to existing contracts and agreements to complete school and residential air filtration projects. This item authorizes no-cost modifications to existing contracts, Supplemental Environmental Project (SEP) agreements, and school site access agreements to complete the installation and/or maintenance of air filtration systems in schools and residences. These actions are to: 1) authorize the Executive Officer to modify contracts with IQAir North America for the installation of air filtration systems and/or provide maintenance for up to 10 years post installation in schools and residences; 2) authorize the Executive Officer to modify SEP agreements with CARB and Aliso Fund Committee for the installation and/or maintenance of air filtration systems in schools and residences; and, 3) execute new and modify existing site access agreements with schools for installation and/or maintenance of air filtration systems.

COMMITTEE: Technology, May 16, 2025, Recommended for Approval

RECOMMENDED ACTIONS:

1. Authorize the Executive Officer to modify existing contracts with IQAir North America to install air filtration systems and/or provide maintenance for up to 10 years post-installation in schools and residences, including no-cost term extensions for the following Supplemental Environmental Projects (SEPs): Aliso, Navistar, Tesoro, J&P Cycles, Inc., CNS Motors, Inc., Los Angeles Department of Water and Power (LADWP), and Vortech Engineering, Inc;

2. Authorize the Executive Officer to modify existing SEP agreements with CARB and Aliso Fund Committee (AFC) for the installation and/or maintenance of air filtration systems in schools and residences, including no-cost term extensions for the following SEPs: Aliso, Navistar, Tesoro, J&P Cycles, Inc., CNS Motors, Inc., Vortech Engineering, Inc., and Long Beach Terminal; and
3. Execute new and modify existing site access agreements with schools for installation and/or maintenance of air filtration systems.

Wayne Nastri
Executive Officer

AK:MW:DG:KG:VT

Background

In 2018, the Board authorized contracts with IQAir North America to install and maintain air filtration systems at schools in environmental justice (EJ) communities with funds collected from LADWP under a Hearing Board variance for the use of diesel fuel at the Harbor, Haynes, and Valley generating stations. In 2019, the AFC, comprised of one representative each from the California Attorney General, Los Angeles City Attorney, and County Counsel offices entered into a settlement agreement to resolve the claims against the Southern California Gas Company in connection with the Aliso Canyon natural gas leak. The AFC selected South Coast AQMD as the administrator of the Aliso SEP and the Board authorized the Executive Officer to execute agreements with the AFC for the installation and maintenance of air filtration systems in schools in EJ communities.

From December 2019 to December 2020, CARB requested South Coast AQMD to administer SEP funds for Long Beach Container Terminal, Inc., Navistar, Inc., and Tesoro Refining & Marketing Company, LLC. Subsequently, the Board authorized the Executive Officer to execute SEP agreements with CARB for the installation and maintenance of air filtration systems in schools in EJ communities. Each SEP sets forth unique criteria that determine school selection. Many selected schools are within AB 617 Communities.

Additionally, in 2020, CARB requested South Coast AQMD to administer SEP funds for CNS Motors, Inc., J&P Cycles, LLC, and Vortech Engineering, Inc. As a result, the Board authorized the Executive Officer to execute SEP agreements with CARB for the installation and maintenance of air filtration systems at residences in San Bernardino.

The Executive Officer executed agreements with IQAir North America, CARB and the AFC; however, the implementation timelines must be extended due to delays from

COVID-19 closures, school district staff changes, site identification, and engineering challenges. Board approval is needed to modify seven contracts with IQAir North America and seven SEP agreements with no-cost term extensions to complete these air filtration SEP projects,

Proposal

Staff proposes modifying the IQ Air North America contracts listed in Table 1 with no-cost term extensions to allow additional time for the installation and/or maintenance of air filtration systems in schools and residences. Examples of maintenance of air filtration systems include installation of replacement filters, repairing hardware, and providing residential electricity stipends.

Table 1: Contracts Requiring a No-Cost Extension

Oversight Agency	SEP Title	SEP Type	Contract Amount	Contract Balance
AFC	Aliso	School	$6,745,000	$4,432,256
CARB	Navistar	School	$962,730	$962,730
CARB	Tesoro	School	$119,700	$24,061
CARB	J&P Cycles, LLC	Residential	$191,093	$95,293
CARB	CNS Motors, Inc.	Residential		
CARB	Vortech Engineering, Inc.	Residential		
South Coast AQMD	LADWP	School	$830,438	$707,518

Additionally, staff proposes modifying the following SEP agreements listed in Table 2 with no-cost term extensions to allow additional time for the installation and/or maintenance of air filtration systems in schools and residences.

Table 2: SEP Agreements Requiring a No-Cost Extension

Oversight Agency	SEP Title	SEP Type	Contract Amount	Contract Balance
AFC	Aliso	School	$6,745,000	$4,432,256
CARB	Navistar	School	$962,730	$962,730
CARB	Tesoro	School	$119,700	$24,061
CARB	J&P Cycles, LLC	Residential	$191,093	$95,293
CARB	CNS Motors, Inc.	Residential		
CARB	Vortech Engineering, Inc.	Residential		
CARB	Long Beach Terminal	School	$17,600	$17,600

School site access agreements allow contractors to access schools for the installation and/or maintenance of air filtration systems. Staff propose to execute new and modify

existing (i.e., no-cost term modifications) site access agreements with schools or school districts selected to participate in the above SEPs.

South Coast AQMD has a site access agreement with Los. Angeles Unified School District (LAUSD). The agreement provides South Coast AQMD and its contractors with reasonable access to schools selected for air filtration installations. South Coast AQMD and its contractors have installed air filtration systems at 67 schools under this agreement (listed in Table 3 below). However, a no-cost term extension to the agreement is necessary to complete future installation and maintenance activities at new and existing schools under the SEPs listed in the tables above. Staff will work with LAUSD and other school districts within Los Angeles County to select new schools that meet siting and other requirements (e.g., within an EJ Community or near a power generating facility) to be eligible for the remaining funding under each SEP. A list of existing schools that have been funded with these SEP as of May 2025 are included in the table below:

Table 3: List of Schools Funded with SEPs

School Name	City	Zip Code
116TH Street Elementary School	Los Angeles	90059
135th Street Elementary School	Gardena	90247
61st Street Elementary School	Los Angeles	90003
Arminta St Elementary School	North Hollywood	91605
Bassett St Elementary School	Lake Balboa	91406
Breed Street Elementary School	Los Angeles	90033
Budlong Ave Elementary School	Los Angeles	90044
Charles Elementary School	Los Angeles	90003
Cohasset Street Elementary School	Lake Balboa	91406
Corona Avenue Elementary School	Bell	90201
Dolores Huerta Elementary School	Los Angeles	90011
Dorris Place Elementary School	Los Angeles	90031
Fenton Ave Elementary School	Lake View Terrace	91342
Fernangles Elementary School	Sun Valley	91352
Fishburn Avenue Elementary School	Maywood	90270
Gardena Elementary School	Gardena	90247
Glenwood Elementary School	Sun Valley	91352
Harrison Elementary School	Los Angeles	90063
Heliotrope Avenue Elementary School	Maywood	90270
Hillery T Broadous Elementary School	Pacoima	91331
Humphreys Elementary School	Los Angeles	90022
Huntington Park Elementary School	Huntington Park	90255
Loma Vista Avenue Elementary School	Maywood	90270
Loreto Elementary School	Los Angeles	90065

Marianna Elementary School	Los Angeles	90063
Martha Escutia Primary Center	Bell	90201
Marvin Elementary School	Los Angeles	90016
Maywood Elementary School	Maywood	90270
Morris Hamasaki Elementary School	Los Angeles	90022
Nevin Avenue Elementary School	Los Angeles	90011
Ninth Street Elementary School	Los Angeles	90021
Nueva Vista Elementary School	Bell	90201
Olympic Primary Center	Los Angeles	90015
Pacific Boulevard Elementary School	Huntington Park	90255
Plasencia Elementary School	Los Angeles	90026
Purche Avenue Elementary School	Gardena	90249
Ricardo Lizarraga Elementary School	Los Angeles	90011
Roosevelt Infant Center	Los Angeles	90033
Roscoe Elementary School	Sun Valley	91352
San Antonio Elementary School	Huntington Park	90255
Sharp Elementary School	Arleta	91331
Solano Elementary School	Los Angeles	90012
Sunrise Elementary School	Los Angeles	90023
Telfair Avenue Elementary School	Pacoima	91331
Trinity Street Elementary School	Los Angeles	90011
Twentieth Street Elementary School	Los Angeles	90011
Twenty-Eighth Street Elementary School	Los Angeles	90011
Vaughn Street Children's Center	Pacoima	91331
West Athens Elementary School	Los Angeles	90043
West Vernon Elementary School	Los Angeles	90037
Woodlawn Avenue Elementary School	Bell	90201

Benefits to South Coast AQMD

This project will reduce children's exposure to criteria and toxic pollutants and ultrafine PM. Health studies have determined that fine and ultrafine PM, including diesel PM, present the greatest air pollution health risk to sensitive receptors in EJ communities identified in the SEP agreements. Many of the schools in which air filtration systems will be installed are in AB 617 Communities.

Resource Impacts

No net monetary changes will result from any contract modifications with IQAir or agreement modifications with CARB, AFC or school districts.

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BOARD MEETING DATE: June 6, 2025 AGENDA NO. 6

PROPOSAL: Recognize Revenue and Appropriate Funds for U.S. EPA Pass Through Grant to Develop Reference Method for Validating Open-Path Remote Sensing Systems

SYNOPSIS: In September 2022, the Board recognized revenue from University of California, Los Angeles (UCLA) for the implementation of U.S. EPA competitive Science to Achieve Results (STAR) research grant. South Coast AQMD staff are co-investigators for this grant to develop a reference method for validating the performance of open-path remote sensing systems for air toxic measurements. In February 2025, U.S. EPA granted a no-cost extension for this grant. The May 2025 Administrative Committee separately approved revenue recognition from Virginia Polytechnic Institute and State University for a separate STAR grant award, but U.S. EPA is no longer providing funds for that project. This action is to recognize revenue up to $183,432 from UCLA through the STAR research grant into the General Fund, and appropriate up to $29,963 in the Monitoring and Analysis FY 2025-26 and/or FY 2026-27 Budgets to support efforts on this project.

COMMITTEE: Administrative, May 9, 2025; Recommended for Approval

RECOMMENDED ACTION:
Recognize revenue up to $183,432 from University of California, Los Angeles (UCLA) through the STAR research grant to the General Fund, upon receipt, and appropriate up to $29,963 from the General Fund Undesignated (Unassigned) Fund Balance ($153,469 for Salaries and Employee Benefits is already included in the budget) in the MAD FY 2025-26 and/or FY 2026-27 Budget (Org 43), Services and Supplies Major Object, as shown in Table 1.

Wayne Nastri
Executive Officer

JCL:AP:BF:OP:wm:ld:ir:kdl

Background

On March 25, 2021, U.S. EPA, as part of its Science to Achieve Results (STAR) program, solicited applications from research institutions, governmental agencies, and other organizations throughout the nation proposing research to advance "Measurement and Monitoring Methods for Air Toxics and Contaminants of Emerging Concern in the Atmosphere." South Coast AQMD partnered with Virginia Polytechnic Institute and State University (Virginia Tech) and UCLA to submit two separate grant proposals, one to develop a low-cost sensing device for time resolved measurements of VOCs and another to develop a reference method for validating measurements of hazardous air pollutants (HAPs) from open-path optical remote sensing (OP-ORS) systems. Both proposals were initially selected for funding and, as co-principal investigator, South Coast AQMD staff was anticipated to have a major role in the implementation of both projects. However, on May 12, 2025, Virginia Tech received notice of contract termination from U.S. EPA and are in the process of appealing this decision. If successful, staff will seek board approval to continue this collaborative project with Virginia Tech. The project with UCLA, which will contribute to developing new tools that can be used for improving HAPs measurements from stationary sources such as refineries, is still moving forward and is the subject of this agenda item.

Under the award titled, "Development of a Reference Method for Open-Path Remote Sensing of Air Toxics," South Coast AQMD staff is collaborating with UCLA on the testing and validation of a reference OP-ORS instrument. South Coast AQMD staff will design and build a trace gas release system and in collaboration with UCLA, perform a validation of the reference OP-ORS instrument. South Coast AQMD staff will also contribute to the development of an OP-ORS validation protocol and a guidance document for best practices for the operation, QA/QC, and validation of OP-ORS systems. Due to longer than anticipated lead-times for key instrument components and revisions to OP-ORS validation approach based on the U.S. EPA staff suggestions, the completion of the project was delayed. In February 2025, a two year no-cost extension was granted by U.S. EPA to utilize the remaining grant funding to complete all remaining goals and objectives of this project by April 30, 2027.

Proposal

This action is to recognize revenue up to $183,432 from UCLA though the STAR research grant into the General Fund, and appropriate up to $29,963 from the General Fund Undesignated (Unassigned) Fund Balance in the MAD FY 2025-26 and/or FY 2026-27 Budgets (Org 43), Services and Supplies Major Object, as shown in Table 1. As part of this project, staff will continue collaborating with UCLA on development of reference ORS system and its testing, and development of the procedure for validation of open-path ORS measurements.

Benefits to South Coast AQMD
The successful implementation of this project will provide South Coast AQMD with additional tools that will enhance the ability to detect HAPs for fenceline, and other important monitoring applications.

Resource Impacts
Sufficient funding exists from the U.S. EPA award to UCLA to meet the objectives of the project. There is no cost-share by South Coast AQMD or the project partners for the project.

Attachment
Table 1: Proposed Expenditures for U.S. EPA STAR Grant (UCLA subcontract) for FY 2025-26 and/or FY 2026-27

Table 1
Proposed Expenditures for U.S. EPA STAR Grant (UCLA subcontract)
for FY 2025-26 and/or FY 2026-27

Description	Account Number	Estimated Total Cost
Small Tools, Instruments, Equipment*	68300/77000	$15,852
Communications	67900	$3,120
Miscellaneous Expense (meeting supplies and publications)	69700	$10,991
Total Appropriations Services & Supplies and/or Capital Outlays Major Object		**$29,963**
Salaries and Benefits		$153,469
Total Grant Award for South Coast AQMD		**$183,432**

*Expenditures may be appropriated to Services and Supplies or Capital Outlays Major Object, as warranted.

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BOARD MEETING DATE: June 6, 2025 AGENDA NO. 7

PROPOSAL: Recognize Revenue, Appropriate Funds, and Issue Sole Source Purchase Orders for Air Monitoring Equipment

SYNOPSIS: South Coast AQMD is expected to receive up to $760,000 from U.S. EPA for the PM2.5 Monitoring Program. These actions are to: 1) recognize revenue and appropriate funds for the PM2.5 Monitoring Program into the Monitoring and Analysis FY 2024-25 and/or FY 2025-26 Budgets; and, 2) issue sole source purchase orders for air monitoring equipment.

COMMITTEE: Administrative, May 9, 2025; Recommended for Approval

RECOMMENDED ACTIONS:

1. Recognize revenue in the General Fund up to $299,000 and appropriate up to $299,000 from the Undesignated (Unassigned) fund balance upon receipt ($461,000 for Salaries and Employee Benefits is already included in the budget) into the Monitoring and Analysis FY 2024-25 and/or FY 2025-26 Budgets, Services & Supplies and Capital Outlays Major Object, as set forth in Attachment 1; and
2. Authorize the Procurement Manager, in accordance with South Coast AQMD's Procurement Policy and Procedure, to issue sole source purchase orders for the following items, as listed in Table 1:
    a. One DRI PM2.5 Carbon Analyzer not to exceed $130,000; and
    b. Up to three Met One Speciated PM2.5 samplers not to exceed $69,000.

Wayne Nastri
Executive Officer

JCL:AP:RMB:ld:ir:ev

Background
Since 1998, U.S. EPA has provided funds under Section 103 for a comprehensive PM2.5 Air Monitoring Program. To date, there are 19 ambient monitoring stations in the South Coast Air Basin (Basin) operating 22 Federal Reference Method (FRM) PM2.5 monitors under U.S. EPA funding, and 20 Federal Equivalent Method (FEM/Non-FEM) PM2.5 continuous monitors. In addition, U.S. EPA supports the ongoing collection of PM2.5 mass and chemical speciation data at several sites within the Basin. The chemical speciation of fine particulate matter supports the characterization of PM2.5 sources, air quality conditions, and health impacts. South Coast AQMD is expected to receive up to $760,000 from the U.S. EPA for the annually funded PM2.5 Program for the continuation of the PM2.5 Program through March 31, 2026. Revenue for this grant in the amount of $461,000 for Salaries and Benefits has already been included in the budget.

Proposal
This action is to recognize revenue in the General Fund up to $299,000 and appropriate up to $299,000 from the Undesignated (Unassigned) fund balance upon receipt into the Monitoring and Analysis FY 2024-25 and/or FY 2025-26 Budgets, Services & Supplies and Capital Outlays Major Object, as set forth in Attachment 1. Use of the funds will be used to purchase one DRI PM2.5 Carbon Analyzer and up to three Met One Speciated SASS Samplers.

DRI PM2.5 Carbon Analyzer
A DRI PM2.5 Carbon Analyzer is needed to replace a current carbon analyzer that is more than 15 years old and no longer supported by the manufacturer. Replacing this analyzer will ensure the long-term viability of carbon analysis for the U.S. EPA PM2.5 Chemical Speciation Network (CSN) and ensure program requirements are being met. The estimated cost of one DRI PM2.5 Carbon Analyzer is $130,000 (see Table 1). This purchase will be made through a sole source purchase process.

Met One Speciated PM2.5 SASS Samplers
Up to three Met One Speciated PM2.5 SASS samplers are needed to replace current samplers that are more than 15 years old. Replacing these units with newer flow-controlled units will improve the accuracy and completeness needed to continue meeting U.S. EPA PM2.5 CSN program requirements. The estimated cost for up to three Met One Speciated PM2.5 SASS samplers is $69,000 (see Table 1). The purchase will be made through a sole source purchase process.

Sole Source Justification
Sole Source Justification Section VIII.B.3a of South Coast AQMD's Procurement Policy and Procedure identifies four major provisions under which a sole source award funded in whole or in part with federal funds may be justified. Specifically, these requests for sole source awards are made under provision VIII.B.3.a. the item is

available only from a single source. The DRI PM2.5 Carbon Analyzer is necessary for ensuring analytical consistency with existing instrumentation, and is only available from Sonoma Technology, Inc. The Met One Speciated PM2.5 SASS Sampler is the only instrument utilized as part of the CSN program that satisfies U.S. EPA collocation requirements.

Resource Impacts
U.S. EPA Section 103 Grant funding will support the continuation of the PM2.5 Program, including equipment, and services and supplies necessary to meet the program objectives.

Table 1
Proposed Purchases through Sole Source Purchase Order

Description	Qty	Funding Source	Estimated Amount
DRI PM2.5 Carbon Analyzer	1	PM2.5 FY 2024-25 and/or FY 2025-26	$130,000
Met One Speciated PM2.5 SASS Samplers	Up to 3	PM2.5 FY 2024-25 and/or FY 2025-26	$69,000
Total			**$199,000**

Attachment
Proposed PM2.5 Expenditures for FY 2024-25 and/or FY 2025-26

Attachment 1
Proposed PM2.5 Expenditures for FY 2024-25 and/or FY 2025-26

Account Description	Account Number	Program Code	Estimated Expenditures[1,2]
Services & Supplies Major Object:			
Rents and Leases Structure	67350	47500	$3,000
Maintenance of Equipment	67600	47500	$20,000
Building Maintenance Operation	67650	47500	$1,000
Travel - Training	67800	47500	$1,000
Laboratory Supplies	68050	47500	$33,500
Office Expense	68100	47500	$2,500
Small Tools, Instruments, Equipment	68300	47500	$20,000
Total Services & Supplies Major Object:			**$81,000**
Capital Outlay Major Object:			
DRI PM2.5 Carbon Analyzer	77000	47500	$130,000
Met One Speciated PM2.5 SASS Samplers	77000	47500	$69,000
Total Capital Outlay Major Object:	77000	47500	**$199,000**
Total Appropriations			**$280,000**

Note: Salaries and Benefits are already included in the FY 2024-25 and FY 2025-26 Budgets.
[1]Funds not expended by June 30, 2025, will be carried over to FY 2025-26.

[2]Expenditures may be appropriated in Services & Supplies and/or Capital Outlays Major Object as warranted.

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BOARD MEETING DATE: June 6, 2025 AGENDA NO. 8

PROPOSAL: Recognize Revenue, Appropriate Funds, and Issue Purchase Order for Air Monitoring Equipment

SYNOPSIS: South Coast AQMD is expected to receive grant funds up to $273,794 from U.S. EPA for the NATTS Monitoring Program. This action is to recognize revenue and appropriate up to $97,033 into the Monitoring and Analysis FY 2025-26 Budget and issue a sole source purchase order for air monitoring equipment.

COMMITTEE: Administrative, May 9, 2025; Recommended for Approval

RECOMMENDED ACTIONS:

1. Recognize revenue in the General Fund up to $97,033 and appropriate up to $97,033 from the Undesignated (Unassigned) fund balance upon receipt ($176,761 for Salaries and Employee Benefits is already included in the budget) into the Monitoring and Analysis FY 2025-26 Budget, Services & Supplies, and Capital Outlays Major Objects, as set forth in Attachment 1; and
2. Authorize the Procurement Manager, in accordance with South Coast AQMD's Procurement Policy and Procedure, to issue a sole source purchase order for up to two Xonteck 901 VOC Samplers not to exceed $30,000, as listed in Table 1.

Wayne Nastri
Executive Officer

JCL:AP:RMB:ld:ir:eq

Background

South Coast AQMD has provided the National Air Toxics Trends Stations (NATTS) program, monitoring support as part of the expanded national monitoring program since 2007. South Coast AQMD is expected to receive $273,794 in grant funds from U.S. EPA for the operation and maintenance of the NATTS Monitoring Program for FY 2025-26. VOC analysis is a requirement under U.S. EPA's NATTS program.

The VOC sampling systems currently in use are over twenty years old and require replacement. These aging systems have already experienced failures due to system leaks and sample contamination, resulting in data invalidation that jeopardizes our ability to meet U.S. EPA data completeness requirements.

Proposal
This action is to recognize revenue upon receipt, and appropriate up to $97,033 ($176,761 for Salaries and Employee Benefits is already included in the budget) into the Monitoring and Analysis FY 2025-26 Budget, as set forth in Attachment 1.

Staff is proposing to purchase up to two Xonteck 901 VOC samplers to replace existing aging samplers. The estimated cost for two Xonteck 901 VOC Samplers will not exceed $30,000 (see Table 1). The purchase will be made through a sole source procurement process, followed by the issuance of a purchase order.

Sole Source Justification
Section VIII.B.3 of South Coast AQMD's Procurement Policy and Procedure identifies four major provisions under which a sole source award funded in whole or in part with federal funds, may be justified. Specifically, this request for a sole source award is made under provision VIII.B.3.a., the item is available only from a single source due to its unique capabilities. The Xonteck 901 VOC sampler is the only sampler that meets EPA TO-14A/15/15A methods while combining mass flow control, touchscreen operation, built-in printing, Ethernet connectivity, and internal diagnostics, including automatic leak checks into one unit. These features are not available together in any other commercial model.

Resource Impacts
U.S. EPA funding will support the continuation of the NATTS Monitoring Program.

Table 1
Proposed Purchase through Sole Source Purchase Order

Description	Qty	Funding Source	Estimated Amount
Xonteck 901 VOC Sampler	Up to 2	U.S EPA NATTS FY 2025-26	$30,000
Total			**$30,000**

Attachment
Proposed NATTS Expenditures for FY 2025-26

Attachment 1
Proposed NATTS Expenditures for FY 2025-26

Account Description	Account Number	Program Code	Estimated Expenditures*
Services & Supplies Major Object:			
Maintenance of Equipment	67600	47468	$26,000
Travel	67800	47468	$6,000
Laboratory Supplies	68050	47468	$30,000
Office Expense	68100	47468	$1,033
Small Tools, Instruments, Equipment	68300	47468	$4,000
Total Services & Supplies Major Object:			**$67,033**
Capital Outlay Major Object:			
Xonteck 901 VOC Sampler (up to 2)	77000	47468	$30,000
Total Capital Outlay Major Object:			**$30,000**
Total Appropriations			**$97,033**

*Expenditures may be appropriated in Services & Supplies and/or Capital Outlays Major Object as warranted.

Note: Salaries and Employee Benefits are included in the FY 2025-26 Budget.

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BOARD MEETING DATE: June 6, 2025 AGENDA NO. 9

PROPOSAL: Recognize Revenue, Appropriate and Transfer Funds, Issue Solicitation and Purchase Order for One Vehicle

SYNOPSIS: South Coast AQMD is expected to receive up to $2,238,000 from the U.S. Government for the Enhanced Particulate Monitoring Program. This action is to recognize revenue, appropriate and transfer funds between Major Objects in the Monitoring and Analysis Budget to realign expenditures and issue a solicitation and purchase order for one vehicle.

COMMITTEE: Administrative, May 9, 2025; Recommended for Approval

RECOMMENDED ACTIONS:

1. Recognize revenue in the General Fund up to $480,000 and appropriate up to $480,000 from the Undesignated (Unassigned) fund balance upon receipt ($1,758,000 for Salaries and Employee Benefits is already included in the budget) into the Monitoring and Analysis (MAD) FY 2024-25 and/or FY 2025-26 Budgets, Services & Supplies and Capital Outlays Major Object, as set forth in Attachment 1;
2. Transfer up to $350,000 between MAD's FY 2024-25 and/or FY 2025-26 Budgets, Salaries and Employee Benefits Major Object (Org. 46), and Services & Supplies Major Object (Org. 47), Temporary Agency Services account as needed to realign expenditures for the Enhanced Particulate Monitoring Program; and
3. Authorize the Procurement Manager, in accordance with South Coast AQMD's Procurement Policy and Procedure, to issue a purchase order based on a solicitation or cooperative agreement for one vehicle, not to exceed $45,000 as listed in Table 1.

Wayne Nastri
Executive Officer

JCL:AP:RMB:ld:ir:ev

Background
South Coast AQMD has provided enhanced particulate monitoring support as part of a national monitoring program since 2003. South Coast AQMD is expected to receive up to $2,238,000 in grant funds from the U.S. Government for the operation and maintenance of the Enhanced Particulate Monitoring Program for FY 2024-25 and/or FY 2025-26.

The Enhanced Particulate Monitoring Program allocates dedicated vehicles as part of the annual budget to support sample collection and other operations and maintenance activities. These vehicles undergo regular replacement due to high mileage and prohibitive repair costs.

Proposal
This action is to recognize revenue upon receipt, and appropriate up to $480,000 ($1,758,000 for Salaries and Employee Benefits is already included in the budget) into the Monitoring and Analysis FY 2024-25 and/or FY 2025-26 budgets, as set forth in Attachment 1. Staff proposes purchasing one vehicle in an amount not to exceed $45,000 to continue to fulfill operational needs (see Table 1). The vehicle will be selected through a solicitation process or cooperative purchasing agreement. Low emission vehicles are available from vendors through cooperative purchasing under the State of California, Department of General Services, Procurement Division, and Alternative Fueled Vehicles Contract 1-22-23-23A through I.

South Coast AQMD relies on temporary staffing to sustain the Enhanced Particulate Monitoring Program. This action is also to approve a transfer of up to $350,000 from the Salaries and Employee Benefits Major Object (Org. 46) to Services & Supplies Major Object (Org. 47), Temporary Agency Services account as needed to realign expenditures for the program operations.

Resource Impacts
U.S. Government funding will fully support the Enhanced Particulate Monitoring Program.

Table 1
Proposed Purchase through RFQ Process or Cooperative Agreement

Description	Qty	Funding Source	Estimated Amount
Vehicle	1	U.S. Government FY 2024-25 and/or FY 2025-26	$45,000
Total			**$45,000**

Attachment
Proposed Enhanced Particulate Monitoring Expenditures for FY 2024-25 and/or FY 2025-26.

Attachment 1
Proposed Enhanced Particulate Monitoring Expenditures for FY 2024-25 and/or FY 2025-26

Account Description	Account Number	Program Code	Estimated Expenditures*
Salaries and Employee Benefits Major Object:			
Overtime	52000	46505	$50,000
Total Salaries and Employee Benefits Major Object:			**$50,000**
Services & Supplies Major Object:			
Temporary Agency Services	67460	47505	$244,400
Maintenance of Equipment	67600	47505	$1,000
Building Maintenance Operation	67650	47505	$400
Auto Mileage	67700	47505	$130,000
Travel	67800	47500	$6,000
Clothing and Safety Equipment	68000	47505	$2,000
Office Expense	68100	47505	$200
Small Tools, Instruments, Equipment	68300	47505	$1,000
Total Services & Supplies Major Object:			**$385,000**
Capital Outlay Major Object:			
Vehicle (1)	77000	47505	$45,000
Total Capital Outlay Major Object:			**$45,000**
Total Appropriations			**$480,000**

Note: Salaries, Benefits, and Indirect Costs (excluding overtime) are included in the FY 2024-25 and/or FY 2025-26 Budget.

*Funds not expended by June 30, 2025 will be carried over to FY 2025-26.

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BOARD MEETING DATE: June 6, 2025 AGENDA NO. 10

PROPOSAL: Appropriate Funds from the General Fund Undesignated (Unassigned) Fund Balance to Cover Unbudgeted Salary and Overtime Costs

SYNOPSIS: This action is to appropriate $2,650,000 from the General Fund Undesignated (Unassigned) Fund Balance into the FY 2024-25 General Fund Budget, Salaries and Employee Benefits Major Object. Due to overtime incurred for emergency and compliance incidents, as well as projected costs to maintain appropriate staffing levels, a budget transfer is necessary to fund salary-related costs for the remainder of the fiscal year.

COMMITTEE: Administrative, May 9, 2025; Recommended for Approval

RECOMMENDED ACTION:
Appropriate $2,650,000 from the General Fund Undesignated (Unassigned) Fund Balance into the FY 2024-25 General Fund Budget, Salaries and Employee Benefits Major Object.

Wayne Nastri
Executive Officer

AJO:SJ

Background

The FY 2024-25 Budget for District General – Salaries and Employee Benefits Major Object provides funding for employees' salaries, including expenditures for overtime pay. For salaries, funding was budgeted based on the total number of authorized Full Time Employee (FTE) positions and a 13 percent vacancy rate. In terms of overtime, each department budgets overtime based on prior budgets and anticipated needs. Executive management determines budget expenditures for salaries to meet operational and program priorities through filling vacant positions, adding new positions, restructuring the division to increase operational efficiency, or assigning overtime work.

Throughout this fiscal year, there have been several events that have required large-scale responses from South Coast AQMD, such as the Eaton and Palisades wildfires, and the ongoing Chiquita Canyon Landfill odor issues. To properly respond to these and similar situations, significant after-hour and weekend staff time is needed for monitoring, lab analysis, complaint response, inspections, and permitting. In addition, throughout the year, permanent staff levels may dip below the budgeted vacancy rate, in anticipation of future vacancies, which adds unbudgeted costs. A budget transfer is being requested to address impacts to the Salaries and Employee Benefits Major Object fund in the General Budget.

Proposal

This item requests a transfer of $2,650,000 from the General Fund Undesignated (Unassigned) Fund Balance into the FY 2024-25 General Fund Budget, Salaries and Employee Benefits Major Object to cover unbudgeted staffing costs. The funds transferred will be allocated as necessary to cover employee salary expenditures, including overtime pay, for the remainder of the fiscal year. Any unspent funds will be returned to the General Fund Undesignated (Unassigned) Fund Balance at the end of the fiscal year.

Resource Impacts

Sufficient funding is available in the General Fund Undesignated (Unassigned) Fund Balance.

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BOARD MEETING DATE: June 6, 2025 AGENDA NO. 11

PROPOSAL: Recognize Revenue in FY 2025-26 and/or FY 2026-27 into the General Budget, Appropriate Funds in FY 2024-25, FY 2025-26 and/or FY 2026-27, Execute and/or Amend Contracts, and Issue Solicitations and Purchase Orders for Continued AB 617 Implementation

SYNOPSIS: In November 2024, the Board approved $22,213,333 for the most recent allocation of the AB 617 implementation program funding. This action is to recognize revenue and appropriate funds up to $6,210,300 for AB 617 years six and/or seven implementation funds, in FY 2024-25, FY 2025-26 and/or FY 2026-27, Execute and/or Amend Contracts, and Issue Solicitations and Purchase Orders for continued AB 617 implementation.

COMMITTEE: Administrative, May 9, 2025; Recommended for Approval

RECOMMENDED ACTIONS:

1. Recognize revenue up to $6,210,300 in FY 2025-26 and/or FY 2026-27 from CARB into the General Fund; and
2. Appropriate up to $6,210,300 from the General Fund Undesignated (Unassigned) Fund Balance (AB 617 years six and/or seven implementation funds) into the FY 2024-25, FY 2025-26 and/or FY 2026-27 Budgets for items listed in Tables 1-3; and
3. Authorize the Executive Officer to execute and/or amend contracts, and issue solicitations and purchase orders for AB 617 implementation in accordance with South Coast AQMD Procurement Policy and Procedure for items listed in Tables 1-3.

Wayne Nastri
Executive Officer

SJ:JK

Background
Assembly Bill 617 was signed into state law in July 2017 and focuses on improving air quality and reducing exposure to criteria air pollutants and toxic air contaminants in communities most impacted by air pollution. Assembly Bill 617 recognizes the impacts that disproportionate communities experience from sources of air pollution near residences and seeks to address these impacts through community-driven actions.

This Board letter recognizes the remaining unspent balance of sixth-year allocation funding for continued implementation of the AB 617 program. Major elements of AB 617 include: accelerated BARCT rule making, community engagement, community air monitoring, community emissions reduction plans, and statewide emission reporting consistency. South Coast AQMD's portion of the statewide funding for the seventh-year allocation of the AB 617 implementation program is $22,213,333.

Proposal
Staff is seeking Board approval to recognize revenue, appropriate funds, purchase capital outlays and execute and/or amend contracts as listed in Table 1 and Table 2 and procure related services and supplies listed in Table 3 to support work required under AB 617.

Sole-Source Justification
Section VIII.B.2 of the Procurement Policy and Procedure identifies four major provisions under which a sole-source award may be justified. The request for the sole-source purchase of an Optical Remote Sensing Mobile Laboratory (ORS-ML) from FluxSense, Inc., and an X-Ray Fluorescence (XRF) Standards from Sailbri Cooper, Inc. are made under Sections VIII.B.2.c (1): The unique experience and capabilities of the proposed contractor; VIII.B.2.c (2): The project involves the use of proprietary technology; and VIII.B.2.d (6): Projects requiring compatibility with existing specialized equipment. There are no other vendors who can provide this equipment, supplies and software meeting all required specifications and that are compatible with existing specialized equipment already in operation.

Section VIII.B.2 of the Procurement Policy and Procedure identifies a major provision under which a sole-source award may be justified: The request for sole source contracts for the three South Los Angeles Co-Leads listed in Table 2; Castillo Consulting Partners; and VMA Communications are made under Sections VIII.B.2.c (1): The unique experience and capabilities of the proposed contractor.

As part of our commitment to effectively implement AB 617 and ensure the successful development and implementation of CERPs with co-leads for the South Los Angeles CSC, South Coast AQMD has selected the following community local partners: Physicians for Social Responsibility-Los Angeles, Watts Clean Air and Energy Committee (WCAEC), and Strategic Concepts in Organizing and Policy Education

(SCOPE - LA). Their unique expertise, deep-rooted connections in the South Los Angeles community, and contextual understanding and lived experiences possessed by these contractors are ideal for AB 617 co-leadership collaboration for the South Los Angeles Community Steering Committee. These selected community partners have an established history of active engagement and collaboration within the communities affected by air quality issues. Their direct interactions and relationships with community members provide insight into local community concerns and air quality priorities, in which they have been primarily selected as the Community Co-Lead for the South LA CSC.

The SLA Community Co-Lead selected Castillo Consulting Partners after deliberation of four community facilitators. Castillo Consulting Partners demonstrated the capacity to conduct and facilitate CSC meetings and Co-lead planning meetings. Their ability to navigate cultural and local nuances, languages and sensitivities ensure that CSC engagement efforts are respectful, inclusive, and effective.

VMA Communications was selected as a third-party facilitator to lead the Eastern Coachella Valley (ECV) CSC Meeting. The facilitator's unique skill set, experience with the ECV CSC, and established rapport with community projects. The third-party facilitator brings a neutral, unbiased perspective that fosters a more collaborative environment in both English and Spanish languages.

Benefits to South Coast AQMD
These actions will continue to support South Coast AQMD efforts to fulfill the legislative directives of AB 617, which will result in benefits to disproportionately impacted communities and to the entire region.

Resource Impacts
South Coast AQMD receives funding annually from CARB's Air Protection Program under the AB 617 implementation grant. This funding will provide resources for the ongoing implementation of South Coast AQMD's AB 617 program.

Table 1
FY 2024-25, FY 2025-26 and/or FY 2026-27 Proposed Capital Outlay/Intangible Asset Expenditures for AB 617
(Capital Outlays Major Object)

Description	Org Unit	Estimated Amount*	Contracting Method
Optical Remote Sensing Mobile Laboratory (ORS-ML) (FluxSense, Inc.)	MAD	$1,500,000	Sole-Source
Replacement Parts for Current ORS-ML Platform	MAD	$75,000	RFQ/RFP
Replacement Parts for Current Proton Transfer Reaction-Time of Flight (PTR-TOF) Platform	MAD	$50,000	RFQ/RFP
Replacement Parts for Current "Diesel PM" Mobile Platform	MAD	$20,000	RFQ/RFP
Replacement Parts for Current Multi-Metals Mobile Platform (MMMP)	MAD	$50,000	RFQ/RFP
Battery Conversion for Current PTR-TOF Platform	MAD	$75,000	RFQ
X-Ray Fluorescence (XRF) Standards (Sailbri Cooper, Inc.)	MAD	$25,000	Sole-Source
Continuous Total Volatile Organic Compound (TVOC) Monitor	MAD	$40,000	RFQ
Zero Air Generator and Calibrator for Audits	MAD	$45,000	"Prior Bid, Last Price" or RFQ
AER Webtool	PRDI	$1,540,000	IM Pre-approved Contractor
	TOTAL	**$3,420,000**	

*Note: Expenditures may be appropriated in the Services & Supplies Major Object as warranted.

Table 2
FY 2025-26 and/or FY 2026-27 Proposed Contracts/Contract Amendments for AB 617
(Services & Supplies Major Object)

Contractor	Description	Org Unit	Estimated Amount*	Contracting Method
PSR-LA.	Community Co-Lead Contract for CERP Implementation Tasks for SLA	CEAP	$140,000	Sole-Source
Watts Clean Air	Community Co-Lead Contract for CERP Implementation Tasks for SLA	CEAP	$126,000	Sole-Source
SCOPE LA	Community Co-Lead Contract for CERP Implementation Tasks for SLA	CEAP	$99,000	Sole-Source
VMA Communications	Facilitator for ECV CSC Meetings	CEAP	$50,000	Sole-Source
Castillo Consulting Partners	Facilitator for SLA Community Co-Lead and CSC Meetings	CEAP	$99,000	Sole-Source
TBD	Contracts CERP Implementation Projects (i.e. health effects studies, videographer, thought partnerships, potential co-leads, CERP actions to be funded other than CAPP Incentives including, truck traffic studies, program evaluation/studies, etc.)	CEAP	$500,000	RFP/Sole-Source
TBD	Includes: Document Translation, Interpretation Services, Outreach Materials	CEAP	$200,000	RFP/Sole-Source
		TOTAL	**$1,214,000**	

*Note: Expenditures may be appropriated in the Capital Outlays Major Object as warranted.

Table 3
FY 2025-26 and/or FY 2025-26 Proposed Other Services and Supplies Expenditures for AB 617
(Services & Supplies Major Object)

Description	Org Unit	Account	Estimated Amount
Includes: Rents, Maintenance of Equipment, Utilities, Office Supplies, Travel, Training, Temporary Staff, Lab Supplies, Small Tools, Communications, Rents and Leases, etc.	MAD	Various	700,000
Data Platform (Development/Maintenance/Storage)	MAD	Various	$350,000
Phones, Office Expenses, Equipment, and Professional Development	CEAP	Various	$30,400
Meeting Coordination and Services, such as Venues, Audio/Visual Services, and Refreshments	CEAP	Various	$211,400
Includes: Community Outreach Mileage and Travel	CEAP	Various	$120,000
Stipends, CSC Member Facilitator	CEAP	Various	$144,500
Public Noticing, Postage, Advertising	CEAP	Various	$20,000
		Total	**$1,576,300**

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BOARD MEETING DATE: June 6, 2025 AGENDA NO. 12

PROPOSAL: Amend Contract for Security Guard Services at Diamond Bar Headquarters

SYNOPSIS: In June 2022, the Board approved the execution of a 3-year contract for security guard services with GSSi, Inc., DBA General Security Service, that includes an option to extend for two additional years. This action is to amend the contract with GSSi, Inc. DBA General Security Service to extend the contract to June 30, 2027, for a total amount not to exceed $1,477,453. Funding has been requested in FY 2025-26 and will be requested in FY 2026-27.

COMMITTEE: Administrative, May 9, 2025; Recommended for Approval

RECOMMENDED ACTIONS:
Authorize the Executive Officer to amend the contract for security guard services with GSSi, Inc. DBA General Security Service, from July 1, 2025, through June 30, 2027, in an amount not to exceed $1,477,453 with the funding allocated as follows:

1. $729,136 ($694,415 for regular services + $34,721 for anticipated special services) in FY 2025-26;
2. $748,317 ($712,683 for regular services + $35,634 for anticipated special services) in FY 2026-27.

Wayne Nastri
Executive Officer

AJO:mm

Background

South Coast AQMD contracts with a security guard firm to provide professional security guard services and, on occasion, enhanced services for additional coverage for Board meetings and special events. Through a competitive bid process, RFP #2022-07, the Board selected GSSi, Inc. DBA General Security Service for security guard services at the Diamond Bar headquarters facility. The contract term with GSSi, Inc. DBA

General Security Service is set to expire on June 30, 2025. This proposal is to exercise the option to extend the contract through June 30, 2027.

Proposal

Staff recommends that the Board authorize the Executive Officer to exercise the option to extend the security guard services contract through June 30, 2027. GSSi, Inc. DBA General Security Service is South Coast AQMD's current security services provider and has consistently delivered reliable and professional security services, ensuring the safety and security of staff, visitors, and property. Extending the contract ensures the ongoing safety of the headquarters facility without the risk of disruption.

In addition to routine guard services, South Coast AQMD requires occasional enhanced services to provide coverage for special events such as conferences, Board meetings, and committee meetings. To meet these special event needs, staff recommends adding a not-to-exceed amount above the proposal cost to the funding allocation.

Resource Impacts

Costs for the proposed contract amendment are allocated as follows: $729,136 ($694,415 for regular services + $34,721 for anticipated special services) for FY 2025-26 and $748,317 ($712,683 for regular services + $35,634 for anticipated special services) for FY 2026-27. The annual costs listed above include an additional five percent above the costs submitted in the original proposal, to anticipate the costs of future extra or special services. This allocation is based on past costs incurred for such services.

Funds of $729,136 ($712,683 for regular services + $35,634 for anticipated special services) have been requested in the FY 2025-26 budget. Subsequent funding will be requested in the FY 2026-27 budget.

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BOARD MEETING DATE: June 6, 2025 AGENDA NO. 13

PROPOSAL: Appoint Regular and Alternate Public and Medical Members to South Coast AQMD Hearing Board for July 1, 2025 to June 30, 2028 Term

SYNOPSIS: The terms of office for the two Hearing Board Public Members and the Medical Member, as well as their alternates, will expire on June 30, 2025. In November 2024, South Coast AQMD posted a recruitment to solicit applications for the new term beginning July 1, 2025 through June 30, 2028. There were two applicants for the medical member positions and 42 applicants for the public member positions. As required by state law, an Advisory Committee appointed by five members of the Governing Board reviewed the applicants. The Advisory Committee scored and ranked the Public Member applicants and recommended that the Administrative Committee interview the top eight applicants. Both Medical Member applicants were recommended for interviews with the Administrative Committee. On May 9, 2025, the Administrative Committee interviewed nine of the ten candidates submitted by the Advisory Committee and recommended that the full Board reappoint the incumbents to the new term.

COMMITTEE: Administrative, May 9, 2025; Recommended for Approval

RECOMMENDED ACTION:
Approve the following reappointments to the South Coast AQMD Hearing Board for the term commencing July 1, 2025 and ending June 30, 2028:

1. Micah Ali, Regular Regular Public Member 1;
2. Cynthia Verdugo-Peralta, Regular Public Member 2;
3. Steven Samaniego, Alternate Public Member 1;
4. Robert Copeland, Alternate Public Member 2;
5. Jerry P. Abraham, MD, MPH, CMQ, Regular Medical Member; and
6. Sharon Williams, MD, FACAAI, Alternate Medical Member.

Wayne Nastri
Executive Officer

FT

Background
The Hearing Board is a quasi-judicial panel established by state law to provide temporary relief from South Coast AQMD rules, regulations, and permit conditions under certain circumstances. Hearing Board members are appointed by, but act independently of the South Coast AQMD Governing Board. The Hearing Board membership consists of a licensed physician, an attorney, a professional engineer, and two public members. Hearing Board members serve a staggered three-year term to maintain continuity. Alternates serve the same length of term as the regular members.

The current term for the Medical Member and two (2) Public Members expires on June 30, 2025. South Coast AQMD initiated a recruitment on November 21, 2024 to January 10, 2025 to solicit candidates for the new term that commences July 1, 2025 through June 30, 2028. Recruitment efforts included advertising on the South Coast AQMD's website, social media platforms, job boards, and medical associations. During the recruitment period, two applications were received for the Medical Member positions and 42 applications for the Public Member positions. The incumbents for these positions are seeking reappointment.

Pursuant to the California Health and Safety Code, an Advisory Committee appointed by five members of the South Coast AQMD Governing Board is responsible for reviewing candidates for Hearing Board appointments and making recommendations to a designated Governing Board committee. The Advisory Committee is composed of one representative appointed by each of the Governing Board members representing the Counties of Los Angeles, Orange, Riverside and San Bernardino, and the City of Los Angeles. Currently, there is one vacant position on the Advisory Committee.

The Advisory Committee members individually reviewed the applications and resumes. The 42 applicants for the public member positions were assigned scores based on an established criteria. At the request of the Advisory Committee, three South Coast AQMD executive staff members also evaluated and scored the public member applicants. The staff scores were intended only for cross-reference and comparison. Scores from each Advisory Committee member were compiled and used to rank the public member applicants.

On March 14, 2025, the Advisory Committee met to discuss the scores and rankings and unanimously recommended the top eight Public Member applicants for interviews with the Administrative Committee. The two applicants for the Medical Member positions were recommended for interviews, without scoring. The ten applicants recommended for interviews are listed below in alphabetical order. One applicant, Frank Tavakoli, was no longer interested in the position.

Medical Member Applicants	Position Applied For	
	Regular	Alternate
Jerry P. Abraham, MD, MPH, CMQ*	X	
Sharon Williams, MD, FACAAI**	X	X

**denotes incumbent regular member **denotes incumbent alternate member*

Public Member Applicants	Position Applied For	
	Regular	Alternate
Micah Ali*	X	
Suzanne Bilodeau	X	X
Robert Copeland**	X	X
Stephen Dunwoody	X	X
Adrienne Konigar-Macklin[1]	X	
Steven Samaniego**	X	X
Frank Tavakoli	X	X
Cynthia Verdugo-Peralta*	X	

**denotes incumbent regular member **denotes incumbent alternate member*
[1] Ms. Konigar-Macklin is currently serving as the Alternate Attorney Member for the July 1, 2024 to June 30, 2027 term.

Proposal
On May 9, 2025, the Administrative Committee interviewed two medical member candidates and seven public member applicants to serve for the term commencing July 1, 2025 and ending June 30, 2028 and recommended that the Board reappoint:

- Micah Ali and Cynthia Verdugo-Peralta as the Regular Public Members;
- Steven Samaniego and Robert Copeland as the Alternate Public Members;
- Dr. Jerry P. Abraham as the Regular Medical Member and
- Dr. Sharon Williams as the Alternate Medical Member.

Fiscal Impacts
Sufficient funds are budgeted each year to compensate those who serve on the Hearing Board.

Attachments
1. Job Announcement
2. Medical Member Applicants - Resumes
3. Public Member Applicants - Resumes

ATTACHMENT 1

South Coast Air Quality Management District

Hearing Board Member-Public and Medical Appointments (Regular and Alternate)

SALARY	$7,500.00 - $12,500.00 Monthly	**LOCATION**	Diamond Bar, CA
JOB TYPE	Full-Time	**JOB NUMBER**	24:56:TS
DEPARTMENT	Executive Office	**OPENING DATE**	11/21/2024
CLOSING DATE	1/10/2025 11:59 PM Pacific		

SOUTH COAST AQMD AND JOB OVERVIEW

ABOUT SOUTH COAST AQMD

South Coast Air Quality Management District (South Coast AQMD) is one of the largest and most technologically sophisticated environmental regulatory agencies in the Nation. We serve a four-county region that includes large areas of Los Angeles, Orange County, Riverside and San Bernardino counties, including the Coachella Valley, which is home to more than 17 million people. South Coast AQMD's headquarters is located in Diamond Bar, 30 miles east of downtown Los Angeles, at the junction of the 57 and 60 freeways. With a highly diverse "Clean Air Team" of over 850 employees, an annual budget of $211.4 million, and a state-of-the art air quality laboratory, our mission is to ensure clean air and a healthy environment. South Coast AQMD is an organization you can be proud to work for -- we make a difference in the quality of life in Southern California!

South Coast AQMD's mission requires diverse perspectives, talents, and life experiences to solve some of the most complex technical air quality issues. We are committed to creating and maintaining a work environment that appreciates the unique contributions of our employees and fosters professional development and growth. South Coast AQMD respects the distinct ideas and perspectives of our stakeholders and works to bring them together toward the common goal of clean air.

ABOUT HEARING BOARD

To ensure fairness in our regulatory actions, a separate, quasi-judicial Hearing Board was chartered under Division 26 of the California Health and Safety Code to provide an appellate process for companies and public agencies that are subject to South Coast AQMD rules and regulations. The Hearing Board has authority to grant variances for South Coast AQMD rules, revoke and suspend South Coast AQMD operating permits, and issue Orders of Abatement. As state law requires, Hearing Board members are appointed by, but act independently of, South Coast AQMD's Governing Board.

Currently, we are seeking to make the following appointments to the South Coast AQMD's Hearing Board: two Public Members and two alternates, and one Medical Member and one alternate.

EXAMPLE OF DUTIES

HEARING BOARD RESPONSIBILITIES

After hearing all sides of a case in which individuals or companies come into conflict with South Coast AQMD rules and regulations, the Hearing Board weighs the evidence and reaches a decision. The Hearing Board is authorized to hear:

- Petitions by companies for variances

- Petitions for abatement orders (an abatement order requires a company operating out of compliance to take specific actions or to shut down its operation, a severe remedy normally reserved for serious violators)
- Appeals by companies from the granting of permits, permit conditions, permit denials and suspensions, denials of emission reduction credits and denials of pollution control plans
- Appeals by third parties

The Hearing Board is not authorized to modify South Coast AQMD rules; exempt a business from complying with a rule; grant a variance from a violation of the public nuisance law, such as one that creates an odor problem or threatens public health or property; or review a violation notice in any way.

TERMS AND CONDITIONS OF HEARING BOARD APPOINTMENTS

The term of appointment to the Hearing Board is three years. The terms of office for the incumbent Public and Medical Members, and their Alternate Members, will terminate on June 30, 2025. South Coast AQMD is seeking candidates for appointment to the new term, from July 1, 2025 through June 30, 2028. Hearing Board Members are required to be available, Tuesday through Thursday, from 9:30 a.m. to 4:00 p.m. The Member-elected Chair is required to be available four days per week, Tuesday through Friday, to handle ex parte variances, pre-hearing conferences, and single-member hearings.

In addition, with reasonable notice, members must be available on occasional evenings and weekends, to accommodate public participation on issues of strong community interest.

Alternate Members serve in the absence of the Regular Member, on an as-needed, per diem basis.

COMPENSATION

Non-Medical Members

Non-Medical Hearing Board Members (Attorney, Engineer, and Public Members) are compensated at a rate of $7,500 per month. However, for each day absent, monthly compensation shall be reduced by $585.07 for non-Medical Members.

Alternate non-Medical Hearing Board Members are compensated at the rate of $585.07 per day when the Regular Member is unavailable.

Medical Member

The Medical Member of the Hearing Board is compensated at the rate of $12, 500 per month. However, for each day absent, monthly compensation shall be reduced by $974.97 for Medical Members.

The Alternate Medical Hearing Board Member is compensated at the rate of $974.97 per day when the Regular Member is unavailable.

In addition, the member elected as Chair of the Hearing Board shall be compensated at a rate of $9,750 per month; and each Member or Alternate Member shall receive reimbursement for travel, meals, and lodging as prescribed by South Couth AQMD's Administrative Code when performing his/her official functions or attending approved conferences, in an amount not to exceed $8,000 per year. No other compensation or benefits are provided.

NEW MEMBER ORIENTATION FOR REGULAR AND ALTERNATE MEMBERS

Newly appointed Regular Members or Alternate Members having no prior experience on South Coast AQMD's Hearing Board are expected to participate in an orientation period not to exceed 15 days or until the Alternate sits in the place of a Regular Member, whichever occurs first, at a compensation of $198 per day, or $330 per day for the Alternate Medical Member. The orientation period is to develop familiarity with South Coast AQMD Hearing Board methods and procedures.

MINIMUM AND DESIRABLE QUALIFICATIONS

PUBLIC MEMBERS REQUIREMENTS: Demonstrate knowledge and understanding of environmental/air quality issues; participation in matters relating to the environment and/or air pollution control in the South Coast Basin; and community activity and/or public service experience.

MEDICAL MEMBER REQUIREMENTS: Must be a licensed physician with two or more years of practical experience, preferable in the fields of epidemiology, physiology, toxicology, or related fields.

Note: Candidates who reside within the South Coast Basin, which includes all of Orange County and parts of Los Angeles, Riverside, and San Bernardino Counties are preferred, but local residency is not a requirement for these positions.

OTHER IMPORTANT INFORMATION

APPLICATION AND SELECTION PROCESS

Interested candidates must submit a completed online South Coast AQMD employment application (including at least three references), with attached resume and cover letter for these positions. The **cover letter** must be addressed to the Human Resources Manager and state your reason for applying to serve on the Hearing Board.

DEADLINE:

The application with attached resume must be filed online at http://www.aqmd.gov/careers by no later than 11:59 p.m. on **January 10, 2025.**

It is anticipated that these appointments will be acted upon by the Governing Board at its May 2, 2025 meeting. New Member orientation is scheduled for May and June 2025, and the new three-year term begins July 1, 2025.

For questions about the application process, or to request an accommodation at any time during the selection process, please contact Human Resources at (909) 396-2800.

For additional information about the Hearing Board, go to www.aqmd.gov and click on "About," and then, "Hearing Board". If you have further questions, please email the Clerk of the Boards at clerkofboard@aqmd.gov.

Agency
South Coast Air Quality Management District

Address
21865 Copley Drive

Diamond Bar, California, 91765

Phone
909-396-2800

Website
http://www.aqmd.gov

Hearing Board Member-Public and Medical Appointments (Regular and Alternate) Supplemental Questionnaire

*QUESTION 1

From the choices below, please select the position(s) you are qualified for and interested in. (Select all that apply)

- ◯ Regular Public Member Appointment
- ◯ Alternate Public Appointment
- ◯ Regular Medical Member Appointment
- ◯ Alternate Medical Appointment

*QUESTION 2

State briefly your reason for applying to serve on the Hearing Board.

*QUESTION 3

I have read and understand that being available in person in Diamond Bar on Tuesday, Wednesday and Thursday from 9:30am to 4pm is a requirement of all Hearing Board Members.

- ◯ Yes
- ◯ No

*QUESTION 4

Should you be appointed, are you willing to file a Statement of Economic Interests disclosure (Form 700) under the standards set forth by the California Fair Political Practices Commission, upon assuming office and every year thereafter?

- ◯ Yes
- ◯ No

*QUESTION 5

Should you be appointed, are you willing to complete bi-annual ethics training for local government officials as required by California law (AB 1234)?

- ◯ Yes
- ◯ No

*QUESTION 6

I have attached the required cover letter outlining why I am applying to serve on the Hearing Board to my online application.

- ◯ Yes
- ◯ No

*QUESTION 7

I have attached the required resume to my online application.

- ◯ Yes
- ◯ No

* Required Question

ATTACHMENT 2

J P A
JERRY P. ABRAHAM, MD MPH CMQ

work address

[redacted]

mailing address

[redacted]

DEGREES

Doctor of Medicine (M.D.)	University of Texas, School of Medicine (San Antonio, TX) *Family & Community Medicine*	Jul 2010 May 2014
Master of Public Health (M.P.H.)	Emory University, Rollins School of Public Health (Atlanta, GA) *Global Injury Epidemiology*	Aug 2005 May 2007
Bachelor of Science (B.S.)	Emory University, College of Arts & Sciences (Atlanta, GA) *Biology, Neuroscience, Spanish & Portuguese Literature*	Aug 2002 May 2005
High School Diploma	Texas Academy of Mathematics & Sciences (Denton, TX)	Aug 2000 May 2002

RESIDENCY

Family Medicine Residency Program - Chief Resident	University of Southern California, Keck School of Medicine (Los Angeles, CA) Dignity Health California Hospital Medical Center CHMC - Eisner FQHC	Jun 2014 Jun 2017

FELLOWSHIPS

Medical Justice in Advocacy Professional Fellowship MJAF	Morehouse School of Medicine, Satcher Health Leadership Institute (Atlanta, GA) American Medical Association (Chicago, IL)	May 2022 Nov 2023
Leading Physician Wellness Professional Fellowship LPW	American Academy of Family Physicians (Leawood, KS)	Jan 2023 Oct 2023
Climate Health Organizing Fellowship CHOF	Harvard Medical School (Cambridge, MA) Cambridge Health Alliance< Center for Health Equity, Education & Advocacy	May 2021 May 2022
Physician Leadership Professional Fellowship PLP	LA CARE (Los Angeles, CA)	Jan 2017 Aug 2019
Health Policy, Medical Quality Faculty Development	University of Southern California (Los Angeles, CA) Dignity Health California Hospital Medical Center - Eisner FQHC	Jun 2017 Jun 2018
Integrative Medicine	University of Arizona (Tucson, AZ)	Jul 2015 Jun 2017
Global Injury Epidemiology Post-Graduate Fellowship	Harvard T. H. Chan School of Public Health (Cambridge, MA) Department of Global Health & Population	Aug 2008 May 2011

CERTIFICATIONS

Medical License - California	Medical Board of California - Physician & Surgeon #A141443 (exp. 09/2025)	Jun 2015 Present
Board Certification	American Board of Family Medicine - #1006470581 (recert. 06/2026)	May 2017 Present
Board Certification	American Board of Medical Quality - CMQ (recert. 12/2032)	May 2012 Present
DEA	US Drug Enforcement Administration Registration - #FA5900041 (exp. 09/2025)	Jun 2015 Present
NPI	National Provider Identifier - #1932514874	Jun 2014 Present

additional certifications include: Advanced Cardiovascular Life Support ACLS (exp. 09/2025), Pediatric Advanced Life Support PALS, Basic Life Support BLS, Neonatal Resuscitation Program NRP, Advanced Life Support in Obstetrics ALSO, Crisis Prevention Intervention, Hospital Fire & Safety, HIPAA Privacy Education Program, Collaborative Institutional Training Initiative CITI Human Research, Merck Clinical Training Program NEXPLANON,

ACADEMIC APPOINTMENTS

Charles R. Drew University CDU	Clinical Assistant Professor Departments of Family & Community Medicine, Psychiatry Charles R. Drew University School of Medicine (Los Angeles, CA)	Sep 2019 Present
University of California - Los Angeles UCLA	Adjunct Clinical Professor Department of Family Medicine UCLA David Geffen School of Medicine (Los Angeles, CA)	Sep 2019 Present
University of Southern California USC	Adjunct Clinical Professor Master of Public Health MPH Program USC Keck School of Medicine (Los Angeles, CA)	Jun 2014 Present

NOTABLE PROFESSIONAL EXPERIENCES

Medical Staff Attending Physician Family & Community Medicine	Director & Chief Vaccinologist, CDU-KEDREN Mobile Street Medicine Acute Psychiatric Hospital & Federally Qualified Health Center Kedren Community Health Center, Inc.	Sep 2019 Present
Street Medicine Consultant	JWCH Institute - Wesley Health Centers FQHC	May 2023 Present
AQMD Hearing Board	Physician Member, South Coast Air Quality Management District AQMD	May 2023 Present
Physician Consultant	Dementia Care Aware Initiative, UC Irvine & Dept. of Health Care Services DHCS	Dec 2023 Present
Entrepreneur	Partner & Investor, Divine Dips Vegan Ice Creme Shoppe	May 2018 Mar 2020
Medical Staff, Resident Physician	Dignity Health California Hospital Medical Center CHMC	Jun 2014 Jul 2022
Family Physician	Eisner Family & Pediatric Medical Center FQHC	Jun 2014 Sep 2019
Post-Grad Research Fellow	Global Burden Disease Study, Harvard Initiative for Global Health HIGH	May 2008 Sep 2011
Program & Research Associate	Global Road Safety, The Task Force for Child Survival & Development	Aug 2005 May 2008

NOTABLE LEADERSHIP EXPERIENCES

Organized Medicine	President, Los Angeles County Medical Association LACMA	Jun 2023	Present
	previous positions: LACMA Delegation Chair, Treasurer, Secretary, Councilor-At-Large		
Organized Medicine	Trustee, AMA Delegation, California Medical Association CMA	Oct 2014	Present
	previous positions: Finance, Nominations, CMA CMBG Vice Chair		
Organized Medicine	Vice Chair, Council on Constitution & Bylaws, American Medical Association AMA	Feb 2012	Present
	previous positions: Reference Committee F: Finance & Governance, RFS Governing Council		
Organized Medicine	Member, American Academy of Family Physicians AAFP CAFP LAAFP	Jun 2010	Present
Organized Medicine	Board Member, Charles R. Drew Medical Society NMA GSMA CRDMS	Feb 2022	Present
Organized Medicine	Board of Directors, Gay & Lesbian Medical Association GLMA	Jun 2023	Present
Organized Medicine	Project TENDR Representative, National Hispanic Medical Association NHMA	May 2020	Present
Organized Medicine	Delegate, United States Pharmacopeia USP	Sep 2019	Present
Organized Medicine	Member, American Association of Public Health Physicians AAPHP	May 2019	Present
Organized Medicine	Trustee, American College of Medical Quality ACMQ	Aug 2010	May 2014
Organized Medicine	National President Candidate, American Medical Student Association AMSA	Jun 2010	May 2014
Academic Medicine	Steering Committee, Clinician Well Being CWB Collaborative, National Academy of Medicine	Oct 2022	Present
Academic Medicine	Climate Communities Network CCN, Decarbonizing Health, NAM Grand Challenge	Nov 2023	Present
Academic Medicine	Advisory Committee, Urban Health Equity Pathway, UCLA DGSOM	Dec 2023	Present
Academic Medicine	Advisory Committee, Clinical & Translational Science Institute CTSI, USC KSOM	Jun 2023	Present
Academic Medicine	Curriculum Committee, Master of Public Health Program, USC KSOM	Sep 2023	Present
Global Health	Host Committee, American Society of Hiroshima-Nagasaki A-Bomb Survivors HICARE	Jun 2014	Present
Global Health	Delegate, International Federation of Medical Student Associations IFMSA	Jun 2010	May 2014
Health Equity & Medical Justice	Board of Directors, California Black Health Network CBHN	Nov 2023	Present
Health Equity & Medical Justice	Mentor, National Medical Fellowships NMF	Jun 2014	Present
Health Equity & Medical Justice	Advisory Committee, LAUSD Medi-Cal Collaborative	Jan 2022	Present
Health Equity & Medical Justice	Commissioner, Los Angeles County LGBTQ Commission	Jan 2024	Present
Hospital Committee	Chair, Quality Assurance & Performance Improvement, Kedren Health	Sep 2019	Present
Hospital Committee	Chair, COVID-19 Task Force, Kedren Community Health Center, Inc.	Mar 2020	Present
Hospital Committee	Medical Executive Committee MEC, Kedren Community Health Center, Inc.	Sep 2023	Present
Hospital Committee	Graduate Medical Education Committee GMEC, California Hospital Medical Center	Jun 2014	Sep 2019
Hospital Committee	Chair, Bylaws Committee, California Hospital Medical Center	Sep 2019	Present
Parliamentary Procedure	Member, American Institute of Parliamentarians AIP	Jun 2018	Present
Climate Health	Member, Project TENDR: Targeting Environmental Neuro-Development Risks	May 2020	Present
Climate Health	Member, Medical Society Consortium on Climate & Health MSCCH	Jun 2019	Present
Climate Health	Member, Climate Health Now CHN	Jun 2019	Present
Public Health	HIV Molecular Surveillance, Cluster Detection & Outbreak Response, CDPH	Jun 2022	Present
Public Health	Member, Immunization Coalition of Los Angeles County ICLAC	Mar 2020	Present
Public Health	Steering Committee, Ending the HIV Epidemic EHE, LAC DPH DHSP	Jun 2021	Present
Public Health	Disaster Emergency Preparedness Surge Unit, LA County Department of Health Services	Aug 2014	Present
Public Health	Vaccine Equity Committee, Los Angeles County Department of Public Health	Dec 2020	May 2022
Homeowners Association	Treasurer, Little Tokyo Lofts LTL Homeowners Association HOA	Jul 2019	Present
Homeowners Association	Treasurer, Oakdale Town Homes Homeowners Association HOA	Jul 2010	May 2014
Board Service	Board of Directors, Physician Aid Association PAA	Jul 2016	Present
Board Service	Board of Directors, Gay Men's Chorus of Los Angeles GMCLA	May 2021	Present
Board Service	Board of Directors, The National LGBTQ Task Force	Nov 2022	Present
Board Service	Board of Directors, Urban Voices Project UVP	Jun 2022	Present
Organized Labor	Vice President, Southern California, Committee of Interns & Residents, CIR/SEIU	Aug 2014	Jun 2017
Student Government	President & Founder, UTHSCSA PRIDE, a Gay-Straight Alliance GSA	Jun 2010	May 2014
Student Government	University Senate, University of Texas School of Medicine San Antonio	Jun 2010	May 2014
Student Government	President, Emory University Rollins School of Public Health RSPH	Aug 2005	May 2007
Student Government	President Pro-Tempore, Emory University Student Government Association SGA	Aug 2004	May 2007
Student Government	President, McConnell Hall Association, Texas Academy of Mathematic & Science TAMS SGA	Aug 2000	May 2002

NOTABLE HONORS AND AWARDS

Southern Christian Leadership Conference SCLC MLK Community Justice Award (2024), JWCH Institute Wesley Health Center Community Justice (2023), First African Methodist Episcopal AME Church 150th Anniversary Health Award (2023), 102.3 FM KJLH Proven Achievers Award (2022), Community Build Health Champion Award (2022), LA Civil + Human Rights Department Champion Award (2022), LAC DPH Community Partner Value Award (2022), South Central Prevention Coalition Humanitarian Award (2022), Association of Black Women Physicians ABWP Humanitarian Award (2022), AMA Excellence in Medicine Award (2022), YWCA Unsung Hero Award (2022), LA County Democratic Party JFK Profile in Courage Award (2022), CDPH Community Service Award (2022), VAX-UP Challenge Prize Winner (2021), Dangerman Hero Award for Outstanding Community Service (2022), Los Angeles Business Journal LABJ Physician of the Year Award (2021), Patient Care Foundation PCF LACMA Physician Leadership Award (2021), GMCLA Voice Award for Community Service (2021), CMA Compassionate Physician (2021), CAFP Hero of Family Medicine Award (2021), American Academy of Family Physicians AAFP Award for Excellence in Graduate Medical Education GME (2013), Arnold P. Gold Humanism in Medicine Honor Society (2014), University of Texas School of Medicine Dean's Scholarship Award for Advocacy & Advancing Diversity in Medicine (2014), General Electric-National Medical Fellowships Primary Care Leadership Program GE-NMF PCLP Scholar (2011), American Board of Family Medicine ABFM Pisacano Leadership Scholarship Finalist (2014), Bates Family Medicine Scholarship Award (2014), Primomo Award for Excellence in Geriatrics (2014), Paul Cutler Award for Clinical Excellence (2014), Forland Award for Humanism in Medicine (2014)

NOTABLE RESEARCH, PUBLICATIONS & PRESENTATIONS

Murray, CJL; Aboyans V; Abraham JP; et al.. The Global Burden of Disease Study 2010 Country Results: A Global Public Good. The Lancet. 2013 Mar; 381(9871): 965-970

Lozano R, Naghavi M, Foreman K, Lim S, Shibuya K, Aboyans V, Abraham JP, et al.. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010. *The Lancet*. 2012 Dec; 380(9859): 2095-128. Cited in PubMed; PMID: 23245604.

Bhalla K, Harrison J, Abraham JP, Borse NN, Lyons R, Boufous S, Aharonson-Daniel L. Data sources for improving estimates of the global burden of injuries: call for contributors. PLoS Medicine. 2009 Jan; 20(6): 1. Cited in PubMed; PMID: 19166263.

Bhalla K, Shahraz S, Bartels D, Abraham JP. Methods for developing country level estimates of the incidence of deaths and non-fatal injuries from road traffic crashes. International Journal of Injury Control & Safety Promotion. 2009 Dec; 16(4): 239-48. Cited in PubMed; PMID: 20183703.

Bhalla, K; Harrison, J; Shahraz, S; Abraham, JP; Bartels, D; Yeh PH; Naghavi, M; Lozano, R; Vos, T; Phillips, D; Chou, D; Wurtz, B; Gonzalez-Medina, D; Murray CJL. (2013). Data Sources, Methods, and Estimates of the National Incidence of Road Injuries. (pp. 7-94). Washington, DC: The World Bank.

Bhalla K, Shahraz S, Abraham JP, Bartels D, Yeh PH. (2011). Methods, Data Sources and Estimates of the National Incidence of Road Injuries. In Bhalla K (Ed.), Road Injuries in 18 Countries (pp. 1-100). Washington, DC: The World Bank.

Bhalla K, Abraham JP, Abdalla S. (2010). Analytical Methods for Common Types of Data Sources in sub-Saharan Africa. Poster presented at: World Injury Conference; London, United Kingdom.

Eze U, Abdalla S, Abdella K, Koranteng A, Mtonga R, Bartolomeos K, Abraham JP, Bhalla K. (2010). Burden of Road Injuries in sub-Saharan Africa: Nigeria, Sudan, Ethiopia, Ghana, Uganda, Zambia and Mozambique. World Injury Conference 2008; London, United Kingdom.

Rosenberg M, Hayes E, Abraham JP. (2006). Making Roads Safe in Latin America and the Caribbean. In Rosenberg M (Ed.), Making Roads Safe (pp. 1-100). Atlanta, Georgia: The World Bank.

World Health Organization. (2009, November 19). Global Status Report on Road Safety: Time for Action. Publication Status: Published.

Rosenberg M, Hayes E, Kluglein S, Abraham JP. (2007). Closing the Gap in Road Safety. Oral Presentation presented at: 2nd UNStakeholders Forum on Global Road Safety, UN Palais des Nations.; Geneva, Switzerland.

Abraham JP. "Multivariate Analysis of Restraint Use & Injury Severity in Older Child Passengers." Master's Thesis, Emory University. Published. August 1, 2007.

Abraham JP. "Ethnobotanical Uses of Medicinal Plants by Shamans in the Amazon Rainforest." Senior Thesis, Emory University. Published. May 1, 2005.

Abraham JP, Mitchell J, McAuthor R, Uzoije P, Trimm RF. Achieving NCQA-PCMH Recognition: Challenges for Federally Qualified Health Centers (FQHCs). General Electric-National Medical Fellowship Annual Report. 2013 Sep.

Abraham JP. (2014). Creating a Quality Improvement & Patient Safety Committee for Interns and Residents. Poster presented at: CIR/SEIU Quality Improvement + Patient Safety 2nd Annual Summit. Los Angeles, CA.

Abraham JP, Aribindi V, Brodie B, Hall J, Huang D, Jerdonek A, Lee P, Nicewarner H, Robinson R, Wegman M, Wen T. (2015). Review of Medical Quality Opportunities for Physicians-in-Training. Poster presented at: Medical Quality 2015, Washington, DC.

Abraham JP, Berggren R, Stone, M., et al (2014). ACT Together for Health: Grassroots Organizing Ethical Principles. Poster presented at: Community Service Learning CSL Conference 2014. University of Texas School of Medicine. San Antonio, TX.

NOTABLE MEDIA & APPEARANCES

https://www.help.senate.gov/hearings/examining-our-covid-19-response-an-update-from-the-frontlines
https://www.c-span.org/video/?509636-1/public-health-leaders-testimony-covid-19-pandemic-response
https://www.nbc.com/the-rachel-maddow-show/video/rachel-maddow-2521/4298087
https://www.cbsnews.com/video/south-los-angeles-hospital-removes-barriers-for-minority-communities-seeking-vaccine/
https://www.msnbc.com/the-reidout/watch/dr-ashish-jha-expects-more-vaccine-supply-in-late-march-early-april-but-we-have-to-make-it-easy-103119941733
https://video.vice.com/en_us/video/thursday-march-4-2021/6034393f206d072e113393f1?latest=1
https://www.tmz.com/2021/02/08/dr-jerry-abraham-los-angeles-kedren-clinic-vaccines-black-brown-people/
https://lasentinel.net/california-state-governor-gavin-newsom-visits-kendren-hospital-observing-the-success-of-the-co-pilot-initiative-of-vaccination-distribution-in-impacted-communities.html
https://www.aafp.org/news/family-doc-focus/20210426fdf-abraham.html
https://www.ama-assn.org/delivering-care/health-equity/physicians-tackle-equitable-vaccine-distribution-and-misinformation
https://www.ama-assn.org/delivering-care/public-health/qa-when-fighting-climate-change-don-t-overlook-health-equity
https://festival.newyorker.com/tickets/the-power-of-nature-to-improve-public-health/
https://www.viveevent.com/speakers/2024/jerry-p-abraham-md-mph-cmq
https://www.latimes.com/california/story/2021-01-29/coronavirus-covid-vaccine-equity-hospital-south-los-angeles-kedren-health
https://spectrumnews1.com/ca/la-west/coronavirus/2021/01/11/doctor-s-tenacity-brings-vaccinations-to-south-la

JERRY P ABRAHAM, MD MPH CMQ

Ms. Faye Thomas
Clerk of the Board

South Coast Air Quality Management District AQMD
21865 Copley Drive
Diamond Bar, CA 91765

1st January 2025

Dear Ms. Faye Thomas:

I am writing to express my interest in the South Coast Air Quality Management District Hearing Board Medical Member position. As a seasoned medical professional with extensive experience in climate change, health equity, medical justice, and epidemiology, I believe that I would be an ideal candidate for this role.

Throughout my career as a family and community medicine physician, I have remained committed to improving public health outcomes by addressing environmental issues such as air pollution, clean water, and other environmental toxins. The South Coast Air Quality Management District is a crucial regulatory body that plays a pivotal role in reducing air pollution levels in Southern California, and I am excited at the prospect of contributing my expertise to its mission.

As a Medical Quality Specialist, I have honed my skills in problem-solving, critical thinking, and decision-making. I understand the importance of analyzing complex data and information from various sources to make informed decisions that benefit public health.

Furthermore, my experience in medical justice has enabled me to develop a deep understanding of the intersection between environmental health and social justice. I am confident that I can provide valuable insights into the disproportionate impact of air pollution on marginalized communities and support efforts to promote a more equitable distribution of environmental benefits and burdens.

I am deeply passionate about the work of the South Coast Air Quality Management District and would be honored to serve as the Medical Member of the Hearing Board. Thank you for considering my application. I look forward to discussing my qualifications further.

Respectfully submitted,

Jerry P Abraham, MD MPH CMQ
Family & Community Medicine Physician
Global Injury Epidemiologist
Medical Quality Specialist

+1.832.687.3242 | 420 S San Pedro St, #228, LA, CA 90013 | abraham.jerry@gmail.com

JERRY P ABRAHAM, MD MPH CMQ

Biography

Dr. Jerry P. Abraham, MD MPH CMQ, is a renowned physician and public health advocate who currently serves as the Director of Vaccine Programs at Kedren Community Health Center in South Los Angeles. Dr. Abraham received his medical degree from the University of Texas School of Medicine and completed his family medicine residency at the Keck School of Medicine at the University of Southern California. He also holds a master of public health degree from Emory University and completed an injury epidemiology fellowship at the Harvard Initiative for Global Health.

Dr. Abraham has been an active member of the American Medical Association for many years and has been actively involved in healthcare policy and advocacy at the local, state, and national levels. He has served on numerous boards and committees, including president of the Los Angeles County Medical Association, trustee of the California Medical Association, and the board of the Charles R. Drew Medical Society. In addition, he has been a vocal advocate for health equity and medical justice, particularly in underserved communities.

Dr. Abraham's expertise and leadership have been critical in the fight against COVID-19, particularly in communities of color that have been disproportionately affected by the pandemic. He has been a strong advocate for vaccine equity, working tirelessly to ensure that vulnerable populations have access to the COVID-19 vaccines. As the Director of Kedren Vaccines, he has overseen the administration of over 400,000 doses of the vaccine to the residents of Los Angeles County.

Throughout his career, Dr. Abraham has been recognized for his outstanding contributions to public health and healthcare. He has received numerous awards and honors, including the Hero of Family Medicine Award, the CMA Compassionate Service Award, the AMA Excellence in Medicine Award, the KJLH Proven Achievers Award, and the Los Angeles Business Journal's Healthcare Leadership Award. In addition, he has been featured in numerous media outlets, including CNN, MSNBC, NPR, and the Los Angeles Times and is a regular contributor on Spectrum and CBS.

Dr. Jerry P. Abraham is a dedicated physician, public health advocate, and community leader who has made a significant impact on the health and well-being of countless individuals and communities.

JERRY P ABRAHAM, MD MPH CMQ

Brief Summary

Dr. Jerry P. Abraham, MD MPH CMQ, is Director & Chief Vaccinologist at Kedren Vaccines; President-Elect, Los Angeles County Medical Association; Trustee, California Medical Association; and Councilor of our American Medical Association. Dr. Abraham holds a Master of Public Health from Emory University and completed post-graduate Fellowship training in Global Injury Epidemiology at the Harvard School of Public Health. He received his Medical Doctorate from the University of Texas and completed his Family & Community Medicine Residency Training at the USC Keck School of Medicine.

Currently, Dr. Abraham serves as the Director of COVID-19 Programs at the Kedren Community Health Center, a FQHC and acute psychiatric hospital in South Los Angeles, where his patient population is primarily Black and Latinx. In his time at Kedren, he has become an advocate and bulwark for equity and justice for his community, especially when it comes to COVID-19, the equitable distribution of COVID-19 vaccines, and better representation of marginalized individuals and populations in healthcare delivery and public health.

Dr. Abraham is an active member of Project TENDR (Targeting Environmental Neuro-Development Risks) and the Medical Society Consortium on Climate & Health. Dr. Abraham is also involved with the National Academy of Medicine Action Collaboration on Decarbonizing the Health Sector Climate Communities Network as well as the US HHS OASH Office of Climate Change & Health Equity. Lastly, Dr. Abraham leads the Climate Health work at AMA, CMA, and LACMA.

JERRY P ABRAHAM, MD MPH CMQ

Short Bio Sketch for Introduction to the Administrative Governing Board

Dr. Jerry P. Abraham is Director & Chief Vaccinologist at Kedren Community Health Center in South Los Angeles.

He received his medical degree from the University of Texas and completed his Family & Community Medicine Residency Training at the USC Keck School of Medicine. He holds a Master of Public Health degree from Emory University and completed post-graduate Fellowship training in Global Injury Epidemiology at the Harvard School of Public Health.

Dr. Abraham is the President-Elect of the Los Angeles County Medical Association, trustee of the California Medical Association, and Councilor of the American Medical Association.

MEDICAL BOARD OF CALIFORNIA

LICENSING DETAILS FOR: A [redacted]

NAME: ABRAHAM, JERRY PUTHENPURAKAL
LICENSE TYPE: PHYSICIAN AND SURGEON A
PRIMARY STATUS: LICENSE RENEWED & CURRENT
SCHOOL NAME: UNIVERSITY OF TEXAS MEDICAL SCHOOL AT SAN ANTONIO
GRADUATION YEAR: 2014
ADDRESS OF RECORD
KEDREN HEALTH
4211 S AVALON BLVD
LOS ANGELES CA 90011
LOS ANGELES COUNTY

ISSUANCE DATE
MARCH 17, 2016
EXPIRATION DATE
SEPTEMBER 30, 2023
CURRENT DATE / TIME
MAY 4, 2022
3:35:57 PM

PUBLIC RECORD ACTIONS

› ADMINISTRATIVE DISCIPLINARY ACTIONS (NO INFORMATION TO MEET THE CRITERIA FOR POSTING)

› COURT ORDER (NO INFORMATION TO MEET THE CRITERIA FOR POSTING)

› MISDEMEANOR CONVICTION (NO INFORMATION TO MEET THE CRITERIA FOR POSTING)

› PROBATIONARY LICENSE (NO INFORMATION TO MEET THE CRITERIA FOR POSTING)

› FELONY CONVICTION (NO INFORMATION TO MEET THE CRITERIA FOR POSTING)

› MALPRACTICE JUDGMENT (NO INFORMATION TO MEET THE CRITERIA FOR POSTING)

› HOSPITAL DISCIPLINARY ACTION (NO INFORMATION TO MEET THE CRITERIA FOR POSTING)

› LICENSE ISSUED WITH PUBLIC LETTER OF REPRIMAND (NO INFORMATION TO MEET THE CRITERIA FOR POSTING)

› ADMINISTRATIVE CITATION ISSUED (NO INFORMATION TO MEET THE CRITERIA FOR POSTING)

› ADMINISTRATIVE ACTION TAKEN BY OTHER STATE OR FEDERAL GOVERNMENT (NO INFORMATION TO MEET THE CRITERIA FOR POSTING)

› ARBITRATION AWARD (NO INFORMATION TO MEET THE CRITERIA FOR POSTING)

› MALPRACTICE SETTLEMENTS (NO INFORMATION TO MEET THE CRITERIA FOR POSTING)

PUBLIC DOCUMENTS

› DOCUMENTS (NO RECORDS)

SURVEY INFORMATION

THE FOLLOWING INFORMATION IS SELF-REPORTED BY THE LICENSEE AND HAS NOT BEEN VERIFIED BY THE BOARD.

ARE YOU RETIRED?	NO
ACTIVITIES IN MEDICINE	ADMINISTRATION - 10-19 HOURS TELEMEDICINE - 20-29 HOURS TEACHING - 10-19 HOURS RESEARCH - 10-19 HOURS PATIENT CARE - 40+ HOURS OTHER - 10-19 HOURS
PATIENT CARE PRACTICE LOCATION	ZIP - 90011 COUNTY - LOS ANGELES
PATIENT CARE SECONDARY PRACTICE LOCATION	ZIP - 90013 COUNTY - LOS ANGELES
TELEMEDICINE PRACTICE LOCATION	ZIP - 90011 COUNTY - LOS ANGELES
TELEMEDICINE SECONDARY PRACTICE LOCATION	ZIP - 90013 COUNTY - LOS ANGELES
CURRENT TRAINING STATUS	NOT IN TRAINING
AREAS OF PRACTICE	PEDIATRICS - SECONDARY OTHER - NOT LISTED - SECONDARY COMPLEMENTARY AND ALTERNATIVE MEDICINE - SECONDARY GENERAL PRACTICE - SECONDARY FAMILY MEDICINE - SECONDARY FAMILY MEDICINE - PRIMARY PUBLIC HEALTH AND GENERAL PREVENTIVE MEDICINE - SECONDARY PSYCHIATRY - SECONDARY GERIATRIC MEDICINE - SECONDARY
BOARD CERTIFICATIONS	AMERICAN BOARD OF FAMILY MEDICINE - FAMILY MEDICINE
POSTGRADUATE TRAINING YEARS	4 YEARS
CULTURAL BACKGROUND	DECLINED TO DISCLOSE
FOREIGN LANGUAGE PROFICIENCY	OTHER (NOT LISTED) PORTUGUESE SPANISH OTHER NON-ENGLISH
GENDER	MALE

JERRY P. ABRAHAM, M.D., M.P.H, C.M.Q.

CURRICULUM VITAE

PERSONAL HISTORY

EDUCATION

Texas Academy of Mathematics & Sciences TAMS University of North Texas	2000-2002
Bachelor of Science, Biology-Neuroscience Bachelor of Arts, Spanish & Portuguese Literature Emory University, College of Arts & Sciences	2002-2005
Master of Public Health Injury Epidemiology & Global Health Rollins School of Public Health, Emory University	2005-2007
Fellow, Global Injury Epidemiology Emory University, Rollins School of Public Health	2005-2008
Research Fellowship Injury Epidemiology & Global Health Harvard School of Public Health	2008-2011
Research Fellow Family Medicine, Health & Policy Economics University of Texas, School of Medicine	2011-2014
Doctor of Medicine Family and Community Medicine University of Texas, School of Medicine	2010-2014
Internship & Residency Family Medicine Residency Program University of Southern California USC	2014-2017
Integrative Medicine Certificate Program University of Arizona School of Medicine	2014-2017
Family Medicine Chief Resident Diabetes Fellowship Primary Care Education Consortium	2016-2017

Primary Care Metabolic Group

Fellowship in Health Policy, Medical Quality & Faculty Development Eisner Family Medicine Clinic at Dignity Health California Hospital University of Southern California USC — 2017-2018

LA CARE Physician Leadership Program Fellowship — 2017-2019

Climate Health Organizing Fellowship CHOF
Harvard Medical School – Cambridge Health Alliance
CHEEA — 2021-2022

American Medical Association AMA - Satcher Health Leadership Institute SHLI Medical Justice in Advocacy Fellowship MJAF — 2022-Present

American Academy of Family Physicians AAFP
Leading Physician Wellbeing LPW Fellowship — 2023-Present

LICENSURE

Medical Board of California
Physician & Surgeon #A141443 — 2015-Present

BOARD CERTIFICATIONS

Board Certification in Medical Quality
American Board of Medical Quality — 2015-Present

Board Certification in Family Medicine, #1006470581
American Board of Family Medicine ABFM — 2017-Present

OTHER CERTIFICATIONS

National Provider Identifier NPI, #1932514874
Center for Medicare & Medicaid Services — 2014-Present

Provider Enrollment, Chain, & Ownership System, PECOS #1932514874
Center for Medicare & Medicaid Services — 2014-Present

Advanced Cardiovascular Life Support — 2014-Present

Pediatric Advanced Life Support — 2014-Present

Basic Life Support — 2014-Present

Neonatal Resuscitation Program — 2014-Present

Advanced Life Support in Obstetrics — 2014-Present

Crisis Prevention Intervention	2014-Present
Hospital Fire & Life Safety	2014-Present
HIPAA Privacy Education Program	2014-Present
Collaborative Institutional Training Initiative Human Research	2014-Present
Merck Clinical Training Program for NEXPLANON	2014-Present
Controlled Substance Registration Certificate & X-Waiver #FA590004, #XA5900041 Drug Enforcement Administration DEA	2015-Present
Medication Assisted Treatment for Opioid Use Disorder	2016-Present

ACADEMIC APPOINTMENTS

Present Positions:

Clinical Assistant Professor, Joint Appointment Departments of Family Medicine and Psychiatry Charles R. Drew University of Medicine and Science	2022-Present
Fellowship Director (non-ACGME) COVID-19 Vaccine Fellowship Program Kedren Community Health Center, Inc.	2022-Present

Previous Positions:

Faculty & Attending Physician (Full Spectrum Family Medicine including uncomplicated Obstetrics) Eisner Family Medicine Center, Dignity Health California Hospital University of Southern California, Los Angeles, CA	2014-2019
Adjunct Clinical Professor, Family & Community Medicine University of Southern California, Keck School of Medicine Los Angeles, CA	2017-2019

PROFESSIONAL EXPERIENCE

Present Positions: 2014-Present

Medical Staff Member with Active Privileges
Family Medicine Department

Dignity Health, California Hospital Medical Center
Los Angeles, CA

In-Patient Pediatrics & In-Patient Adult Medicine — 2019-Present
Attending Physician
Acute Psychiatric Hospital, Kedren Health
Los Angeles, CA

Attending Family Physician — 2019-Present
Community Care Clinic
Kedren Health
Los Angeles, CA

Director & Chief Vaccinologist, Kedren Vaccines — 2020-Present
Kedren Health
South Los Angeles, CA

Co-Director & Medical Director — 2021-Present
CDU-Kedren Mobile Street Medicine
South Los Angeles, CA

Previous Positions:

Field Sales Manager, Sales Associate — 2001-2002
The Southwestern Company
Orlando, FL

Residential Advisor — 2002-2005
Emory University
Atlanta, GA

University Conferences — 2002-2005
Emory University
Atlanta, GA

Academic Peer Advisor — 2002-2005
Emory University
Atlanta, GA

Global Forum on Road Safety — 2005-2008
The Taskforce for Child Survival & Development
Atlanta, GA

Global Injury Epidemiologist & Program Associate — 2005-2008
The Taskforce for Child Survival & Development
Atlanta, GA

Global Burden of Diseases & Injuries (Gates Foundation) — 2008-2011
Harvard Institute for Global Health
Boston, MA

Global Burden of Diseases Injury Expert Group (The World Bank Group)
Harvard Institute for Global Health
Boston, MA — 2008-2011

World Health Organization ICD-11 Chapter 19 & 20 Expert Group
Harvard Institute for Global Health
Boston, MA — 2008-2011

Chief Resident
Family Medicine Residency Program, University of Southern California — 2014-2017

Faculty & Attending Physician (Full Spectrum Family Medicine including uncomplicated Obstetrics)
Eisner Family Medicine Center, Dignity Health California Hospital
University of Southern California, Los Angeles, CA — 2014-2019

Adjunct Clinical Professor, Family & Community Medicine
University of Southern California, Keck School of Medicine
Los Angeles, CA — 2017-2019

PROFESSIONAL ACTIVITIES

Committee Service:

1. President Pro-Tempore & Speaker
Emory University Student Government Association — 2002-2007

2. Student Government Association
Emory University, Rollins School of Public Health — 2004-2010

3. Member
International Physicians for the Prevention of Nuclear War IPPNW — 2004-2012

4. Dean's Council
Emory University Alumni Association — 2007-2009

5. Chair
Gender & Sexuality Action Committee — 2007-2010

6. President
University of Texas Health Science Center at San Antonio — 2008-2014

7. Member — 2010-2014

Center for Medical Humanities & Ethics Advisory Committee

8. Member — 2010-2014
University Libraries Committee

9. Past Trustee — 2010-2014
American College of Medical Quality ACMQ

10. Delegate, International Federation of Medical Students Association — 2011
60th General Assembly August Meeting
Copenhagen, Denmark

11. Chair, International Federation of Medical Students Associations — 2011-2013
62nd General Assembly March Meeting Organizing Committee

12. Delegate, International Federation of Medical Students Associations — 2012
61st General Assembly August Meeting
Mumbai, India

13. Host & Organizer — 2012
Empowering Physicians Conference

14. Member — 2012
Global Health Information Privacy & Protection Steering Committee

15. Member, Board of Directors — 2012-2015
American Board of Medical Quality ABMQ

16. Secretary-Treasurer — 2013-2014
Oakdell Townhomes Homeowners Association

17. Chair — 2014-2017
Quality Improvement & Patient Safety Housestaff Committee

18. Graduate Medical Education Committee GMEC — 2014-2018
Dignity Health California Hospital Medical Center

19. Chair, Young Physicians Committee — 2017-2017
Los Angeles County Museum of Art

20. Venture Partner — 2017-2019
Divine Dips Vegan Ice Cream Shop, Los Angeles, CA

21. Member — 2017-2020

Steering Committee, This Is Our Shot / Vacunate Ya
Vaccination Campaign

23. Volunteer 2018
Beit T'Shuvah Recovery Center & Temple

24. Volunteer 2018
Beit T'Shuvah Recovery Center & Temple

25. Campaign Member 2018-2019
AMA Trustee

26. Campaign Member 2018-2020
AMA Councilor

27. Member 2018-2020
AMA Reference Committee F: Finance & Governance

28. Campaign Member 2018-2020
AMA Speaker

29. Member 2019
Graduate Medical Education Committee GMEC
Kedren Health

30. Member 2019
Vaccine Equity Committee, Los Angeles County
Department of Public Health

31. Chair 2019-2020
LACMA Delegation

32. Campaign Manager 2019-2020
CMA Speaker

33. Vice Chair 2019-2020
CMA Council on Membership, Bylaws & Governance
CMBG

34. Member 2020-2021
Medical Staff Medical Executive Committee MEC
Kedren Health

35. Volunteer 2020-2021
CMA Care for Caregivers

36. Volunteer 2020-2021
International Medical Corps IMC

37. Member 2020-2023
CMA Finance Committee

38. Organizing Fellow — 2021
HMS/CHA Center for Health Equity, Education, & Advocacy: Climate Health Fellowship Program

39. Member — 2010-Present
National Medical Fellowships

40. Member — 2012-Present
LACMA Executive Committee

41. Member — 2014-Present
Los Angeles County Department of Health Services
Disaster Emergency Preparedness Surge Unit

42. Member — 2015-Present
LACMA Bylaws Committee

43. Member — 2016-Present
LACMA Finance Committee

44. Board Member — 2016-Present
LA Physician Aid Association LAPAA

45. Member — 2017-Present
Community Clinic Association of Los Angeles County
CCALAC

46. Treasurer — 2018-Present
Little Tokyo Lofts Homeowners Association HOA

47. Host Committee — 2018-Present
American Society of Hiroshima-Nagasaki A-Bomb Survivors, Hiroshima International Council for Health Care of the Radiation-exposed HICARE

48. Member — 2018-Present
American Institute of Parliamentarians AIP

49. Member — 2018-Present
Climate Health Now CHN

50. Member — 2019-Present
Transitions Care Network TCN

51. Member — 2019-Present
CMA Ethnic Medical Organizations Section EMOS
Bylaws Committee

52. Chair — 2019-Present
Graduate Medical Education Committee GMEC
Kedren Health

53. Member — 2019-Present
CMA Committee on Nominations

54. Leader — 2019-Present
California Medical Association Climate Health Champions CCC

55. Board Member — 2020-Present
Pull for Progress Burkina Faso

56. Chair — 2020-Present
Bylaws Task Force
Medical Executive Committee MEC
Kedren Health

57. Medical Staff — 2020-Present
Los Angeles Surge Hospital

58. Member — 2020-Present
Black Health Trust BHT

59. Member — 2020-Present
Minority Health Institute MHI

60. Chair — 2020-Present
COVID-19 Task Force
Kedren Health

61. Councilor — 2021-Present
AMA Council on Constitution & Bylaws CCB

62. Member — 2021-Present
California ETE Ending the Epidemics (HIV, STIs, Viral Hepatitis) Committee

63. Member — 2021-Present
LACDPH Ending the HIV Epidemic EHE Steering Committee

64. Treasurer — 2021-Present
LACPAC

65. Treasurer — 2021-Present
LAAFP

66. Chair — 2021-Present
Quality Assurance and Process Improvement Committee QAPI
Kedren Health

67. Campaign Manager — 2021-Present

CMA President

68. Board Member 2022-Present
Charles R. Drew Medical Society CRDMS

69. Member 2022-Present
CDU Strategic Planning Retreat Committee

70. Member 2022-Present
CMA Climate Health CME Planning Committee

71. Member 2022-Present
Immunization Coalition of Los Angeles County ICLAC

72. Member 2022-Present
CDU Pre-Clerkship Clinical Skills 1& 2 Curriculum Development & Planning Committee

73. President-Elect 2022-Present
Los Angeles County Medical Association

74. Advisor, HIV Molecular Cluster Detection 2022-Present
Community Advisory Board CAB
California Department of Public Health CDPH

75. Member 2022-Present
PacWest Reference Committee F: Governance & Finance

76. Member 2022-Present
PacWest Reference Committee CC&B: Constitution and Bylaws - Advocacy on Ethics and Bylaws Matters

77. Medical Team Member 2022-Present
Team for Health Consultation and Health Examination Services for Hiroshima and Nagasaki A-Bomb Survivors of North and South America

78. Committee Member 2022-Present
Climate Health Now CHN Southern California Committee

79. Member 2022-Present
Los Angeles Unified School District LAUSD - Local Education Agency LEA Collaborative Committee on Medi-Cal

80. Member 2022-Present
CDU COVID-19 Academic Works in Progress Committee

81. Member 2022-Present
Project Targeting Environmental Neuro-Development
Risks TENDR Health Disparities Committee

82. Chair 2022-Present
LACMA Bylaws Committee

Professional Associations and Scholarly Societies:

1. Committee of Interns/Residents SEIU/CIR 2014-2017

2. American Association of Public Health Physicians 2004-Present
AAPHP

3. American Public Health Association APHA 2004-Present

4. American Medical Association AMA 2009-Present
Member ID #04813141421

5. American Academy of Family Physicians AAFP 2009-Present
Member ID #9068557

6. Association of American Medical Colleges 2009-Present
AAMC Member ID #11522185

7. American College of Medical Quality ACMQ 2009-Present

8. American Statistical Association 2010-Present

9. American Institute of Parliamentarians AIP 2010-Present

10. National Medical Association NMA 2010-Present

11. National Hispanic Medical Association NHMA 2010-Present

12. California Medical Association CMA 2013-Present

13. California Academy of Family Physicians CAFP 2013-Present

14. United States Pharmacopeia USP 2019-Present

Editorial & Peer-Review Services:

1. *The New Physician* 2002-2010
American Medical Student Association AMSA

2. *Journal of Injury Prevention* 2007-2010

3. *Pan American Journal of Public Health* 2007-2011
Pan American Health Association PAHO

4. *International Journal of Injury Control and Safety Promotion* 2007- 2011

5. *Medical Student International* 2010-2017
International Federation of Medical Students Associations IFMSA

6. *American Journal of Medical Quality* 2010-2018
American College of Medical Quality ACMQ

7. *Journal of Medical Systems* 2021-2022

Consulting Activities:

1. Medical Exemptions Appeals Committee 2022-Present
Granada Hills Charter School

2. Consultant 2022-Present
Community Fulfillment Foundation - CFF

3. Vaccine Consultant 2022-Present
Los Angeles Clippers

4. Work Group Consultant 2023-Present
National Academy of Medicine NAM Clinician Well Being CWB Collaborative

TEACHING

Medical Students:

1. MS1 - MS4 Longitudinal Primary Care Rotation
Adjunct Clinical Professor, Family & Community Medicine 2017-2020
University of Southern California, Keck School of Medicine

2. MS3 Family Medicine Clerkship Preceptor 2019-Present
(UCLA-CDU Prime)
UCLA David Geffen SOM, Family Medicine Department

3. MS1-MS4 Longitudinal Family Medicine Rotation 2019-Present
Assistant Professor, Family Medicine and Psychiatry (Joint Apt)
Charles R. Drew University CDU School of Medicine and Science

Premedical & Medical Student Mentoring:

1. USC Family Medical Residency Program at California Hospital
University of Southern California — 2014-2019

2. PA Pipeline Program
University of Southern California, Keck School of Medicine — 2014-2019

3. National Youth Leadership Forum NYLF — 2003-Present

4. National Medical Fellowships NMF Mentor — 2010-Present

5. Mi Mentor — 2014-Present

6. NMF Primary Care Leadership Program — 2016-Present

7. AAFP Foundation Emerging Leaders Institute ELI — 2017-Present

8. AMA Foundation Leadership Development Institute
LDI Steering Committee — 2018-Present

9. LMSA Medical Student Mentor and Advising Program, Chapter Advisor — 2019-Present

10. NMA Cobb Institute Scholars Program Mentor — 2022-Present

Resident & Fellow Teaching:

1. PGY-1-3, Family Medicine Residency Program - Core Faculty
Adjunct Clinical Professor, Family & Community Medicine
University of Southern California, Keck School of Medicine — 2017-2020

2. PGY-1, Psychiatry Residency Primary Care Rotation (2 Months)
Assistant Professor, Family Medicine and Psychiatry (Joint Apt)
Charles R. Drew University School of Medicine — 2019-Present

3. PGY-1-3, Family Medicine Residency - Street Medicine Rotation
Assistant Professor, Family Medicine and Psychiatry (Joint Apt)
Charles R. Drew University School of Medicine — 2019-Present

4. COVID-19 Vaccine Fellow
Fellowship Director — 2020-Present

Kedren Health & CDU School of Medicine

Resident & Fellow Mentoring:

1. PGY-1-3, Family Medicine Resident Advising - Core Faculty 2017-2020
Adjunct Clinical Professor, Family & Community Medicine
University of Southern California, Keck School of Medicine

2. AAFP Family Medicine Resident and Fellow Mentoring 2017-Present

3. AMA Resident & Fellow Section RFS Mentoring 2017-Present

4. PGY-1-4, Psychiatry Resident Advising 2019-Present
Assistant Professor, Family Medicine and Psychiatry (Joint Apt)
Charles R. Drew University School of Medicine

5. PGY-1-3, Family Medicine Resident Advising 2019-Present
Assistant Professor, Family Medicine and Psychiatry (Joint Apt)
Charles R. Drew University School of Medicine

6. CDU-AltaMed Health Careers Opportunity Program 2022-Present
HCOP Ambassador Academy
Charles R. Drew University School of Medicine

RESEARCH, GRANTS, AND FELLOWSHIPS RECEIVED

1. University of Texas School of Medicine, Office of Academic Enhancement Grant 2011-2014
    - Developing Student-Driven curriculum in Health Policy & Economics, and Healthcare Delivery Science
    - Health Care Payment Reform in Bexar County, Texas
    - Understanding Medical Student Specialty Choice
    - Factors Affecting Medical Student Perceptions of Family Medicine

2. Community Service Learning Project Grant 2011-2014
    - Developing a SAFE SPACE program for Medical Schools
    - PRIDE, an LGBTQA Student-Run Free Clinic

3. GE-NMF Primary Care Leadership Scholarship 2013

Achieving PCMH Status: Challenges Facing FQHCs on the Gulf Coast

4. Weingart Foundation ($100,000)	February 24, 2021
5. Annenberg Foundation ($150,000)	March 31, 2021
6. California Community Foundation ($175,000)	March 31, 2021
7. Hilton Foundation ($100,000)	April 30, 2021
8. The Foundation Source ($100,000)	June 1, 2021
9. LA County Center for Strategic Partnerships ($100,000)	June 30, 2021
10. Community Clinic Association of Los Angeles County ($55,000)	June 30, 2021
11. Public Health Institute ($500,000)	September 1, 2021
12. Ahmanson Foundation ($100,000)	October 1, 2021
13. Harbor Community Benefit Foundation ($250,000)	February 1, 2022
14. Health Net ($100,000)	February 1, 2022
15. Bloomberg Philanthropies ($500,000)	March 31, 2022
16. Physicians for a Healthy California PHC ($575,000)	September 20, 2022

RESEARCH COMMITTEES

1. ICD-11 Development Committee	2005-2012
2. WHO Injury Expert Research Group	2005-2012
3. CDC International Collaborative Effort ICE on Injury Statistics	2005-2012
4. Global Burden of Diseases and Injuries GBD Expert Group	2005-2012
5. Project TENDR Research Committee - NHMA Representative	2019-2021
6. CDU COVID-19 Working Research Group	2019-Present

HEALTH POLICY, LEGISLATIVE ADVOCACY, AND POLITICAL ACTIVITIES

1. U.S. Senate Committee on Health, Education, Labor, and Pensions HELP Hearing; "*The Examining Our COVID-19 Response: An Update from the Frontlines*"	March 9, 2021
2. Meeting with U.S. Senator Dianne Feinstein (D-CA)	March 9, 2021
2. Meeting with California Assemblymember Santiago	March 19, 2021
3. Facebook Communities Summit 2021 Hearing Witness, California State Assembly	November 4, 2021
4. Select Committee on Infectious Diseases Hearing on Health Disparities & Achieving Health Equity (Chair Asm. Mike Gipson)	November 30, 2021
5. Meeting with California Assemblymember Santiago	March 15, 2022
6. Hearing Witness, Testimony before California State Assembly Committee on Business & Professions Hearing on AB2098 Physicians & Surgeons Professional Conduct	April 19, 2022
7. ETE Team #3 - End the Epidemics Legislative Meeting - Asm. Carrillo	April 28, 2022
8. ETE Team #3 - End the Epidemics Legislative Meeting - Asm. Jones-Sawyer	April 28, 2022
9. Climate Health Equity LA Series: Justice40 & Climate Equity Metrics for LA	May 12, 2022
10. End the Epidemics/ ASM Philip Chen	May 4, 2022
11. Meeting with LADPH, CDPH and CDC Director Walensky	May 5, 2022
12. Lt. Gov. Eleni Kounalakis Fundraiser	May 14, 2022
13. Fundraiser LAC Democratic Party 2022 JFK Awards	May 14, 2022
14. Dr. Washington At-Home Fundraiser for Senator Sydney Kamlager	May 15, 2022

15. LACBA/LACMA Medicare Fraud Enforcement	May 19, 2022
16. Launch of the University of California Center for Climate, Health and Equity Climate Change, Health, and the Fossil Fuel Industry	May 25, 2022
17. AMA Resolution Declaring Climate Change a Public Health Emergency	June 13, 2022
18. CHN Special Webinar: Applying the US Call to Action on Climate Health and Equity to Current Advocacy Opportunities in California	June 20, 2022
19. White House / Health & Human Services Office of Climate Change & Health Equity Pledge	June 30, 2022
20. Inaugural Ceremony of the IX Summit of the Americ	June 8, 2022
201. California Democratic Party COVID-19 Presentatio	July 9, 2022
22. Rob Bonta for California Attorney General 2022 Event	July 12, 2022
23. L.A. REPAIR Community Engagement Partnership and Participatory Budgeting	July 13, 2022
24. Monkeypox LGBTQ Community Stakeholder Meeting	August 2, 2022
25. National Academy of Medicine NAM Grand Challenge Action Collaborative on Climate Health - Decarbonizing the Health Sector Talking about the Healthcare Divestment Campaign	September 20, 2022
26. Yes on Prop 30 Campaign Committee	October 25, 2022
27. Los Angeles, California Ballot Initiative Campaign Election Prop Party	October 30, 2022
28. American Society of Hiroshima and Nagasaki A-Bomb Survivors - Office of the General Consul of Japan	November 7, 2022
29. City of Los Angeles Inauguration of Mayor-Elect Karen Bass - Honored Guest	December 11, 2022
30. City of Carson Mayor and City Council Installation and Swearing in	December 13, 2022
31. LA City Council Councilor Curren Price Jr. Celebration	December 14, 2022

32. Ending the HIV Epidemic EHE in LA County Town Hall	January 25, 2023
33. Meeting with U.S. Congressman Tony Cárdenas (Mariah Philips)	February 13, 2023
34. Meeting with U.S. Congresswoman Linda Sanchez	February 14, 2023
35. Meeting with U.S. Congresswoman Sydney Kamlager-Dove (Gabrielle Howard)	February 14, 2023
36. Meeting with U.S. Senator Alex Padilla (D-CA)	February 14, 2023
37. Meeting with U.S. Congressman Ted Liu	February 15, 2023
38. Meeting with U.S. Congressman Ami Bera MD	February 15, 2023
39. Meeting with U.S. Congressman Raul Ruiz MD	February 15, 2023

HONORS AND SPECIAL AWARDS

1. Arnold P. Gold Humanism in Medicine Honor Society	2010
2. University of Texas School of Medicine Dean's Scholarship Award for Advocacy & Advancing Diversity in Medicine	2010-2014
3. General Electric-National Medical Fellowships Primary Care Leadership Program GE-NMF PCLP Scholar	2011
4. American Board of Family Medicine ABFM Pisacano Leadership Scholarship Finalist	2013
5. Bates Family Medicine Scholarship Award	2014
6. David Major Scholarship Award in Family Medicine	2014
7. Primomo Award for Excellence in Academic Family Medicine	2014
8. Primomo Award for Excellence in Community Service	2014

9. Primomo Award for Excellence in Geriatrics	2014
10. Primomo Award for Excellence in Family Medicine Research	2014
11. Paul Cutler Award for Clinical Excellence	2014
12. Texas Indo-American Physician Society Scholarship Award	2014
13. Forland Award for Humanism in Medicine	2014
14. Dean's Travel Scholarship Award	2014
15. Bowen-Vogt Scholarship Award for Medical Students	2014
16. American Academy of Family Physicians AAFP Award for Excellence in Graduate Medical Education GME	2016
17. CAFP Family Physician 2021 Hero of Family Medicine Award	2021
18. CMA Compassionate Physician Service Award	2021
19. Gay Men's Chorus of Los Angeles GMCLA Voice Award	2021
20. Patient Care Foundation PCF Physician Leadership Award	2021
21. Los Angeles Business Journal LABJ Physician of the Year Award	2021
22. Dangerman Hero Award for Outstanding Family & Community Medicine	2022
23. VAX-UP Challenge Winner ($100,000)	2022
24. California Department of Public Health CDPH Community Service Award	2022
25. Los Angeles County Democratic Party LACDP Profile In Courage Award	2022
26. Young Women's Christian Association YWCA Women's Unsung Hero Award	2022
27. AMA Excellence In Medicine Award	2022

28. Association of Black Women Physicians ABWP Humanitarian Award	2022
29. South Central Prevention Coalition SCPC Humanitarian Award	2022
30. Los Angeles County Department of Public Health LACDPH Community Partners Value Award	2022
31. Community Build - Community Health Champion Award	2022
32. 102.3 FM KJLH Proven Achiever Award	2023

CME CONFERENCES ATTENDED

1. Clinician Well-Being and Resilience: What We Know and How We Move Forward	September 15, 2020
2. The Impact of Skin Color and Ethnicity on Clinical Diagnosis and Research	December 2, 2020
3. NHMA Campaign to Improve Influenza Vaccination Rates for Adult	November 5, 2020
4. Interpreting Electrocardiograms	December 9, 2020
5. COVID-19 Knowledge Dissemination and Exchange for CHW	October 13, 2021
6. AAFP Improving Vaccine Confidence Live Session	October 27, 2021
7. Cancer Screening in Primary Care: Addressing Disparities and the Potential of Improving Outcomes Through the Use of Liquid Biopsy	November 20, 2021
8. AAFP and Johnson & Johnson Enabling Session on Vaccine Equity	November 30, 2021
9. Cognitive Behavioral Therapy CBT for Chronic Pain	January 27, 2022
10. The nation's drug overdose epidemic: Helping children and families, patients with pain	April 2, 2022
11. CMA Virtual Grand Rounds: COVID-19 Update	April 2, 2022
12. CBHN Historical Racism and Impact on Health Disparities	April 7, 2022

13. Faith & Public Health	April 7, 2022
14. Does Public Health Need a Reboot?	April 8, 2022
15. USC KSOM PPHS Grand Rounds - Guest Speaker: Barbara Ferrer, Director LA County Dept of Public Health	April 13, 2022
16. Emerging Challenges and Clinical Updates in Primary Care 2022 Live Virtual Conference: Episode 2	April 30, 2022
17. Children's Health Conference In Collaboration with First 5 LA & DPH	May 19, 2022
18. CDC's PrEP Clinical Practice Guideline and Strategies for Ending the HIV Epidemic in the U.S.	May 19, 2022
19. California Endowment: Voting Rights Act: Health Equity & Justice Monday	May 23, 2022
20. The Healthy CA for All Commission Report: What does it say, what does it mean, and what do we do about it?	May 24, 2022
21. Health Justice Now: A Conversation with AAPI Advocates	May 24, 2022
22. PCSS Webinar: OUD in Hispanic/Latino Communities	May 24, 2022
23. Multifaceted Approaches to Combating Antimicrobial Resistance	May 24, 2022
24. Implementation Tools and Resources for Enhancing Equity-Focused PrEP Services Series	June 16, 2022
25. ICLAC 2022 Vaccine Forum	June 21, 2022
26. Coping with Hope: Learning from the Past and Innovating for the Future to End the HIV Epidemic	June 23, 2022
27. CDU In-Person Community Medical Presentation	June 30, 2022
28. CDU GME Community & Behavioral Health Rotation CBHR: Mock Project Presentations to Community	July 13, 2022
29. PCLP LA Project Showcase	July 29, 2022
30. Guest Speaker UCLA/CDU Pre-matriculation	August 2, 2022

31. LBTQ Initiative - SPCB RFA Pre-Application Conference	August 31, 2022
32. NorCal Symposium on Climate, Health and Equity 2022	September 22, 2022
33. Emerging Challenges and Clinical Updates in Primary Care 2022 Live Virtual Conference: Episode 12	September 29, 2022
34. L.A. Care Behavioral Health Innovation Conference	October 1, 2022
35. National Academy of Medicine NAM Action Collaborative on Clinician Wellbeing Public Launch Event 2022	October 3, 2022
36. National Academy of Medicine NAM Action Collaborative on Clinician Wellbeing: Leveraging the Role of Payers and Regulators in the Health Worker Wellbeing Movement	October 3, 2022
37. International Conference on Physician Health ICPH 2022	October 13-15, 2022
38. AMA State Advocacy Summit SAS 2023	January 7, 2023
39. American Institute of Parliamentarians AIP West Coast Practicum	January 12, 2023
40. National Association for Continuing Education NACE Conversations in Primary Care Conference 2023	February 4, 2023
41. AMA National Advocacy Conference NAC (Washington, DC)	February 12-15, 2023
42. AMA-SHLI MJAF Organizing for Health 2023 - Training Series	February 16, 2023
43. AMA Racial Equity Institute: Groundwater Training	February 21, 2023

PUBLICATION AND BIBLIOGRAPHY

Research Papers (Peer-Reviewed):

1. Bhalla K, Harrison J, **Abraham JP**, Borse NN, Lyons R, Boufous S, Aharonson-Daniel L. Data sources for improving estimates of the global burden of injuries: call for contributors. PLoS Medicine. 2009 Jan; 20(6): 1. Cited in PubMed; PMID: 19166263. Publication Status: Published.

2. Bhalla K, Shahraz S, Bartels D, **Abraham JP**. Methods for developing country level estimates of the incidence of deaths and non-fatal injuries from road traffic crashes. International Journal of Injury Control & Safety Promotion. 2009 Dec; 16(4): 239-48. Cited in PubMed; PMID: 20183703. Publication Status: Published.

3. Naghavi M, Shahraz S, Bhalla K, Jafari N, Pourmalek F, Bartels D, **Abraham JP**, Motlagh ME. Adverse health outcomes of road traffic injuries in Iran after rapid motorization. Archives of Iranian Medicine. 2009 May; 12(3): 284-94. Cited in PubMed; PMID: 19400607. Publication Status: Published.

4. World Health Organization. (2009, November 19). Global Status Report on Road Safety: Time for Action. http://whqlibdoc.who.int/publications/2009/9789241563840_eng.pdf, Publication Status: Published.

5. Bartels D, Bhalla K, Shahraz S, **Abraham JP**, Lozano R, Murray CJ. Incidence of road injuries in Mexico: A Country Report. International Journal of Injury Control & Safety Promotion. 2010 Sep; 17(3): 169-76. Cited in PubMed; PMID: 20182934. Publication Status: Published.

6. Vos T, Flaxman AD, Naghavi M, Lozano R, Michaud C, Ezzati M, Shibuya K, Salomon JA, Abdalla S, Aboyans V, **Abraham JP**. Years lived with disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. The Lancet. 2012 Dec; 380(9859): 2163-96. Cited in PubMed; PMID: 23245607. Publication Status: Published.

7. Murray CJ, Vos T, Lozano R, Naghavi M, Flaxman AD, Michaud C, Ezzati M, Shibuya K, Salomon JA, Abdalla S, Aboyans V, **Abraham JP**, et al. Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. The Lancet. 2012 Dec; 380(9859): 2197-223. Cited in PubMed; PMID: 23245608. Publication Status: Published.

8. Ubeda C, Espitia-Hardeman V, Bhalla K, Borse NN, **Abraham JP**, Dellinger A, Ferrante D, Peltzer R. National burden of road traffic injuries in Argentina. International Journal of Injury Control & Safety Promotion. 2011 Jun; 19(1): 9-18. Cited in PubMed; PMID: 21660797. Publication Status: Published.

9. Lozano R, Naghavi M, Foreman K, Lim S, Shibuya K, Aboyans V, **Abraham JP**, et al.. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010. The Lancet. 2012 Dec; 380(9859): 2095-128. Cited in PubMed; PMID: 23245604. Publication Status: Published.

10. Murray, CJL; Aboyans V; **Abraham JP**; et al.. The Global Burden of Disease Study 2010 Country Results: A Global Public Good. The Lancet. 2013 Mar; 381(9871): 965-970. Publication Status: Published.

11. Murray, CJL; **AbrahamJP**; et al.. The State of US Health, 1990-2010: Burden of Diseases, Injuries and Risk Factors. JAMA. 2013 Aug; 310(6): 591-608. Cited in PubMed; PMID: 23842577. Publication Status: Published.

Research Papers & White Papers (Non-Peer Reviewed):

1. **Abraham JP. "**Ethnobotanical Uses of Medicinal Plants by Shamans in the Amazon Rainforest." Senior Thesis, Emory University. Publication Status: Published. May 1, 2005.

2. **Abraham JP.** "Multivariate Analysis of Restraint Use & Injury Severity in Older Child Passengers." Master's Thesis, Emory University. Publication Status: Published. August 1, 2007.

3. **Abraham JP**, Yeh PH, Leykum L, Ratner A. Health Care Payment Reform in Bexar County. manuscript prepared and submitted to various journals for review. Publication Status: Pending. August 16, 2011.

4. **Abraham JP.** LGBT Medical Education Curriculum Development Resource Guide. submitted to the Curriculum Committee, The University of Texas School of Medicine (San Antonio). Publication Status: Published. October 27, 2011.

5. **Abraham JP**. Medical School Grade Reform: A Literature Review. Submitted to the Curriculum Committee, University of Texas School of Medicine (San Antonio). Publication Status: Published. December 9, 2011.

6. **Abraham JP**, et al.. The Annual Student Report: Findings & Recommendations of the Student Concerns Survey. https://docs.google.com/document/d/1MvBM3VbD1NynX0gWn3MHDhDhYCCfXKRLoxnorutRCjE/. February 15. 2012.

7. Yu, A; **Abraham JP** ; Porter, A; Moore, N; Askin, E; Leykum, L. "Student-driven curricula on health care delivery, policy & economics." AAMC Academic Medicine (manuscript submitted). Publication Status: Published. February 1, 2013.

8. **Abraham JP**, Mitchell J, McAuthor R, Uzoije P, Trimm RF. Achieving NCQA-PCMH Recognition: Challenges for Federally Qualified Health Centers (FQHCs). General Electric-National Medical Fellowship Annual Report. 2013 Sep; Publication Status: Submitted.

Other Articles, Editorials, Letters to the Editor:

1. **Abraham, JP**. (2005, May 1). Ethnobotanical Uses of Medicinal Plants by Shamans in the Amazon Rainforest. Senior Thesis, Emory University. Publication Status: Published.

2. **Abraham, JP**. (2007, August 1). Multivariate Analysis of Restraint Use & Injury Severity in Older Child Passengers. Master's Thesis, Emory University. Publication Status: Published.

3. **Abraham JP**, Yeh PH, Leykum L, Ratner A. (2011, August 16). Health Care Payment Reform in Bexar County. manuscript prepared and submitted to various journals for review. Publication Status: Pending.

4. **Abraham, JP**. (2011, October 27). LGBT Medical Education Curriculum Development Resource Guide. submitted to the Curriculum Committee, The University of Texas School of Medicine (San Antonio). Publication Status: Published.

5. **Abraham, JP**. (2011, December 9). Medical School Grade Reform: A Literature Review. Submitted to the Curriculum Committee, University of Texas School of Medicine (San Antonio). Publication Status: Published.

6. Yu, A; **Abraham, JP**; Porter, A; Moore, N; Askin, E; Leykum, L. (2013, February 1). Student-driven curricula on health care delivery, policy & economics. AAMC Academic Medicine (manuscript submitted). Publication Status: Published.

Research Poster Presentations:

1. **Abraham JP**, Bartolomeos K, de Silva C, Zacharias F, Zacharias E, Bhalla K. (2010). Estimating the Burden of Injuries in Mozambique. Poster presented at: World Injury Conference; London, United Kingdom.

2. Bhalla K, **Abraham JP**, Abdalla S. (2010). Analytical Methods for Common Types of Data Sources in sub-Saharan Africa. Poster presented at: World Injury Conference; London, United Kingdom.

3. Eze U, Abdalla S, Abdella K, Koranteng A, Mtonga R, Bartolomeos K, **Abraham JP**, Bhalla K. (2010). Injuries in Nigeria, Sudan, Ethiopia,Ghana, Uganda, Zambia and Mozambique. Poster presented at: World Injury Conference; London, United Kingdom.

4. **Abraham JP**, Minard J, Alonzo C, Clifton N, Reece-Nguyen T, Esterl R, Jackson J, Shibazaki K, Klugman C. (2012). Creating a SAFE SPACE for LGBTQ+ Medical Students & Residents in Texas - A Community Service Learning Project. Poster Presentation presented at: AMSA Empowering Future Physicians Conference; San Antonio, TX.

5. **Abraham JP**, Guzman J, Hobza C, Kapudia A, McLeod C, Berggren R, Stone, M. (2014). Access Care Texas: Getting our ACT Together for Health. Poster presented at: Community Service Learning CSL Conference 2014. University of Texas School of Medicine. San Antonio, TX.

6. **Abraham JP**, Hobza C, Hotchkin S, Jackson J, Berggren R, Stone, M. (2014). ACT Together for Health: Developing an Effective Public Health Communications & Messaging Strategy. Poster presented at: Community Service Learning CSL Conference 2014. University of Texas School of Medicine. San Antonio, TX.

7. **Abraham JP**, Guzman J, Hobza C, Breier L, Castle C, Ferris J, Field C, Flores V, Jensen S, Kapudia A, McLeod C, Koch K, Lomeli S, Lucio S, Mandujano S, Mark A, Oloba P, Richardson A, Riniker K, Sarmiento J, Shaw L, Villanueva G, Wasson E, Zubour R, Berggren R, Stone, M. (2014). ACT Together for Health: Grassroots Organizing Ethical Principles. Poster presented at: Community Service Learning CSL Conference 2014. University of Texas School of Medicine. San Antonio, TX.

8. **Abraham JP**. (2014). Creating a Quality Improvement & Patient Safety Committee for Interns and Residents. Poster presented at: CIR/SEIU Quality Improvement + Patient Safety 2nd Annual Summit. Los Angeles, CA.

9. **Abraham JP**. (2015). Medical Quality Opportunities for Medical Students and Residents. Poster presented at: ACMQ West Coast Quality Improvement Symposium. University of Southern California. Los Angeles, CA.

10. **Abraham JP**, Aribindi V, Brodie B, Hall J, Huang D, Jerdonek A, Lee P, Nicewarner H, Robinson R, Wegman M, Wen T. (2015). Review of Medical Quality Opportunities for Physicians-in-Training. Poster presented at: Medical Quality 2015, Washington, DC.

Research Oral Presentations:

1. Rosenberg M, Hayes E, Kluglein S, **Abraham JP**. (2007). Closing the Gap in Road Safety. Oral Presentation presented at: 2nd UNStakeholders Forum on Global Road Safety, UN Palais des Nations.; Geneva, Switzerland.

2. **Abraham JP**. (2008). Multivariate Analysis of Restraint Use & Injury Severity in Older Child Passengers. Oral Presentation presented at: American Public Health Association; San Diego, CA.

3. Bhalla K, Koranteng A, Abdalla S, Abdella K, Eze U, Mtonga R, **Abraham JP**. (2010). Architecture of Data Sources for Measuring Injuries in Africa. Oral Presentation presented at: World Injury Conference; London, United Kingdom.

4. **Abraham JP**. (2011). Policy Writing 101 for International Medical Students. Oral Presentation presented at: International Federation of Medical Student Associations IFMSA August Meeting of the General Assembly. Copenhagen, Denmark.

5. **Abraham JP**, Porter A, Bready L. (2011). Graduate Medical Education Funding Crisis. Oral Presentation presented at: AAMC & AMSA:GME Funding Crisis Town Hall; San Antonio, TX.

6. **Abraham JP**. (2012). Developing an IFMSA Policy Statement on the Decade of Action for Global Road Safety. Oral Presentation presented at: International Federation of Medical Student Associations IFMSA August Meeting of the General Assembly. Delhi, India.

7. **Abraham JP**, Real E, Gardner D, Rhodes D, Fowler A, Young V, Kelly P, Riniker K, Berggren R, Flores I. (2012). Meeting the Social Mission: Health Science Education Through Community Collaborations. Oral Presentation presented at: Community Service Learning Conference; San Antonio, TX.

8. **Abraham JP**, Minard J, Alonzo C, Clifton N, Reece-Nguyen T, Esterl R, Jackson J, Shibazaki K, Klugman C. (2012). SAFE SPACE, A Community Service Learning Project. Oral Presentation presented at: AMSA Empowering Future Physicians Conference; San Antonio, TX.

9. **Abraham JP**. (2012). Medical Education Curriculum Reform. Oral Presentation presented at AMSA Empowering Future Physicians Conference. San Antonio, TX.

10. **Abraham JP**. (2012). The Future of Primary Care. Oral Presentation presented at AMSA Empowering Future Physicians Conference. San Antonio, TX.

11. **Abraham JP**. (2012). Professional Development for Pre-Medical Students. Oral Presentation presented at AMSA Empowering Future Physicians Conference. San Antonio, TX.

12. **Abraham JP.** (2013). Achieving NCQA PCMH Status: Challenges for FQHCs on the Gulf Coast. Oral Presentation presented at: GE-NMF Primary Care Leadership Program Research Symposium; Mobile, AL.

13. **Abraham JP**. (2014). OUT for Health: Creating a LGBTQ+ Network for Texas Medical Schools. Oral Presentation presented at: AMSA Empowering Future Physicians Fall Conference. San Antonio, TX.

14. **Abraham JP**, Holly J. Recognition & Accreditation Are Good, But PCMH Culture is King. (2015). Oral Presentation presented at: 7th National Patient-Centered Medical Home Summit; Philadelphia, PA.

Peer Reviewed Online Publication:

1. World Health Organization. (2009, November 19). Global Status Report on Road Safety: Time for Action.http://whqlibdoc.who.int/publications/2009/9789241563840_eng.pdf, Publication Status: Published.

Non-Peer Reviewed Online Publication:

1. **Abraham JP**, et al.. (2012, February 15). The Annual Student Report: Findings & Recommendations of the Student Concerns Survey. https://docs.google.com/document/d/1MvBM3VbD1NynX0gWn3MHDhDhYCCfXKRLoxnoru

Peer Reviewed Book Chapters:

1. Bhalla K, Shahraz S, **Abraham JP**, Bartels D, Yeh PH. (2011). Methods, Data Sources and Estimates of the National Incidence of Road
Injuries. In Bhalla K (Ed.), Road Injuries in 18 Countries (pp. 1-100). Washington, DC: The World Bank.

2. Bhalla, K; Harrison, J; Shahraz, S; **Abraham, JP**; Bartels, D; Yeh PH; Naghavi, M; Lozano, R; Vos, T; Phillips, D; Chou, D; Wurtz, B;
Gonzalez-Medina, D; Murray CJL. (2013). Data Sources, Methods, and Estimates of the National Incidence of Road Injuries. In Bhalla, K
(Ed.), Burden of Road Injuries in sub-Saharan Africa (pp. 7-94). Washington, DC: The World Bank.

3. Rosenberg M, Hayes E, **Abraham JP**. (2006). Making Roads Safe in Latin America and the Caribbean. In Rosenberg M (Ed.), Making Roads Safe (pp. 1-100). Atlanta, Georgia: The World Bank.

LECTURES AND PRESENTATIONS GIVEN

1. "CIR/SEIU 2nd Annual Quality Improvement & Patient Safety Summit Committee of Interns & Residents CIR." Los Angeles Athletic Club LAAC, Los Angeles, CA. September 27, 2014.

2. "Morbidity & Mortality Report: Code Status Miscommunication & Advance Care Planning." USC Family Medicine Residency Program at Dignity Health - California Hospital, Los Angeles, CA. November 14, 2014.

3. "University of Southern California Quality Improvement Symposium" University of California Keck School of Medicine, Los Angeles, CA. January 10, 2015.

4. "Improving Patient Safety in Graduate Medical Education: Providing Resident Physicians Adequate Supervision & Training." University of Southern California Family Medicine Residency Program at Dignity Health California Hospital, Los Angeles, CA. June 19, 2015.

5. "Strategies for Increasing Underrepresented Minorities in the Health Professions." Community Mental Health Center. University of Southern California Family Medicine Pathways Pipeline Program, Los Angeles, CA. August 11, 2015.

6. “Morbidity & Mortality Report: Delay of Care of Chronic Kidney Disease Resulting in End-Stage Renal Disease.” University of Southern California Family Medicine Residency Program at Dignity Health California Hospital, Los Angeles, CA. October 21, 2015.

7. “Creating a Los Angeles Consortium for Health Careers Pipelines Program.” Facilitator, California Medical Association Foundation (CMAF), Los Angeles, CA. March 3, 2016.

8. “Journal Club: Adverse Effects of Proton Pump Inhibitors.” University of Southern California Family Medicine Residency Program at Dignity Health California Hospital, Los Angeles, CA. August 2, 2016.

9. “Medicare Access & Children’s Health Insurance Program Reauthorization Act (MARCA): MARCA Rules, Sustained Growth Rate (SGR) is dead.” Medical Staff, Dignity Health California Hospital Medical Center, Los Angeles, CA. October 15, 2016.

10. “Gun Violence as A Public Health Crisis: How Research Informs Public Policy.” Moderator, American Medical Association Interim Meeting of the House of Delegates, Orlando, FL. November 11, 2016.

11. “Treating Violence like a Contagious Disease: Gun Violence as a Public Health Crisis.” Facilitator, American Medical Association Interim Meeting of the House of Delegates, Orlando, FL. November 12, 2016.

12. “Putting Gun Violence in Context: What Do We Know? What Can Physicians Do?” Facilitator, American Medical Association Interim Meeting of the House of Delegates, Orlando, FL. November 12, 2016.

13. “Morbidity & Mortality Report: Undiagnosed Pre-Eclampsia.” University of Southern California Family Medicine Residency Program at Dignity Health California Hospital, Los Angeles, CA. December 11, 2016.

14. “Careers in Primary Care Panel Discussion.” University of Southern California Primary Care Physician Assistant Pipeline Program, Los Angeles, CA. May 06, 2017.

15. “Achieving Health Equity in America: Looking Back and Moving Forward with Health Reform.” Facilitator, American Medical Association Interim Meeting of the House of Delegates, Orlando, FL. June 09, 2017.

16. “Introduction to Organized Medicine.” Medical Student Body, University of Southern California, Keck School of Medicine, Los Angeles, CA. November 07, 2017.

17. “Introduction to Organized Medicine.” Medical Student Body, College of Osteopathic Medicine, Western University, Pomona, CA. January 29, 2018.

18. “Primary Care & Underserved Populations: Challenges & Opportunities.” Family Medicine Interest Group (FMIG), University of Southern California, Keck School of Medicine, Los Angeles, CA. April 09, 2018.

19. “Improving the Health of Individuals Released from Incarceration.” Panelist, Los Angeles County Department of Healthcare Services (DHS) & Los Angeles Care, Los Angeles, CA. April 24, 2018.

20. “Kaiser Permanente Introduction to Health Policy & Organized Medicine.” Kaiser Permanente Community Medicine Fellowship, Los Angeles, CA. May 4, 2018.

21. “Dementia & Mental Health: A Primary Care Perspective.” Los Angeles Urban League Guild, Los Angeles, CA. May 19, 2018.

22. “An Introduction to Health Policy: Medical Quality & Public Health.” Psychiatry & Family Medicine Resident Orientation, Charles Drew University, Los Angeles, CA. July 6, 2018.

23. “Network Building & Social Capital in Primary Care.” Primary Care Leadership Program Learning Day, National Medical Fellowships (NMF), Altamed, Los Angeles, CA. July 18, 2018.

24. “Research & Scholarly Activity Reactor Panel.” Primary Care Leaderships Program, National Medical Fellowships, Altamed, Los Angeles, CA. July 26, 2018.

25. “Primary Care for Vulnerable Patients with Chronic Pain.” Los Angeles CARE Physician Leadership Program, Los Angeles, CA. August 8, 2018.

26. “Introduction to Careers in Primary Care.” University of Southern California Primary Care Physician Assistant Pipeline Program, Los Angeles, CA. May 11, 2019.

27. “Kaiser Permanente Introduction to Health Policy & Organized Medicine.” Kaiser Permanente Community Medicine Fellowship, Los Angeles, CA. May 13, 2019.

28. “Careers in Primary Care.” Primary Care Leadership Program, National Medical Fellowships (NMF), Altamed, Los Angeles, CA. July 26, 2019.

29. “COVID-19 Legislative Briefing for Assembly District 64.” Assemblymember Mike Gipson, AD64, Los Angeles, CA. March 30, 2020.

30. “COVID-19 Town Hall for Assembly District 58.” Assemblymember Cristina Garcia, AD58, Los Angeles, CA. March 31, 2020.

31. “Telemedicine in the Time of Coronavirus.” Grand Rounds, Good Samaritan Hospital, Los Angeles, CA. April 8, 2020.

32. “COVID-19 Town Hall for Assembly District 55.” California State Assembly, Los Angeles, CA. May 20, 2020.

33. “COVID-19 Healthcare Roundtable.” Tri Counties Democratic Club, Los Angeles, CA. June 4, 2020.

34. “Soul Talk with the CDP African-American Caucus.” California Democratic Party, Los Angeles, CA. June 13, 2020.

35. “Strengthening our Communities: A Virtual Town hall on Racial Justice.” Congressmember Karen Bass, Lucille Roybal-Allard, & Judy Chu, Los Angeles, CA. June 24, 2020.

36. “Mental Health and COVID-19: Eliminate Disparities.” Los Angeles, CA. July 18, 2020.

37. “Trauma Informed Care in the Medical Home, A Population Based Approach to Caring for Communities in the Context of COVID-19.” LA Care Conferencing, Los Angeles, CA. July 21, 2020.

38. “Immunity and Scope of Practice Issues During COVID-19.” Cooperative of American Physicians, Los Angeles, CA. July 22, 2020.

39. “Resilience Session - The Behavioral Health Impacts of COVID-19” Health Homes Program, Los Angeles, CA. July 24, 2020.

40. “Courageous Conversations II for AMA Ambassadors.” American Medical Association, Los Angeles, CA. July 26, 2020.

41. “LGBTAA: Queer & Now Panel Discussion.” Gay, Lesbian & Straight Education Network, Los Angeles, CA. July 29, 2020.

42. “COVID-19 Vaccines and Treatments: An Inside Look at What Lies Ahead.” Aspen Ideas: Health & Mount Sinai Health System, Los Angeles, CA. September 10, 2020.

43. “LGBTQ Professionals in Healthcare - Guided Networking.” Out Professionals, Los Angeles, CA. September 10, 2020.
44. “The Twindemic - Planning for the Influenza Season During COVID-19.” Afternoon Teach, Los Angeles, CA. September 16, 2020.

45. “Advancing the Response to COVID-19: Sharing Promising Programs and Practices for Racial and Ethnic Minority Communities.” Human Health Services Office of Minority Health, Los Angeles, CA. September 17, 2020.

46. “Residency Application Process: Current Challenges and Potential Solutions.” American Medical Association, Los Angeles, CA. September 28, 2020.

47. “Misinformation and Mistrust: COVID-19 Conversations on Race and Gender Equity.” Duke University Clinical & Translational Science Institute CTSI and Social Science Research Institute SSRI, Los Angeles, CA. October 2, 2020.

48. “The 2020 Election: LGBTQ Electeds, the LGBTQ Vote, and the Future of LGBTQ Rights.” The University of California, Los Angeles, Los Angeles, CA. November 10, 2020.

49. “LA County Commission on HIV Annual Meeting.” Los Angeles County Board of Supervisors, Los Angeles, CA. November 12, 2020.

50. “Policy Cafe, No Going Back: Charting a Path Toward an Equitable LA.” Community Clinics Association of Los Angeles County CCALAC, Los Angeles, CA. November 13, 2020.

51. “When Two Pandemics Meet: HIV and COVID-19 in the Hispanic LGBTQ Community.” National Hispanic Medical Association NHMA, Los Angeles, CA. December 1, 2020.

52. “The National COVID-19 Surge and Hope for 2021.” Grand Rounds, Los Angeles, CA. December 8, 2020.

53. “Health + Justice: Inequities in the COVID-19 Vaccine Rollout.” Los Angeles, CA. February 24, 2021.

54. “IMMAWII Covid 19 Panel.” I’ll Make Me a World in Iowa, Los Angeles, CA. February 27, 2021.

55. “Black/African American COVID-19 Media Briefing.” The LAGRANT Foundation, Los Angeles, CA. March 8, 2021.

56. “A Gathering of Faiths and Government: COVID 19 The Vaccine & Lessons Learned.” The City of Los Angeles, Los Angeles, CA. March 11, 2021

57. “COVID-19 Vaccine Eligibility Guidance for People Experiencing Homelessness.” California Department of Housing & Community Development, March 19, 2021.

58. “California Virtual Town Hall: COVID-19 Update.” Los Angeles County Department of Public Health LACDPH, Los Angeles, CA. March 20, 2021.

59. “COVID-19 Lectures.” Medical Education Speakers Network MESN, Los Angeles, CA. April 9, 2021.

60. “Shot of Faith: Town Hall.” Genesis Church, Los Angeles, CA. April 10, 2021.

61. “Shot of Faith Town Hall.” First Church of God Center of Hope, Los Angeles, CA. April 13, 2021.

62. “Public Health & Practice Perspectives on Equity.” LA Care Conferencing Learning & Development Training, Los Angeles, CA. April 15, 2021.

63. “Shot of Faith Town Hall.” California State Baptist Convention, Los Angeles, CA. April 16, 2021.

64. “Shot of Faith Interview.” LA Focus, Los Angeles, CA. April 19, 2021.

65. “Shot of Faith Town Hall.” Calvary Baptist Church, Los Angeles, CA. April 21, 2021.

66. “Coming Out of Quarantine Town Hall.” American Associates of Family Medicine AAFM, Los Angeles, CA. April 25, 2021.

67. “Shot of Faith Town Hall.” Mt. Zion Baptist Church, Los Angeles, CA. April 28, 2021.

68. “California Democratic Party CDP Convention Presentation on MICRA and FIPA.” California Democratic Party CDP, Los Angeles, CA. March 4, 2022

69. “Shot of Faith Town Hall.” LoveLand Church, Los Angeles, CA. May 5, 2021.

70. “Shot of Faith Town Hall. “Faithful Central, Los Angeles, CA. May 10, 2021.

71. ”Shot of Faith, Town Hall.” Greater St. John, Los Angeles, CA. May 12, 2021.

72. “Telemedicine Lectures.” Medical Education Speakers Network MESN, Los Angeles, CA. May 14, 2021.

73. “Coming Out of Quarantine...A Town Hall for Our Community and our Seniors.” African American Firefighter Museum, Los Angeles, CA. May 16, 2021.

74. “Government Accountability Office GAO Annual Meeting.” United States Government Accountability Office, Los Angeles, CA. May 18, 2021.

75. “UCSD School of Medicine ANES 223 Spr 2021 Health Policy Course.” The University of California, San Diego, San Diego, CA. May 17, 2021.

76. “AD55 COVID-19 Town Hall.” Mayor Rodriguez, Walnut Hill, CA. May 20, 2021.

77. “COVID-19 Vaccine Update from the Frontlines.” Charles R. Drew University Medical Society, Los Angeles, CA. May 20, 2021.

78. “USC Public Health Practicum Experience.” The University of Southern California, Los Angeles, CA. May 21, 2021.

79. “NMA Regional Conference.” National Medical Association, Los Angeles, CA. May 21, 2021.

80. “COVID-19 Community Leadership Summit.” The University of California, Los Angeles, Charles R. Drew University of Medicine, & The California Community Foundation, Los Angeles, CA. May 21, 2021.

81. “South Asian LGBTQ Mental Health.” Los Angeles, CA. May 23, 2021.

82. “Health Literacy Conference 2021 Keynote Address Panel.” Integrated Healthcare Association, Los Angeles, CA. May 25, 2021.

83. “Shot of Faith Town Hall.” New Mt. Calvary, Los Angeles, CA. May 25, 2021.

84. "Telemedicine Lectures.” Medical Education Speakers Network MESN, Los Angeles, CA. May 28, 2021.

85. “If It Were Your Family What Would You Want? A Balanced and Informed Approach to Reinstating Family Presence.” Planetree International & American Nurses Foundation, Los Angeles, CA. June 2, 2021.

86. “Healthcare Roundtable on COVID-19.” Tri-Counties Democratic Club, Los Angeles, CA. Jun 4, 2021

87. “AMA Plenary Session: Transforming health care for a post-pandemic world.” American Medical Association AMA, Los Angeles, CA. June 5, 2021.

88. “Shot of Faith Town Hall.” The Way Christian Center, Los Angeles, CA. June 7, 2021.

89. “Shot of Faith Town Hall.” Friendship Baptist Church, Los Angeles, CA. June 8, 2021.

90. “Leadership in Action Case Study: Kedren Community Health Center.” Bay Area Health Equity Speaker Series, Los Angeles, CA. June 15, 2021.

91. ”Shot of Faith Town Hall.” New Mt. Pleasant Church, Los Angeles, CA. June 17, 2021.

92. “Black and African American Statewide Media Briefing.” California Department of Public Health CDPH, Los Angeles, CA. June 17, 2021.

93. “COVID-19 and its Exacerbation of Health Inequities.” The University of Southern California & The Public Policy Institute, Los Angeles, CA. June 18, 2021.

94. “COVID-19 in Los Angeles Discussion Forum.” The University of Southern California Gher Family Center for Health System Science and Innovation, Los Angeles, CA. June 18, 2021.

95. “Shot of Faith Town Hall.” Future Community Church, Los Angeles, CA. June 22, 2021.

96. “Shot of Faith Town Hall.” Ebenezer Missionary Baptist Church, Los Angeles, CA. June 27, 2021.

97. “Shot of Faith Town Hall.” Mount Calvary Church, Los Angeles, CA. June 29, 2021.

98. “Shot of Faith Town Hall.” West Side Church of God & Fresno Churches, Los Angeles, CA. June 29, 2021.

99. “Shot of Faith Town Hall.” New Mt. Pleasant Church, Los Angeles, CA. July 1, 2021.

100. “Shot of Faith Town Hall.” Genesis Church, Los Angeles, CA. July 6, 2021.

101. “Shot of Faith Town Hall.” California Christian Center of LA, Los Angeles, CA. July 7, 2021.

102. "Shot of Faith Town Hall" True Faith Missionary Baptist Church, Los Angeles, CA. July 13, 2021.

103. "Shot of Faith Town Hall." Gracepointe Faith Church, Emmanuel Temple Apostolic Church, & The Well Ministries International, Los Angeles, CA. July 19, 2021.

104. "NAACP Statewide Press Conference." National Association for the Advancement of Colored People, Los Angeles, CA. July 24, 2021.

105. "A Conversation w/ Dr. Abraham on the COVID-19 Frontlines (Addressing Vaccine Hesitancy)." WebMD, Los Angeles, CA. July 27, 2021.

106. "Planning for Fall: Pediatric Immunizations and the California COVID-19 Vaccination Program." California Department of Public Health CDPH, Los Angeles, CA. July 28, 2021.

107. "CA Safe Schools For All Health Panels - Central Valley/Sacramento." California Department of Public Health, CPDH, Los Angeles, CA. July 28, 2021.

108. "CA Safe Schools For All Health Panels - Los Angeles." California Department of Public Health, CPDH, Los Angeles, CA. July 29, 2021.

109. "CA Safe Schools For All Health Panels - Los Angeles." California Department of Public Health, CPDH, Los Angeles, CA. August 5, 2021.

110. "An Expert Witness, Public Health Hearing on COVID-19." Los Angeles County Board of Supervisors, Los Angeles, CA. August 11, 2021.

111. "COVID-19 Vaccines for Foster Families." Allies for Every Child, Los Angeles, CA. August 10, 2021.

112. "Board District 7 Meeting." Los Angeles Unified School District LAUSD, Los Angeles, CA. August 11, 2021.

113. "Town Hall." Assemblymember Jones Sawyer, Los Angeles, CA. August 12, 2021.

114. "Town Hall." Black Health Trust, Los Angeles, CA. August 22, 2021.

115. "Gardena Jazz Festival." The City of Gardena, Los Angeles, CA. August 22, 2021.

116. "COVID-19 Update." Baptist Ministers Conference, Los Angeles, CA. August 23, 2021.

117. "COVID-19 Update with LA City Controller Ron Galperin." The City of Los Angeles, Los Angeles, CA. August 25, 2021.

118. "LA Civil & Human Rights & Equity Office Grand Opening & Press Conference." The Los Angeles Civil & Human Rights & Equity Office, Los Angeles, CA. September 13, 2021.

119. “KJLH Panel Discussion: Take a Shot!” Kindness, Joy, Love, & Happiness Radio KJLH, Los Angeles, CA. September 15, 2021.

120. “Healing Together.” Black Vax, Los Angeles, CA. September 15, 2021.

121. “AAFP Vaccine Hesitancy CME.” American Academy of Family Physicians AAFP, Los Angeles, CA. October 13, 2021.

122. “PCE Live Webinar - Post COVID Care.” LA Care Conferencing, Los Angeles, CA. August 12, 2021.

123. “Board District 7 Meeting” Los Angeles Unified School District LAUSD, Los Angeles, CA. August 12, 2021.

124. “COVID-19 Townhall for Sheet Metal Cutters & Welders.” Paramount Medals, Los Angeles, CA. August 13, 2021.

125. “COVID-19 Town Hall.” Verbum Dei High School, Los Angeles, CA. August 16, 2021.

126. “CCALAC Policy Cafe, Pandemic Pivot: Regaining Lost Ground on LA’s Invisible Epidemics.” Community Clinics Association of Los Angeles County CCALAC, Los Angeles, CA. September 17, 2021.

127. “CMA President-Elect Candidate Forum on the Climate Crisis.” California Medical Association CMA, Los Angeles, CA. September 17, 2021.

128. “SoCal AME Conference - 5th District Meeting.” African Methodist Episcopal Church, Los Angeles, CA. September 19, 2021.

129. “To Vaccinate or Not?! A Public Debate.” Black Vax, Los Angeles, CA. September 19, 2021.

130. “CHW Certification Speaker.” Iowa Chronic Care Consortium, Los Angeles, CA. September 22, 2021.

131. “State of the City Forum.” St John's Cathedral, Los Angeles, CA. September 22, 2021.

132. “COVID-19 Town Hall.” Safe Place for Youth, Los Angeles, CA. September 23, 2021.

133. “Dispelling Myths About the COVID-19 Vaccine.” The University of Southern California, Los Angeles Geffen School of Medicine, Los Angeles, CA. September 28, 2021.

134. “Town Hall.” Rivera Community of Schools, Los Angeles, CA. September 28, 2021.

135. “Town Hall for COVID-19 Booster Shot for Age 65+ and High-Risk Individuals.” California Department of Public Health CDPH, Los Angeles, CA. September 29, 2021.

136. “Town hall.” Rivera Community of Schools, Los Angeles, CA. September 29, 2021.

137. “Town Hall.” Carson Community of Schools, Los Angeles, CA. September 29, 2021.

138. “Town Hall ” Wilmington Community of Schools, Los Angeles, CA. September 30, 2021.

139. “Town hall.” San Pedro Community of Schools, Los Angeles, CA. September 30, 2021.

140. “Town Hall on Racism & Health Equity.” California Medical Association CMA, Los Angeles, CA. September 30, 2021.

141. **“**Interview w/ LA Focus Editor Ms. Lisa Collins.” A Shot of Faith Campaign, Los Angeles, CA. October 1, 2021.

142. “BD7 Conversation: Student Vaccine Mandate.” Los Angeles Unified School District LAUSD, Los Angeles, CA. October 6, 2021.

143. “Physicians for a Healthy California NEPO Summit 2021.” California Medical Association CMA, Los Angeles, CA. October 8, 2021.

144. “Faith Leader Town Hall on COVID-19 Vaccines.” Los Angeles Unified School District, Los Angeles, CA. Oct 10, 2021.

145. “COVID Vaccination Town Hall.” Fremont Community of Schools, Los Angeles, CA. October 14, 2021.

146. “Johnson & Johnson A Conversation on Racial Health Disparities Series” Johnson & Johnson, Los Angeles, CA. October 15, 2021.

147. “USC CVN Presentation - South Los Angeles.” The University of Southern California, Los Angeles, CA. October 16, 2021.

148. “Panel Session 1: Optimizing Health Service Delivery through Innovation and Technology.” International Association of Providers of AIDS Care Los Angeles, CA. October 20, 2021.

149. “Eritrea Conference.” Los Angeles, CA. October 24, 2021.

150. “School Parent Education on Vaccinations Town Hall.” Friends of GALA - Los Angeles Unified School District LAUSD, Los Angeles, CA. October 25, 2021

151. “Community Partner Meeting Update on COVID-19 Vaccinations.” BIG:LEAP, Los Angeles, CA.October 27, 2021

152. “CMA Physicians Depoliticizing Climate: A Conversation.” California Medical Association CMA, Los Angeles, CA. October 28, 2021.

153. **"**Parent Town Hall Meeting - Spanish." Camino Nuevo Charter Academy, Los Angeles, CA. November 2, 2021.

154. "LAUSD Vaccine Presentation." Los Angeles Unified School District LAUSD, Los Angeles, CA. November 4, 2021.

155. "Town Hall." Wilmington Community of Schools, Los Angeles, CA. November 4, 2021.

156. "COVID Conversations #9: COVID 19 Vaccines 5- 11 Year Olds." California Immunization Coalition, Los Angeles, CA. November 4, 2021.

157. "LAUSD Vaccination Presentation." Los Angeles Unified School District LAUSD, Los Angeles, CA. November 5, 2021.

158. "Plenary Session on COVID-19 & Health Equity w/ Dr. Peter Hotez." American Medical Association AMA, Los Angeles, CA. November 6, 2021.

159. "Science and Storytelling: Making Physicians' Voices the Loudest in the Room." American Medical Association AMA, Los Angeles, CA. November 6, 2021.

160. "COVID-19 Town Hall Meeting." ISANA Academies, Los Angeles, CA. November 8, 2021.

161. "COVID-19 Frontline Series: A Light in the Darkness: New Virus-neutralizing Monoclonal Antibodies and Other Speaker, Point-of-Care Therapies Recently Granted Emergency Use Authorization for Patients with COVID-19." Med Learning Group, Los Angeles, CA. November 9, 2021.

162. "LAUSD Vaccination Presentation." Los Angeles Unified School District, Los Angeles, CA. November 9, 2021.

163. "How to Talk to Parents about COVID-19 Vaccination for Children." United States Department of Health and Human Services HHS, Los Angeles, CA. November 10, 2021.

164. "COVID-19 Vaccines Presentation." Pilgrim School, Los Angeles, CA. November 10, 2021.

165. "Decarbonizing the Health Sector and Building Climate Resilience." National Academy of Medicine NAM, Los Angeles, CA. November 11, 2021.

166. "Town Hall on COVID-19." Los Angeles County, Los Angeles, CA. November 18, 2021.

167. "Advancing Equity: Healthcare Barriers for Gender-Diverse Populations." Centene, Los Angeles, CA. November 19, 2021.

168. "Shot of Faith Town Hall." Cain Memorial AME, Los Angeles, CA. November 23, 2021.

169. “LAUSD Fall LEA Collaborative Meeting.” Los Angeles Unified School District LAUSD, Los Angeles, CA. November 29, 2021.

170. “Town Hall.” Wilmington Community of Schools, Los Angeles, CA. December 16, 2021.

171. “Living in a Post-COVID World: Where Are We Going? What's Your Plan?” Black Health Trust, Los Angeles, CA. January 9, 2022.

172. “ COVID Update.” California Missionary Baptist State Convention, Los Angeles, CA. January 26, 2022.

173. “Black History Month Event.” L.A. Care, Los Angeles, CA. February 3, 2022.

174. “Revolutionizing Access to Care in the Black Community.” LA Care Health Plan, Los Angeles, CA. February 3, 2022.

175. “Roundtable on COVID-19.” Black & African-American Media, Los Angeles, CA. February 22, 2022.

176. “The Ellen Show.” The Ellen Show, Los Angeles, CA. March 8, 2022.

177. “Fireside Chat with Revry: Emerging Diverse Founders & Leaders.” Gaingels LA, Los Angeles, CA. March 9, 2022.

178. ”Councilor Curren Price Campaign Launch.” LA City Council Councilor Curren Price, Los Angeles, CA. March 22, 2022.

179. “Fostering Well-being through Connection and Communication.” American Medical Association AMA, Los Angeles, CA. March 29, 2022.

180. “Councilor Curren Price Event.” LA City Council Councilor Curren Price, Los Angeles, CA. April 1, 2022.

181. “Story of Us.” Climate Health Now, Los Angeles, CA. April 13, 2022.

182. “COVID-19: Who Have We Left Behind? And What Have We Left Behind?” American Association of Family Physicians AAFP, Los Angeles, CA. April 20, 2022.

183. “Brothers, Can We Talk? A Community Conversation and Wellness Event for Black Men.”California Department of Public Health CDPH, Los Angeles, CA. April 24, 2022.

184. “CDU Community Forum - April 2022.”Charles R. Drew University of Medicine, Los Angeles, CA. April 26, 2022.

185. ”Back to the Basics: Talking with Patients about COVID-19 Vaccines.” #ThisISOurShot, Los Angeles, CA. May 5, 2022

186. “MICRA Modernization Presentation.”Los Angeles County Medical Association LACMA, Los Angeles, CA. May 5, 2022

187. ”Gender Affirming Community of Practice.” Denver Prevention Training Center, Los Angeles, CA. May 10, 2022.

188. ”UCLA Research Day Keynote Address – Democratization of Health.” The University of California, Los Angeles Geffen School of Medicine, Los Angeles, CA. May 11, 2022.

189. ”38th Annual UCLA-Affiliated Multi-Campus Family Medicine Research Day.” The University of California, Los Angeles Geffen School of Medicine, Los Angeles, CA. May 11, 2022.

190. “Lifesaving COVID-19 Antiviral Treatments” Charles R. Drew University School of Medicine, Los Angeles, CA. May 18, 2022.

191. ”CDU WIP featuring Dr. Angela Venegas-Murillo and Dr. Dilara Üsküp.” Charles R. Drew University School of Medicine, Los Angeles, CA. May 18, 2022.

192. ”KJLH Women's Health Symposium (Panel Discussion and Breakout Session.” Kindness, Joy, Love, & Happiness Radio KJLH, Los Angeles, CA. May 21, 2022.

193. “Angeleno Corps Health Equity Career Panel.” Angeleno Corps, Los Angeles, CA. June 3, 2022.

194. ”Monkeypox: An Update for CBOs Serving LGBTQ+ Californians.” California Department of Public Health CDPH, Los Angeles, CA. June 16, 2022.

195. “CHMC FMRP Health Policy & Advocacy for Family Medicine Residents.” California Hospital Medical Center & The University of Southern California, Los Angeles, CA. August 18, 2022.

196. ”Community Meeting on MPX.” AVATAR LA, Los Angeles, CA. August 24th, 2022.

197. “Rock the Vax COVID-19 and HIV Webinar.” First African Methodist Episcopal Church, Los Angeles, CA. September 14, 2022.

198. “CRDMS COVID Lecture.” Charles R. Drew Medical Society, Los Angeles, CA. September 23, 2022.

199. “Community MPX Prevention Strategy Meeting.” LA County Department of Public Health LACDPH, Los Angeles, CA. September 27, 2022.

200. ”Leveraging the Role of Payers and Regulators in the Health Worker Well-Being Movement.” National Academy of Medicine NAM, Los Angeles, CA. October 3, 2022.

201. ”Panel Discussion, Climate Crisis and Public Health.”The New Yorker Festival - The Nature Conservancy, Los Angeles, CA. October 7, 2022.

202. ”Mingle at the Mansion, COVID-19 and Beyond.” Charles R. Drew Medical Society, Los Angeles, CA. October 8, 2022.

203. “Systematic Impact of COVID-19 & MPX on Communities of Color.” Bridge Builders Foundation - Omega Psi Phi Fraternity, Los Angeles, CA. October 11, 2022.

204. “Race as a Risk Factor and Environmental Racism.” American Medical Student Association - Racism in Medicine Course, Los Angeles, CA. October 11, 2022.

205. ”COVID-19 Update.” Community Response System of South Los Angeles CRSSLA Public Health Committee, Los Angeles, CA. October 13, 2022.

206. “CDU Community Forum on COVID-19.” Charles R. Drew University School of Medicine, Los Angeles, CA. October 25th, 2022.

207. “UCLA Color of Care Film Screening & Panel.” The University of California Los Angeles Geffen School of Medicine, Los Angeles, CA. October 26, 2022.

208. “COVID: Where We’ve Been and Where We Are Going As a Community?”Ethiopian Community LA ECLA, Los Angeles, CA. October 29, 2022.

209. ”LA Healthcare Awards.”Patient Care Foundation PCF, Los Angeles, CA. November 4, 2022.

210. ”Sabbath Town Hall Series COVID-19 Update.”South Central Prevention Coalition, Los Angeles, CA. November 27, 2022.

211. ”CDU Health Care Opportunities Program HCOP Academy Retreat.” Charles R. Drew University School of Medicine, Los Angeles, CA. December 2, 2022.

212. ”Premiere - *Vaccinate Watts*.” Santa Clarita Film Festival, Los Angeles, CA. December 9, 2022.

213. “Health Justice & Systems of Care HJSC Guest Lecturer: Healthcare Reform: History, Current Developments & Future Prospects.” USC Keck School of Medicine KSOM, January 18, 2023.

214. “Translational Perspectives on Pre-Exposure Prophylaxis PrEP for HIV”, panelist, UCLA Center for HIV Identification, Prevention, and Treatment Services CHIPTS and UCLA Clinical and Translational Science Institute CTSI, January 18, 2023.

215. “USP Convention Joint Sector Meeting- Trust in Vaccines: Ensuring quality from development to distribution”, January 26, 2023.

216. USC Family Medicine Research Day Symposium Keynote Speaker, February 1, 2023.

217. AMA Healthcare & Climate Change: Prioritizing Health Equity, February 1, 2023.

SIGNIFICANT MEETINGS ATTENDED

1. Catholic Hospital Association CHA 2020 Virtual Assembly, June 8, 2020.

2. American Academy of Family Physicians AAFP National Conference of Constituency Leaders NCCL, June 13, 2020.

3. State of Reform:"Virtual Conversation: Black Leadership in U.S. Health Care and Health Policy.", June 19, 2020.

4. Global Health Care, LLC: "Summit on Health System Recovery from the COVID-19 Pandemic.", June 22, 2020.

5. Harvard University Radcliffe Institute for Advanced Study: "Amplifying Community Voices: LGBTQ Health and Wellbeing during COVID-19.", June 26, 2020.

6. The National Black Justice Coalition: "Black & LGBTQ: At the Intersection of a Racist & Homo/Transphobic CJ System.", June 30, 2020.

7. Charles R. Drew University M. Alfred Haynes Lecture Series: "The Long Road Home.", July 15, 2020.

8. National Hispanic Medical Association NHMA COVID-19 Virtual Briefing Series: "COVID-19 Impact on Health Care Delivery.", July 22, 2020.

9. Blue Shield of California Promise Health Plan Community Conversation Series: "Community Conversation with Senator Holly J. Mitchell.", July 27, 2020.

10. American Medical Association AMA-ASSN: "Medical Education Update: UME & GME Innovations.", August 6, 2020.

11. Medical Societies Consortium on Climate and Health: "Storytelling training: Health Voices for Climate Action.", August 11, 2020.

12. American Psychological Association APA Town Hall: "APA Addresses Structural Racism, Part Two: The March Continues.", August 24, 2020.

13. National Hispanic Medical Association NHMA: "COVID-19 Virtual Briefing Series: Dealing with the New Normal.", August 26, 2020.

14. American Medical Association AMA: "Foundation Update: Philanthropy in Action.", August 26, 2020.

15. United States Health and Human Services US HHS National Center for Vital Health Statistics NCVHS Privacy Subcommittee Meeting, September 14, 2020.

16. Stanford University Sean N. Parker Center for Allergy & Asthma Research: “NorCal Symposium on Climate and Pandemic Resilience in Health Care.”, September 25, 2020.

17. Climate Awakening: “Breaking the Silence: Sharing Climate Emergency Feelings.”, November 25, 2020.

18. Soulforce Nonviolence Workshop w/ Rav. Lawson, December 19, 2020.

19. Emory University: “Community Conversation on Allyship as a Journey.”, January 5, 2021

20. California Medical Association CAM: “Strategies to Translate Existing CMA Climate Policies Into Action w/ Yvonne Choong, CMA VP.”, January 8, 2021.

21. Kedren Vaccines and LA City & County Native American Indian Native Alaskan Commission COVID-19 Vaccine Committee Meeting, April 8, 2021

22. California Democratic Party LGBTQ Caucus: “Harvey Milk Day Celebration & Pride Season Kick Off.”, May 22, 2021.

23. University of California, Los Angeles Presentation: “Policy and Research Priorities to End the Epidemics of HIV, Viral Hepatitis, STIs, and Overdose.”, November 10, 2021.

24. American Medical Association House of Delegates: “Protecting Our Planet: Energy Efficiency.”, November 15, 2021.

25. Center for HIV Identification, Prevention, and Treatment Service CHIPTS & The San Diego Center for AIDS Research SDCFAR: **“**World AIDS Day 2021 Event: Addressing Inequities and Syndemics to End the HIV Epidemic.”, December 1, 2021.

26. United States Pharmacopeia & Fight the Fakes Alliance: “Global Solutions to Confront Substandard and Falsified COVID-19 Vaccines.”, December 6, 2021.

27. 2021 World AIDS Day California Council of Behavioral Health Agencies: “Addressing Behavioral Health: A Critical Component To Ending The HIV Epidemic In The U.S.”, December 6, 2021.

28. American Medical Association AMA Scope of Practice Summit, December 15, 2021.

29. Interagency Coordinating Committee on the Validation of Alternative Methods: “Communities of Practice: New Approach Methodologies to Assess Developmental Neurotoxicity.”, January 25, 2022.

30. San Francisco Department of Public Health:“Financing HIV PrEP Webinar.”, February 23, 2022.

31. California Department of Public Health CDPH LGBTQIA Initiative Conference, February 25, 2022.

32. Alameda-Contra Costa Medical Association: “Medical Society Event: Adding Environmental Sustainability to Your Medical Practice.”, March 1, 2022.

33. Physicians for Social Responsibility Los Angeles: “Improving Public Health in California through Emission Reduction Strategies.”, March 5, 2022.

34. Medical Society Consortium on Climate and Health: “Accelerating Climate Solutions: From Urgency to Impact for Health and Equity.”, March 6, 2022.

35. National Committee for Quality Assurance NCQA President Margaret O’Kane: “Fireside Chat on Post-Pandemic Healthcare Delivery.”, March 10, 2022.

36. USC Center for Political Future Screening: "Be My Voice" with Masih Alinejad and Sen. Barbar Boxer.”, March 10, 2022.

37. California Department of Public Health CDPH: “Ending the HIV, HCV, and STI Epidemics Strategic Plan: CA Statewide Town Hall.”, March 18, 2022.

38. LA City Community Engagement Team:“Rebuilding the Public Trust: The Road to a More Ethical LA”, March 24

39. National Academy of Medicine NAM: “Action Collaborative on Decarbonizing the US Health Sector Virtual Meeting.”, March 29, 2022.

40. United States Pharmacopeial Convention:“Supply Chain Exchange Series: Preparedness for increased resiliency and bolstering key points along the medicines supply chain.”, March 30, 2022.

41. American Medical Association AMA Board of Trustees Panel: “The Nation’s Drug Overdose Epidemic: Helping Children and Families, Patients with Pain, Tuesday.” April 5, 2022.

42. Liberty Hill Climate Equity LA Series: “Community-Driven Climate Resilience and Adaptation in LA.”, April 7, 2022 .

43. Los Angeles County Medical Association LACMA: “The Future is Now: The Successful Medical Enterprise in Challenging Times.”, April 11, 2022.

44. Emory University President Gregory L. Fenves Lecture Presentation: “The Future Starts with You, Los Angeles.”, April 12, 2022.

45. American Medical Association AMA Science and Public Health Update, April 13, 2022.

46. Climate Equity LA Series: “Community-Driven Climate Resilience and Adaptation in LA.”, April 14, 2022.

47. California Black Health Network CBHN: “Historical Racism and Impact on Health Disparities.”, April 5, 2022.

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48. Western Regional Advocacy Project: “Standing United for Our Rights: Convening Against CARE Court.”, April 8, 2022.

49. Los Angeles County Medical Association LACMA: “The Future is Now: The Successful Medical Enterprise in Challenging Times.”, April 8, 2022.

50. American Medical Association AMA Science and Public Health Update. April 12, 2022.

51. Climate Equity LA Series: “Community-Driven Climate Resilience and Adaptation in LA.”, April 13, 2022.

52. Climate Health Organizing Fellows CHOF Special Talk with Director of U.S. Office of Health and Human Services HHS - John Balbus. April 14, 2022.

53. American Medical Political Action Committee AMPAC Stakeholder Update, April 25, 2022.

54. California Department of Public Health CDPH: “End the Epidemics: Racial Justice Training”. April 26, 2022.

55. EHMI Communities, Climate Change, and Health Equity - State-Level Implementation, May 24, 2022.

56. Amazon Web Services AWS: “Industry Innovators: Healthcare & Life Sciences”, June 16, 2022.

57. Intermountain Healthcare: “Raising the Bar: Engaging Leadership in a Comprehensive Equity Strategy”, July 26, 2022.

58. California Department of Public Health CDPH Monkeypox LGBTQ Community Stakeholder Meeting, August 2, 2022.

59. American Medical Association AMA LGBTQ Advisory Committee Town Hall on Section Consideration, August 25, 2022.

60. California Medical Association CMA Medical Group Advocacy Symposium, August 31, 2022.

61. Wellcare Training 22-593: “Strengthening Cultural Humility, Dismantling Implicit Bias in Healthcare and Social Services”, September 8, 2022.

62. California Community Foundation: “COVID-19 Findings and Perspectives from South LA and Southeast LA: Doing What Needed to be Done”, September 14, 2022.

63. ViiV Healthcare, HIV Medication presentation with Eddie Vs and Dr. William King, September 21, 2022.

64. Los Angeles County Department of Public Health LACDPH Monkeypox Stakeholder Update at St. John’s Hospital, September 27, 2022.

65. National Academy of Medicine NAM Convening: “Leveraging the Role of Payers and Regulators in the Health Worker Well-Being Movement”, Public Launch Event, October 3, 2022.

66. California’s Climate Leadership: Advancing Health and Equity in Climate Policy Moderator, CMA Climate Health Symposium, October 21, 2022.

67. California Medical Association CMA 151st House of Delegates Annual Session, October 22, 2022.

68. Project TENDR Annual Meeting, October 24, 2022.

69. Longitudinal Course Development and Bidirectional Curriculum Integration Workshop ft. UC Davis Dr. Michael Wilkes, October 24, 2022.

70. The Sierra Health Foundation SHF California Equitable Recovery Initiative CERI Grantwriters Workshop, October 24, 2022.

71. LA County Homelessness Initiative Meeting, October 24, 2022.

72. Robert Wood Johnson Foundation RWJF Health Policy Fellowship Meeting, October 25, 2022.

73. Columbia University Mailman School of Public Health, “Field Epidemiology Response to the Climate Health Crisis: Air Pollution”, October 26, 2022.

74. LANCET Countdown on Climate Change & Health Public Launch Event, October 26, 2022.

75. Association of State and Territorial Health Officials ASTHO - MSM Satcher Health Leadership Institute SHLI, Diverse Executives Leading in Public Health DELPH, “Insight and Inspiration: Start With Why - Experience the Simon Sinek Golden Circle”, October 26, 2022.

76. National Hispanic Medical Association NHMA COVID-19 Briefing Session #18: Understanding Long COVID and the Future of Vaccinations, October 26, 2022.

77. American Medical Association Alliance AMAA "Launching Your Alliance Drug Education Program" Workshop, October 27, 2022.

78. Columbia University Mailman School of Public Health - Global Consortium on Climate Health Education; Climate and Health Advocacy Boot Camp, October 27, 2022.

79. The Washington Post,”Protecting Our Planet Series: The Role of Technology”, October 28, 2022.

80. Climate for Health Ambassador Community Meeting, November 1, 2022.

81. Ending the Epidemics ETE Campaign All California Meeting (LA LGBT Center), November 2, 2022.

82. AMA Advocacy Webinar Series: “What Congress Needs to Do Now”, November 3, 2022.

83. California Department of Public Health CDPH Hepatitis B Listening Session, November 3, 2022.

84. National Minority Quality Forum NMQF Scholars: “Treatment Access & Health Equity: Protecting Copay Assistance to Improve Patient Outcomes”, November 4, 2022.

85. CDU Public Health Disparities Meeting with Republic of Sierra Leone Diplomat, November 7, 2022.

86. Health and Human Services Region 10 LGBTQ+ Monkeypox Update, November 10, 2022.

87. National Hispanic Medical Association NHHF Foundation Gala, Thursday, November 17, 2022.

88. Trans Latinas Garras Fashion Show, November 19, 2022.

89. City of Los Angeles Reparations Advisory Commission, “Homecoming Part II: An Evening of Collective Memory, Shared Experience, and Envisioning Reparations for Black Angelenos Within the City of Los Angeles.”, November 29, 2022.

90. Columbia University Mailman School of Public Health - “Global Consortium on Climate Health Education; Field Epidemiology Response to the Climate and Health Crisis: Flooding”, November 30, 2022.

91. National Academy of Medicine NAM: “Emerging Fairer & Stronger from COVID-19: Health System Imperatives”, November 30, 2022.

92. AMA Alliance Leadership Bootcamp - Day 1, December 1, 2022.

93. Health and Human Services HHS Office of Intergovernmental and External Affairs IEA MPOX Stakeholder Meeting, December 1, 2022.

94. World AIDS Day Noche de las Memorias - The Wall Las Memorias AIDS Monument Los Angeles, December 1, 2022.

95. AMA Alliance Leadership Bootcamp, December 2, 2022.

96. National Medical Quality Fellowship NMQF-SHC: “Protecting Our Families from the Threat of Influenza”, December 2, 2022.

97. Shared Harvest Fund SHF Fireside Chat, December 4, 2022.

98. AMA Fighting Scope of Practice Expansion, December 5, 2022.

99. California Immunization Coalition: “Vaccination Communication: Inoculating Against Misinformation”, December 6, 2022.

100. Health and Human Services HHS Office of Intergovernmental and External Affairs IEA Respiratory Syncytial Virus (RSV) Stakeholder Briefing, December 7, 2022.

101. California Department of Public Health DPH MPX Community Listening Session, December 7, 2022.

102. Pacific AIDS Education and Training Center PAETC: “PrEP Ready! Community of Practice - Session #2: PrEP Outreach & Engagement Strategies”, December 7, 2022.

103. City of LA Climate Emergency Mobilization Office CEMO Community Report Back: Pathways to Healthy Homes through Equitable Building Decarbonization, December 7, 2022.

104. National Academy of Medicine's Climate Communities Listening Session, Thursday, December 8, 2022.

105. National Association for Continuing Education NACE Conversations in Primary Care CME Conference 2022, December 10, 2022.

106. American Association for the Advancement of Science AAAS, Science, Technology, Engineering, Mathematics, and Medicine STEMM, White House Equity Summit, December 12, 2022.

107. Med Learning Group CME: “Weight Loss as a Treatment Strategy for Patients with Type 2 Diabetes and Obesity: Practical Strategies for Primary Care Physicians”, December 12, 2022.

108. National Hispanic Medical Association NHMA Organizational Training with The Food and Drug Administration FDA, December 12, 2022.

109. Climate Reality Bay Area: “Fostering Resilience in the Climate Crisis”, December 13, 2022.

110. “COVID-19 Federal Incident Response Plan - Federal Plan for Equitable Long-Term Recovery and Resilience” ELTRR Partner Briefing, December 14, 2022.

111. Columbia University Global Consortium on Climate & Health Keystone Symposium: “Climate Health & Infectious Disease Threats”, December 14, 2022.

112. LA Care Enhanced Care Management ECM, “Children and Youth Town Hall”, Wednesday, December 14, 2022.

113. California Department of Public Health CDPH Mental Health Webinar for Clinicians, December 14, 2022.

114. CDPH Physicians for a Healthy California PHC Test-to-Treat T2T Equity Project ECHO, December 14, 2022.

115. California Black Health Network: “Looking Ahead: Cancer Breakthroughs in Screening and Early Detection”, December 14, 2022.

116. US Chamber of Commerce 2023 State of American Business, January 12, 2023.

117. Housing Authority of the City of Los Angeles HACLA Watts LA Work Source Center Collaborative Partners Meeting, January 12, 2023.

118. African Communities Public Health Coalition Ribbon Cutting, January 12, 2023.

119. Department of Mental Health DMH + UCLA Full Service Partnership FSP “Community of Practice: Promoting Productive Roles”, January 17, 2023.

120. AMA STEPS Forward Webinar Series: “Improving Environmental Stability in your Medical Practice”, January 18, 2023.

121. UCLA Center for Health Policy Research CHPR: “Mental Health & COVID-19: An Economic & Social Crisis”, Wednesday, Jan 25-

122. National Football League NFL Players Association Physician Dr. Thomas Mayer, *Battling Healthcare Burnout* book signing, January 25, 2023.

123. South Central HIV Consortium, January 27, 2023.

124. Equitable Health Measurement: Supporting Community Voices, Systems, and Partnerships, January 31, 2023.

125. National Hispanic Medical Association NHMA Briefing Series Session #19: “Mediating the COVID-19, Influenza, and RSV Tridemic in Latinx Communities”, January 31, 2023.

126. California Immunization Coalition CIC Vaccination Communication: “Inoculating Against Misinformation Q + A”, January 31, 2023.

127. AMA New Congress, “New Majorities & New Power Dynamics”, February 1, 2023.

128. Pacific AETC “The Invisible Patient: Cultural Approaches to HIV Care and Prevention Among Black Women”, February 3, 2023.

129. “How the AMA is fighting for physicians and patients in Washington—and how you can help”, February 7, 2023.

130. Physician Aid Association LA PAA Annual Meeting, February 8, 2023.

131. Cambridge Health Alliance CHA Center for Health Equity Education & Advocacy CHEEA Climate Health Organizing Fellowship CHOF Special Session on Climate Reparations, February 10, 2023.

132. Medical Society Consortium on Climate Health MSCCH Annual Meeting 2023, Washington, DC, March 24, 2023.

133. “The All of Us Research Workbench: Opportunities for Community-Based Researchers”, February 21, 2023.

134. LA CARE “Listening to Black Californians: How the HealthCare System Affects Their Pursuit of Good Health”, February 22, 2023.

DIGITAL MEDIA PORTFOLIO

CMA NEWS 10.18.22 | CMA Climate Health Panel Discussion
https://www.cmadocs.org/newsroom/news/view/ArticleId/49918/Still-time-to-register-for-Friday-39-s-climate-health-panel-discussion

LA THIS WEEK 10.17.22 | In Conversation with Dr. Abraham

https://youtu.be/rdmHpEJ_do0

AMA NEWS 10.11.22 | US Health System Must Come to Terms with Its Environmental Impact
https://www.ama-assn.org/delivering-care/public-health/us-health-system-must-come-terms-its-environmental-impact

THE NEW YORKER 10.07.22 | The Power of Nature to Improve Public Health
https://festival.newyorker.com/tickets/the-power-of-nature-to-improve-public-health/

LA CITY VIEW 35 10.03.22 | LA Currents: COVID-19 Update w/ Dr. Abraham
https://youtu.be/ZPQUNyKAgh4

SPECTRUM NEWS 09.20.22 | Inside the Issues w. Alex Cohen: COVID-19 Boosters Update w. Dr. Abraham
https://spectrumnews1.com/ca/la-west/inside-the-issues-full-episode/2022/09/20/former-usc-dean-pleads-guilty-in-bribery-case-

AMA NEWS 09.15.22 | AMA-SHLI Medical Justice in Advocacy Fellows
https://www.ama-assn.org/delivering-care/health-equity/medical-justice-advocacy-fellows

KJBU 99.3FM 09.13.22 | CDPH Interview: COVID-19 Update
https://refuelagency-my.sharepoint.com/:f:/p/jweipz/Epo1PxZ0QpdKmn6SX8b6MogBf8LeSBBWyriTqGE1hm0c2g?e=dKBnKH

AMA NEWS 08.24.22 | When fighting climate change, don't overlook health equity
https://www.ama-assn.org/delivering-care/public-health/qa-when-fighting-climate-change-don-t-overlook-health-equity

CMA NEWS 08.23.22 | CMA to Host Panel Discussion on Climate Health Crisis
https://www.cmadocs.org/newsroom/news/view/ArticleId/49857/CMA-to-host-panel-discussion-on-climate-health-crisis
https://www.cmadocs.org/event-info/sessionaltcd/CMA22_1021_CLIMATE/t/understanding-the-climate-heath-crisis-and-how-california-physicians-can-make-an-impact==FC25C46F-0C75-43A5-AD57-2400AFD17552/CommsMisc22-TEST
LAAFP NEWSLETTER 08.10.22 | Declaring Climate Change a Public Health Emergency
https://www.laafp.org/2022/08/08/editorial-jerry-abraham-md-mph-cmq-4/

KCRW PRESS PLAY W. MADELEINE BRAND 10.09.22 | 60 Doses Become Hundreds: Doctor Stretches MPX Vax in South LA
https://www.kcrw.com/news/shows/press-play-with-madeleine-brand/vaccines-guns-immigration-cannabis-fall-tv/monkeypox-black-latino-communities

LAIST 08.05.22 | Health Officials Worry MPX Vaccines Aren't Reaching LA's Underserved Communities

https://laist.com/news/health/health-officials-worry-that-monkeypox-vaccines-arent-reaching-las-underserved-communities

LACMA MONDAY Rx 07.26.22 | Monkeypox Outbreak, COVID-19, LACMA Solutions
https://www.ladocs.org/news-events/news/monday-rx-monkeypox-outbreak-covid-19-25-minimum-wage-lacma-solutions-portal-and-upcoming-events.aspx

CBS NEWS 07.25.22 | COVID-19 and MPX Cases are on the rise in the US
https://youtu.be/qc4kZMHO2-k

MSCCH NEWSLETTER 06.28.22 | Climate Champion of the Month: Dr. Jerry Abraham
https://medsocietiesforclimatehealth.org/members-in-action/june-2022-champion/

CBS NEWS 06.20.22 | Doctor Encourages Parents to get their Young Children Vaccinated Against COVID-19
https://youtu.be/kFf8K0SUJTA

WASHINGTON POST 06.14.22 | Climate Change Is Increasingly Viewed as Public Health Crisis
https://www.washingtonpost.com/politics/2022/06/14/climate-change-is-increasingly-viewed-public-health-crisis/

MEDICAL ECONOMICS 06.14.22 | AMA: Climate Change Is A Public Health Crisis
https://www.medicaleconomics.com/view/ama-climate-change-is-a-public-health-crisis

AMA NEWS 06.13.22 | AMA Adopts New Policy Declaring Climate Change A Public Health Crisis
https://www.ama-assn.org/press-center/press-releases/ama-adopts-new-policy-declaring-climate-change-public-health-crisis

CHA-HMS 2021-2022 | CHEEA Climate Health Organizing Fellows 2021-2022
https://www.healthequity.challiance.org/chof-fellows

CBS NEWS 05.19.22 | CDC Moves LA County from 'low' to 'medium' COVID-19 risk
https://youtu.be/nBD8AsB0W6o

KTLA 05.19.22 | 2022 KJLH Women's Health Expo Preview Part Two: The Color of COVID
https://ktla.com/morning-news/2022-kjlh-womens-health-expo-preview-part-one-the-color-of-covid/

NBC NEWS 05.17.22 | LA County COVID Hospitalizations Go Up, Meaning Masks Could Come Back
https://www.nbclosangeles.com/news/local/la-county-covid-hospitalizations-masks-indoors/2895889/

KTLA 05.15.22 | 2022 KJLH Women's Health Expo
https://ktla.com/gayle-on-the-go-3/sunday-gayle-on-the-go-sunday-may-15th-2022/

ABC NEWS 05.07.22 | CDC Director Rochelle Walensky visits LA Vaccine Center with Experts as US nears 1M COVID-19 Deaths
https://abc7.com/rochelle-walensky-los-angeles-visit-covid-19/11823628/

LA SENTINEL 05.05.22 | Health Professionals Share Expert Advice at 'Brothers, Can We Talk'
https://lasentinel.net/health-professionals-share-expert-advice-at-brothers-can-we-talk.html

AMSTERDAM NEWS 05.05.22 | Go With The Flo – First Ladies High Tea
https://amsterdamnews.com/news/2022/05/05/go-with-the-flo-7/

CBS NEWS 04.26.22 | Vice President Harris Tests Positive for COVID-19
https://twitter.com/CBSNews/status/1519002351138398210?s=20&t=6wh7kfthXbr9fVOdBrQeww
https://twitter.com/CBSNews/status/1518997511331057668?s=20&t=6wh7kfthXbr9fVOdBrQeww

CBS NEWS 04.25.22 | Doctors Warn Against Universal Lifting of Mask Mandates
https://www.cbsnews.com/video/doctors-warn-against-universal-lifting-of-mask-mandates/#x
https://youtu.be/nkhEmDUZxdQ

CHILDREN'S HOSPITAL OF LOS ANGELES 04.25.22 | CHLA & LACDPH Announce Kedren Vaccines, VACCINELAND as Winner of the VaxUp Innovation Challenge
https://www.chla.org/press-release/children-s-hospital-los-angeles-and-the-los-angeles-county-department-public-health

CBS NEWS 04.21.22 | LA Metro Buses, Trains Still Requiring Masks Despite Judge's Order
https://www.cbsnews.com/amp/losangeles/news/la-metro-still-requiring-masks-despite-judges-order/
https://youtu.be/90J6HLyBZRs

LA FOCUS 04.20.22 | Dr. Jerry P Abraham ("Dr. Fauci of South LA") Among Honorees at 24th Annual First Ladies High Tea
https://www.lafocusnewspaper.com/actress-loretta-devine-cookie-johnson-cynthia-mcclain-hill-ladwp-and-dr-jerry-abraham-dr-fauci-of-south-l-a-among-honorees-at-24th-annual-first-ladies-high-tea/

SPECTRUM NEWS 04.02.22 | COVID Clinics Scramble to Stay Open as Federal Funding Stalls
https://spectrumnews1.com/ca/la-west/news/2022/04/02/local-covid-clinics-scramble-to-stay-open-as-federal-funding-stalls?cid=id-app15_m-share_s-web_cmp-app_launch_august2020_c-producer_posts_po-organic

SPECTRUM NEWS 03.24.22 | Inside the Issues: COVID-19, Vaccines & Funding
https://www.facebook.com/2601761/videos/5407815109269842/

CBS NEWS 03.21.22 | Doctor Concerned Federal COVID Funding May End
https://www.cbsnews.com/losangeles/news/doctors-concerned-federal-covid-funding-may-end/

US NEWS & WORLD REPORT 04.01.22 | Communication Still Key to Vaccinations
https://www.usnews.com/news/health-news/articles/2022-03-31/communication-still-key-to-vaccinations-covid-control

FORBES 04.01.22 | Doctors say Heart Complications More Likely from COVID than from vaccine
https://www.forbes.com/sites/zacharysmith/2022/04/01/heart-complications-more-likely-from-covid-than-from-vaccines-study-finds/?sh=4f8c8de970b6

RAISE THE PRAISE 03.26.22 | Kedren Partners with New Mt. Calvary Church for Vaccinations
https://www.rtponline.net/articles/c0mmunity-health-wellness-pavillion-new-mt-calvary/

LA FOCUS 03.04.22 | Vaccination Remains Essential in Fighting COVID-19
https://www.lafocusnewspaper.com/vaccination-remains-essential-in-fighting-covid-19/

KCAL9 YABATV 03.09.22 | COVID-19 Vaccinations in the African Diaspora
https://youtu.be/X0jsOI7g3Y0

BLACK VOICES NEWS 03.07.22 | Masks in Schools Guidance Shifting from Requirement to Recommendation
https://blackvoicenews.com/2022/03/07/masks-in-schools-guidance-shifting-from-requirement-to-recommendation/

OPEN MINDS 03.01.22 | Health Net Awards More than 4.5M in COVID-19 Vaccine Grants
https://openminds.com/market-intelligence/bulletins/health-net-awards-more-than-4-5-million-in-grants-to-78-california-community-based-organizations-serving-populations-with-low-covid-vaccination-rates/

PRECINCT REPORTER 02.24.22 | Church Provides Free Tests, Vaccines
http://www.precinctreporter.com/2022/02/24/church-caloptima-provides-free-tests-vaccines/

THE OBSERVER 02.23.22 | California's New COVID-19 Plan Includes Faith Community, Public Health Leaders
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https://laist.com/latest/post/20210205/why-do-LAs-black-and-latino-residents-have-lower-vaccination-rates

SPECTRUM NEWS 1 02.09.21 | South LA Clinic Will Continue to Give First Doses of COVID-19 Vaccine

https://spectrumnews1.com/ca/la-west/coronavirus/2021/02/09/south-la-clinic-will-continue-to-give-first-doses-of-covid-19-vaccine
https://www.facebook.com/2601761/videos/10103003361920457/

NBC LOS ANGELES | People With Disabilities Feel Abandoned by State Leaders on Vaccine Rollout
https://www.nbclosangeles.com/news/local/people-with-disabilities-feel-abandoned-by-state-leaders-on-vaccine-rollout/2515930/

LA TIMES 02.12.21 | California to open COVID-19 vaccine to people with cancer, obesity, other conditions
https://www.latimes.com/california/story/2021-02-12/california-opens-covid-vaccine-disabled-high-risk-people

NBC TODAY SHOW 02.01.21 | Unequal Access to Coronavirus Vaccine Spurs Mounting Outrage
https://www.today.com/video/unequal-access-to-coronavirus-vaccine-spurs-mounting-outrage-100334149944

NBC LOS ANGELES 01.29.21 | Volunteer Disaster Team Provides Support at KEDREN HEALTH COVID-19 Vaccine Distribution Program
https://www.nbclosangeles.com/on-air/volunteer-disaster-team-provides-support-at-kedren-health-center/2514389/

LA TIMES 03.09.21 | California makes it easier for anyone to get COVID-19 vaccine by volunteering
https://www.latimes.com/california/story/2021-03-09/california-makes-it-easier-to-sign-up-as-a-covid-19-vaccine-site-volunteer

KNX AM1070 NEWS RADIO 03.05.21 | New COVID-19 vaccination site to open at USC Tuesday, Uber partnership will allow South LA residents to get vaccinated
https://www.radio.com/knx1070/news/state/new-covid-19-vaccination-site-opens-at-usc-tuesday

CBS FACE THE NATION 01.31.21 | Challenges of Vaccinating All Grows
https://www.cbs.com/shows/face-the-nation/video/P_WQeIkGSvhS_0wVR7syQLkOUNf9QSKf/01-31-richmond-lamont-suarez-gottlieb-jackson/

CBS LOS ANGELES | South LA Clinic Rushes To Administer 600 Expiring COVID-19 Vaccine Doses
https://losangeles.cbslocal.com/2021/01/29/south-la-clinic-administers-600-expiring-covid-19-vaccine-doses/
https://youtu.be/U5c8XYa_cj4

INSIDE EDITION | Those Hoping to Get 'Leftover' Vaccine Doses Wait Nearly 15 Hours
https://youtu.be/_fGIpJEMyvk

LA TIMES | How a South L.A. doctor is beating the system and distributing vaccines equitably
https://www.latimes.com/california/story/2021-01-29/coronavirus-covid-vaccine-equity-hospital-south-los-angeles-kedren-health

LA TIMES | Letter to the Editor: 'Vaccine chasers' aren't the story; South L.A. doctors fighting inequities are
https://www.latimes.com/opinion/story/2021-01-26/vaccine-chasers-inequity

AFP NEWS AGENCY | 'Vaccine chasers' stake out Los Angeles hospitals, hoping for shot
https://youtu.be/2bggS3jLDio

SPECTRUM NEWS 1 | Doctor's Tenacity Brings Vaccinations to South LA
https://spectrumnews1.com/ca/la-west/coronavirus/2021/01/11/doctor-s-tenacity-brings-vaccinations-to-south-la

SPECTRUM NEWS 1 | South LA Clinic Needs Volunteers to Ramp up Vaccinations
https://spectrumlocalnews.com/nc/coastal/coronavirus/2021/01/20/south-la-clinic-needs-volunteers-to-ramp-up-vaccinations
https://www.facebook.com/2601761/videos/10103003365258767/

SPECTRUM SOCAL IN 17 | California's Vaccine Rollout
https://spectrumnews1.com/ca/la-east/coronavirus/2021/02/11/california-s-vaccine-rollout-and-road-to-recovery--are-we-there-yet-

SPECTRUM SOCAL IN 17 | A local doctor shares what life is like on the front lines, doling out life-saving vaccines in South Los Angeles
https://spectrumnews1.com/ca/la-east/socal-in-17/2021/01/28/what-dr--anthony-fauci-has-to-say-about-california-lifting-stay-home-orders

LA PODCAST | CA's vaccine rollout is now the worst in the country. What are the ethics of vaccine chasing?
https://thelapod.com/episode/november-strain/

FOX 11 LOS ANGELES 02.10.21 | Vaccine Chasers Lining Up at South LA Hospital
https://youtu.be/h7UG3l5YjwE

LA TIMES 01.23.21 | Young L.A. 'vaccine chasers' crowd unofficial standby lines in hopes of a shot
https://www.latimes.com/california/story/2021-01-23/standby-lines-backdoor-vaccine-access

INSIDE THE ISSUES w/ ALEX COHEN | Diversifying the Healthcare Workforce During the COVID-19 Pandemic
https://vimeo.com/503637567

the password: insidetheissues

NHK WORLD TOKYO & FUJI NEWS JAPAN | Young People in the US Seeking Surplus Vaccines
https://www.fnn.jp/articles/-/138285

COMPLEX | Young L.A. Residents Are Flocking to Vaccine Distribution Sites to Get Leftover Shots
https://www.complex.com/life/2021/01/young-la-residents-are-flocking-to-vaccine-distribution-sites-to-get-leftover-shots

LA THIS WEEK | LA City Mayor Eric Garcetti Visits Kedren Community Health Center Site
https://youtu.be/jfoBIKGsry8

UNITED PRESS INTERNATIONAL UPI | South LA Physician Finds Workarounds to Distribute Vaccines Equitably
https://www.upi.com/News_Photos/view/upi/88ee0e3f9adc79997be3daffc2b5f9d8/South-LA-Physician-Finds-Workarounds-to-Distribute-Vaccines-Equitably/
https://www.upi.com/News_Photos/view/upi/22b493f1a087c3cef73635375ad82eba/South-LA-Physician-Finds-Workarounds-to-Distribute-Vaccines-Equitably/
https://www.upi.com/Top_News/US/2021/02/05/New-COVID-19-deaths-in-US-top-5000-to-set-new-single-day-record/2411612533207/
https://www.upi.com/News_Photos/view/upi/65aa8e45dd8bd6d3a44bce47f75aa339/South-LA-Physician-Finds-Workarounds-to-Distribute-Vaccines-Equitably/
https://www.upi.com/News_Photos/view/upi/67c76da477ba3f11655bf08993fada15/South-LA-Physician-Finds-Workarounds-to-Distribute-Vaccines-Equitably/
https://www.upi.com/News_Photos/view/upi/7a8dbdd2f0310ae5d9a2e8c5465e98ef/South-LA-Physician-Finds-Workarounds-to-Distribute-Vaccines-Equitably/
https://www.upi.com/News_Photos/view/upi/157fdaeccd96dda161e31f5bb54bb791/South-LA-Physician-Finds-Workarounds-to-Distribute-Vaccines-Equitably/
https://www.upi.com/News_Photos/view/upi/b1c08fdd6e0bd82a22ede75b9538a87d/South-LA-Physician-Finds-Workarounds-to-Distribute-Vaccines-Equitably/

UNITE HERE LOCAL 11 | Local 11 Members in LACounty Eligible for COVID-19 Vaccine
https://www.unitehere11.org/vaccine-appointment

UCLA EPIDEMIOLOGY | Grant Submission Video for Data Volunteers
https://vimeo.com/518877474/47a0af2a26

KEDREN 03.24.21 | Vaccine Program Volunteers Celebration: The Little Kedren That Could
https://youtu.be/GQbU393oRco

STATE OF CALIFORNIA VACCINATE ALL 58 04.21.21 | 'A Shot of Faith' Town Hall
https://youtu.be/eIB1xKF7_Mw

ALAMY STOCK PHOTOS | Kedren Vaccines
https://www.alamy.com/search/imageresults.aspx?imgt=0&qt=kedren+vaccines+jerry+abraham

GETTY IMAGES | Kedren Vaccines
https://www.gettyimages.com/photos/kedren?family=editorial&phrase=kedren&sort=mostpopular#license

SHUTTERSTOCK IMAGES | Kedren Vaccines
https://www.shutterstock.com/editorial/search/kedren

SHARON WILLIAMS, MD, FACAAI

[redacted]

EDUCATION

Fellowship	**University of California, Irvine** Allergy & Immunology Irvine, CA	*2016-2018*
Residency	**St. Mary Medical Center/Harbor-UCLA** Internal Medicine Residency Program Long Beach, CA	*2013-2016*
Internship	**St. Mary Medical Center/Harbor-UCLA** Internal Medicine Residency Program Long Beach, CA	*2013-2014*
Doctor of Medicine	**University of Arizona College of Medicine** Tucson, Arizona	*2009-2013*
Bachelor of Science *Minor of Arts*	**Arizona State University,** Tempe, AZ Bachelor of Science, Microbiology Minor of Arts, Religious Studies Tempe, AZ Summa Cum Laude	*2005-2008*

LICENSURE/CERTIFICATIONS

Medical Board of California, Physician and Surgeon License, active	*11/2014 - current*
Arizona Medical Board, Physician License, active	*05/2020- current*
Florida Board of Medicine, Telehealth Medical Doctor, active	*02/2021- current*
West Virginia Board of Medicine, Telehealth, active	12/2021- *current*
DEA Registration	*2014- current*
USMLE Step1, USMLE Step 2 CK, USMLE Step 2 CS, and USMLE Step 3	*Completed*
Diplomate, American Board of Internal Medicine, participating in MOC	*Active*
Diplomate, American Board of Allergy and Immunology, participating in MOC	*Active*

ACADEMIC HONORS AND AWARDS

UCLA Solomon Scholar Research Award, UCLA David Geffen Internal Medicine Residency	2015
Patient Advocate Award St. Mary Medical Center/Harbor-UCLA Internal Medicine Residency	2014
Distinction in Community Service Award, **Commitment to Underserved People** University of Arizona, College of Medicine	2009-2013
Leadership and Outreach Award, University of Arizona College of Medicine	2011
Graduated *Summa Cum Laude,* Arizona State University	2007

PROFESSIONAL/WORK EXPERIENCE

Sharon Williams MD, Private Practice, North Tustin	Nov 2020 - current
Rhonda Myers MD PhD, Allergist & Immunologist, Private Practice, Irvine, CA	Jan 2020 - Nov 2020
Allergy & Asthma Care Center, Allergist & Immunologist, Group Practice, Long Beach, CA	Jul 2018 - Dec 2019

PROFESSIONAL MEMBERSHIPS

***Fellow* of American College of Allergy, Asthma, & Immunology**	2016- current
Clinical Immunology Society	03/2018- current
American Contact Dermatitis Society	05/2018- current
American Academy of Allergy, Asthma, & Immunology	2016- 2020
Los Angeles Society of Allergy, Asthma& Clinical Immunology	2014- 2018
American College of Physicians	2013-2016
American Medical Association	2013–2016

PUBLICATIONS/PRESENTATIONS

Journal of Allergy and Clinical Immunology: In Practice. ***"Successful rapid desensitization to intravenous bevacizumab using a 14-step protocol: case report"*** Sharon Williams, M.D., Amrita Khokhar, M.D., Asal Gharib, M.D., J Allergy Clin Immunol Pract. 2017 Nov - Dec;5(6):1746-1747. doi: 10.1016/j.jaip.2017.04.043. Epub 2017 Jun 9

American Academy of Allergy, Asthma, and Immunology Poster Session ***"IgA Monoclonal Gammopathy of Undetermined Significance (MGUS) in a Young Woman With Selective IgM Deficiency,"*** Sharon Julie Williams, M.D., Sudhanshu Agrawal M.S, Sudhir Gupta M.D., Ph.D., M.A.C.P., presented April 2017.

Archivum Imunologiae et Therepiae Experimetalis, ***"Anaphylaxis to IVIG,"*** Sharon Julie Williams, M.D., Sudhir Gupta, M.D., Ph.D., MACP, Arch Immunol Ther Exp (Warsz). 2017 Feb;65(1):11-19. doi: 10.1007/s00005-016-0410-1. Epub 2016 Jul 13.

Annals of Allergy, Asthma, and Immunology,***"Dynamic Airway Collapse—A Frequently Misdiagnosed Asthma Mimicker"***Varaz Bozoghlanian, M.D., Sharon Williams, M.D., Heba Ismail, M.D., and Ravi Gutta, M.D., Ann Allergy Asthma Immunol. 2016 Jan;116(1):87-8. doi: 10.1016/j.anai.2015.10.023. Epub 2015 Nov 17.

"Reconstitution of IgG Subclasses Following Immunoglobulin Therapy in CVID and Hypogammaglobulinemia", with mentor Sudhir Gupta, M.D., Ph.D., M.A.C.P., under investigation/chart review since August 2017.

LA County Inter-City Infectious Disease Scholarly Activity Presentation at Harbor-UCLA and St. Mary Medical Center, ***"A Case of Cerebral Malaria,"*** Sharon Williams, M.D., Chester Choi, M.D., MHA, MACP, December 2015.

UCLA Solomon Scholars, ***"Refractory Asthma and the 'Frown Sign,"*** Sharon Julie Williams, MD, Varaz Bozoghlanian, MD, Ravi Gutta, MD, June 2015.

American College of Physicians,***"Photograph Negative Eosinophilia,"***SharonWilliams, M.D, Ronnie Alas, M.D., MohsenRofoogaran, D.O., Ravi Gutta, M.D., October15,2014.

Los Angeles Society of Allergy, Asthma& ClinicalImmunology,***"A Rare Culprit of DRESS Syndrome,"***Sharon Williams, M.D., Ravi Gutta, M.D., Sept 27,2014

CLINICAL RESEARCH TRIALS

03/2019-12/2019 **Phase 3 Multi-Center, Long-Term Extension Study Investigating the Efficacy and Safety of Abrocitinib, With or Without Topical Medications, Administered to Subjects Aged 12 Years and Older with Moderate to Severe Atopic Dermatitis** (B7451015). Sub-Investigator: Sharon Williams, MD. Pharmaceutical sponsored study: Pfizer

03/2019-12/2019 **Phase 3 Randomized Withdrawal, Double-Blind, Placebo-Controlled, Multi-Center Study Investigating the Efficacy and Safety of PF-04965842 in Subjects Aged 12 Years and Over, with Moderate to Severe Atopic Dermatitis with the Option of Rescue Treatment in Flaring Subjects** (B7451014). Sub-Investigator: Sharon Williams, MD. Pharmaceutical sponsored study: Pfizer

LECTURES

Intranasal Steroids Use for Nasal Polyps, Veterans Affairs Long Beach Medical Center, Allergy	2018
Chronic Urticaria, UC Irvine, Allergy & Immunology	2017 & 2018
Cytokines and Cytokine Receptors, UC Irvine, Basic & Clinical Immunology	2017
Monocytes and Macrophages, UC Irvine, Basic & Clinical Immunology	2017
Journal Club, Hyper-IgM Syndrome, UC Irvine, Basic & Clinical Immunology	2017
Journal Club, Xolair in Moderate - Severe Asthma, UC Irvine, Allergy & Immunology	2018
Fellowship Planning Day, Department of Medicine UCI	2017
Contact Dermatitis, UC Irvine, Allergy & Immunology	2016
Neutrophils: Development, UC Irvine, Basic & Clinical Immunology	2016
Tumor Immunity Lecture at UC Irvine, Basic & Clinical Immunology	2017
Drug Allergy, Internal Medicine Case Conference at Veterans Affair Long Beach Medical Center	2017

PROFESSIONAL SERVICE

Department of Medicine Committee, St. Mary Medical Center 2014-2016
Pharmacy, Therapeutics, Infection Control, & Patient Safety Committee, St. Mary Medical Center 2014-2016
Quality Improvement Committee, UC Irvine Medical Center 2016-2018
Regarding IVIG dosing, Epinephrine pen education, Contact Dermatitis Patch testing handouts, Hand Hygiene control measures, and Influenza Vaccination
Patient Safety Committee, UC Irvine Medical Center 2016-2018

VOLUNTEER EXPERIENCE/EXTRACURRICULAR ACTIVITIES

Shubitz Clinic for Uninsured, Patient Care, University of Arizona College of Medicine *2009-2013*
Women's Clinic for Uninsured, Patient Care, University of Arizona College of Medicine *2009-2013*
Wesley Clinic for Uninsured, Patient Care, University of Arizona College of Medicine *2011-2013*
MedSET teaching underprivileged students, Volunteer, University of Arizona *2009-2011*
Healer's Art Course, University of Arizona College of Medicine *2010*
Organic Chemistry Tutor, Arizona State University, Tempe, Arizona 2007
Patient Care Level 1 Trauma Center, Scottsdale Healthcare Osborn Hospital 2006-2007
Patient Services in Oncology Department, Scottsdale Healthcare Shea Hospital 2006-2007

RESEARCH

Dr. Tatiana Ugarova, Ph.D **Center for Metabolic and Vascular Biology** *2007-2008*
Supported by **National Institute of Health** Arizona State University, Tempe, Arizona. Research on Integrin receptor αDβ2 which plays a Role in chronic inflammation, to help further understand the inflammatory nature of metabolic syndrome and proliferation of adipose tissue via adipocyte precursors

ATTACHMENT 3

Micah Ali

Compton, CA

[redacted]

Overview

Strategist, Consultant, Public Sector, Education And Governance Expert

Experienced strategist, catalyst for innovation and organizational effectiveness. Regarded as a pioneer in public affairs/government relations and board governance for clients in public education, public health and economic development spheres. Catalyzes private/public partnerships, coalition building and broad based initiatives intended to achieve impact in areas often deemed resistant to change.

Education

Loyola Marymount University
Master of Arts in Education, School Administration

California State University Dominguez Hills
Bachelor of Science Public Administration

Experience And Accomplishments

South Coast Air Quality Management District Hearing Board
October 2020 – Present
Chair/Public Member

Appointed as the Public Member and elected by my peers to serve as Chair.

The Hearing Board is a quasi-judicial administrative law panel chartered under Division 26 of the California Health and Safety Code to provide an appellate process for companies and public agencies that are subject to South Coast Air Quality Management District rules and regulations.

Synergistic Solutions
November 2004-Present
Managing Director

Strategy consultancy providing expertise in organizational culture, politics, and effective practices of School Boards and School District leadership, as well as other governmental and global organizations seeking to achieve next level results, sustainable change and overall organizational improvement.

Consulting Areas:

Government Affairs and Crisis Management. Design government affairs and regulatory strategies that garner multi-stakeholder support for initiatives while minimizing business disruptions due to regulatory/ compliance issues

Land Use and Development Consulting. Facilitate conceptualization and adoption of large-scale development projects requiring multiple levels of support.

High-stakes and multi-million dollar Project Negotiation. Lead consultant for high profile development, land-lease and bond initiatives, including successful negotiation of land lease for a high-profile projects

Community Development. Secure corporate investments for urban community development project

Los Angeles County Education Foundation
July 2012 - January 2014
Director

Tasked with expanding supports for public schools across Los Angeles County in the area by way of innovation in health and education policy.
Notable projects

Large Dollar Investment Projects. Led the investment of a $15M endowment through strategic initiatives in the Los Angeles County Area School Districts.

Public Education Health and Achievement Initiatives. Provided executive oversight of the foundation's health and educational initiatives, from concept to creation.

Innovative Policy Efforts and Legislator Engagement. Secured community healthcare policy and early education funding by leveraging coalitions with federal, state and local elected officials, regulatory bodies, non-profit organizations and private philanthropic groups.

Raytheon Space And Airborne Systems
October 2004 - June 2012
Project Manager

Oversee and ensure the successful completion of complex projects across several divisions of the global technology and aerospace organization.

Notable Projects:

Operations Team Lead. Directed key operations activities across multiple sites through Integrated Product Teams (ITPs), with a focus on systems engineering and oversight management functions for critical functions and projects.

Staff Engagement and Support. Managed community relations, outreach efforts and philanthropic programs via Employee Resource/Affinity Group

Operations and Logistics Efficiency. Managed waste reduction/lean initiatives, which yielded financial savings of over $80 million

Mission-critical Operations Sustainability. Managed Space Systems' business continuity plan, in accordance with Sarbanes-Oxley (SOX)

California State Legislature, Assemblymember Mervyn Dymally
August 2006 – November 2008
Special Assistant, Government Relations

Established and maintained relationships with strategic community leaders, legislators, legislative aides, local elected officials, business trade leaders, public health agencies and organizations, charitable organizations, school districts, health care industry leaders and grassroots constituency groups.

Boeing Satellite Systems
July 2003– October 2004
Project Coordinator

Managed the implementation of the company-wide management system

Directed special leadership initiatives in the Satellite Integration Factory.

Talent Acquisition: Recruited and trained technical staff for satellite assembly, integration and testing.

Community Redevelopment Agency
August 2001 - July 2003
Project Manager, Policy And Governmental Affairs

Leader of cross-functional teams responsible for implementing agency projects toward the end of achieving demonstrable outcomes and impact.

Routinely testified before the California Legislature on behalf of the City and California Redevelopment Association.

Provided communication support to elected officials and regulatory officials on key legislative issues.

City of Compton
August 1998 - August 2001
Council Liaison Officer, Government Relations

Established and maintained positive business relationships with federal, state, county and local officials, community and business leaders, the media and various diverse civic organizations

Provided legislative briefings to the mayor, city council members and city manager

Developed and executed strategies to champion the city's legislative agenda in Sacramento and Washington, DC.

Civic and Community Involvement

President, Governing Board, Compton Unified School District
2011 – Present

Apply keen grasp of the complex issues facing urban schools to help champion students, working families and urban communities. Recently completed two consecutive terms as the Board's President, leading a dramatic turnaround of the district's educational outcomes pull it from the brink of state takeover (or state receivership).

Lead Compton Unified School District in the creation of its Office of Black Student Achievement, recovery from the crisis of pandemic school closures, and the passage of a number of bond measures that will revitalize Compton high schools.

Under tenure, Compton Unified School District has increased overall student achievement and won numerous awards for innovative programming, career and technical education, and student achievement.

Notable Leadership Roles:

Chair-elect, National Black Council of School Board Members
Chair Emeritus, Council of Urban Boards of Education
President Emeritus, Los Angeles County School Trustees Association
President, Compton Creek Mosquito Abatement District Board of Trustees
Emeritus Member, National School Boards Association
Emeritus Member, California School Boards Association
Immediate Past Member, California Racial and Identity Profiling Advisory Board

Presentations, Papers And Thought Leadership

Blueprint for Education Equity (Co-Author)—a living document of best and promising practices from across the state to address the opportunity gap for Black students. https://cabse.org/blueprint/

Ripe for Innovation; Education as Reparations October 1, 2022. NSBA Journal Education as Reparations Series. (Retrieved from https://www.nsba.org/ASBJ/2022/october/ripe-for-innovation)

Governance: A mechanism for education as reparations. January 13, 2023. NSBA Journal Education as Reparations Series (retrieved from https://www.nsba.org/ASBJ/2023/february/governance-education-reparations)

Leveraging Innovations to Reimagine Education, August 1, 2022. NSBA Journal. (Retrieved from: https://www.nsba.org/ASBJ/2022/august/leveraging-innovations)

Enhancing School Safety by Embracing Education as Reparations. December 1, 2022. NSBA Journal. (Retrieved from https://www.nsba.org/ASBJ/2022/december/cube-enhancing-school-safety)

Sexual Orientation and Inclusivity in Schools. October 01, 2018. NSBA Journal. (Retrieved from https://www.nsba.org/ASBJ/Past-Issues/October/sexual-orientation-inclusivity)

Lectures And Presentations

University of California, San Diego
The USC Rossier Urban Superintendents Academy
Urban Superintendents Academy at the Howard University School of Education
University of California, San Diego
The USC Rossier Urban Superintendents Academy
Urban Superintendents Academy at the Howard University School of Education
National, Statewide and Local Education Conferences

In The News

NSBA's Council of Urban Boards of Education Re-elects CUSD Board President Micah Ali to 2018-2019 Leadership
https://lasentinel.net/nsbas-council-of-urban-boards-of-education-re-elects-micah-ali.html

Compton Unified School District Awarded $10 Million Dollar Grant from US Department of Education
https://lasentinel.net/compton-unified-school-district-awarded-10-million-dollar-grant-from-us-department-of-education.html

New California law: Let teens sleep in on school days
https://www.csmonitor.com/USA/Education/2022/0817/New-California-law-Let-teens-sleep-in-on-school-days

Compton School Looking At New Ways To Help African-American Students
https://abc7.com/amp/compton-schools-dominguez-high-school-black-students-african-american-student-achievement/5957966

Dr. Dre Gives Back With $10 Million for School Performing Arts Center for Compton's Young Artists
https://www.the74million.org/article/dr-dre-gives-back-with-10-million-for-school-performing-arts-center-for-comptons-young-artists/

Op-Ed: California universities still have barriers for students of color. Here's how to remove them
https://www.latimes.com/opinion/story/2020-07-31/california-universities-barriers-testing-students-of-color

[redacted]

January 9, 2025

Clerk of the Boards
South Coast AQMD
21865 Copley Drive
Diamond Bar, CA 91765

Clerk of the Boards:

It is my great pleasure to apply to serve as a Public Member on the South Coast Air Quality Management District's (SCAQMD) Hearing Board. It would be both a great joy and an honor to continue to serve the constituents of SCAQMD with the very diligence, robust experience and commitment to community well-being that the work of the Board requires.

I am in deep appreciation for the nearly five years I have had the honor of serving, both as an alternate and as a permanent Board member, and I was honored that my colleagues had the confidence to select me as chair starting July, 1, 2024. It has been a pleasure to deepen my understanding of SCAQMD's work and issues of consideration when deliberating cases. Specifically, the Baker, Booster Fuels, Inc., Chiquita Canyon, Hyperion and Sunshine Canyon Landfill cases which I co-deliberated, truly magnified my regard for the work of Board. It also expanded my long-held passion for protecting our environment.

I was born and reared in an environmentally and air-quality-impacted community. As such, ensuring the quality of the air and natural resources vital to the well-being of communities across our nation has long been of great importance to me. I fully appreciate SCAQMD's processes which aim to ensure that decisions impacting the wellbeing of communities are governed by the interaction of individuals of diverse backgrounds coming together in transparent processes guided by sound policies. Such an approach is well aligned with my own values and interests.

I am grateful for the opportunity to continue to support both the Hearing Board's efforts and how it conducts those efforts. If selected, I will serve with the utmost integrity and look forward to building on my previous experience and continuing to help the Hearing Board fulfill its mission of ensuring that our region has clean and healthy air and preserves clean, healthy environments for future generations.

Sincerely,

Micah Ali

January 10, 2025

Dear HR Manager,

I am pleased to submit my resume for the Public Hearing Board Member. My education and professional experience have prepared me to excel in this role.

As a longtime resident in Orange County and a Public Health professional I have a deep understanding of the importance for having clean air for everyone in the region. Part of my commitment to furthering health equity as it relates to air quality, has been to serve on the SCAQMD Environmental Justice Advisory Group. In this role I have participated in various discussions of how the public sector, industry and SCAQMD can work together to reach the goal of clean air for all.

I have extensive knowledge of the SCAQMD rules and compliance through my professional career.

This opportunity would allow me to use my full skill set to serve those in our community.

I have enclosed my resume for your review and look forward to discussing my qualifications with you, as I am confident that I possess the key attributes the SCAQMD is seeking for this position.

Sincerely,

Suzanne Bilodeau, REHS

Suzanne Bilodeau

Orange, CA | [redacted] | [redacted]

PROFESSIONAL WORK EXPERIENCE:

Sr. Safety Specialist, Knott's Berry Farm, Buena Park, CA 1998- Present

- Responsible for the safety of over 5,000 employees and 4 million annual guests at two amusement parks and a hotel.
- Serving as Industrial Hygiene advisor for all 17 Cedar Fair Amusement and Water Parks across North America.
- Review and approve new hazardous materials before purchased or used on site.
- Develop company and corporate wide Environmental Health and Safety policies, procedures and training programs.
- Train and/or assist departments in training associates to ensure employee safety knowledge and safe practices.
- Represent company for site inspections with state and local agencies including SCAQMD, OCFA, OCHCA, Cal/OSHA & DOSH and ensure completion of any follow up actions.
- Collaborate to create and refine Emergency Response Programs and Disaster Preparedness plans.
- Ensure company compliance with permitting, annual reports and proposed regulations with Cal/OSHA, SCAQMD, CUPA, CARB, DTSC and OEHHA.
- Maintain environmental regulatory compliance with a record of zero major violations in 25+ years.
- Oversee RCRA and non-RCRA hazardous waste, universal and electronic waste management and disposal.
- Conduct ergonomic surveys for both workstation and job specific evaluations.

Safety Specialist, Knott's Berry Farm, Buena Park, CA 1995-1998

- Coordinated and acted as Ride Safety Inspector as part of a 5-department weekly audit program for 3+ years.
- Oversaw the contractor lead and asbestos abatement projects, from obtaining bids to completion.
- Conducted regular safety audits of four new ride construction projects.
- Developed and implemented written safety programs and conducted subsequent trainings completed 1,000+ employees.
- Industrial Hygiene monitoring of chemical and physical hazards, and indoor air quality evaluations.
- Participated in accident investigations and recommended corrective actions.

Consulting Industrial Hygienist, Health Science Associates, Los Alamitos, CA 1993-1995

- Provided industrial hygiene monitoring (air, noise, radiation and microbiological), data analysis and corrective recommendations for a broad base of clients.
- Performed indoor air quality evaluations, safety evaluations, and environmental assessments.
- Prepared technical reports and compliance policies for over 50 clients in a diverse range of industries.

EDUCATION:

- Masters of Public Health (MPH) – Industrial Hygiene — University of California, Los Angeles (UCLA)
- B.S. with Honors in Biological Sciences — University of California, Irvine (UCI)
- B.A. in Applied Ecology — University of California, Irvine (UCI)

CERTIFICATIONS AND AWARDS:

- Associate of the Quarter (2018- 3rd quarter) at Knott's Berry Farm for continuous outstanding work, reliability and positive attitude.
- Registered Environmental Health Specialist (#6344) – State of California, Dept. of Health Services (expires 12/22)
- Certified Industrial Hygienist * (Nov. 1997- Dec. 2002) – American Board of Industrial Hygiene
  * Voluntary surrender that can be reactivated upon completion of CEUS (CP1409)
- CERT (Community Emergency Response Team) certified – City of Orange (October 2016)

ROBERT D. COPELAND

[redacted] • Signal Hill, CA • [redacted]

January 4, 2025

Dear Human Resources Manager,

I am writing in reference to the vacancies for the SCAQMD Hearing Board members, specifically the Public Member Alternate. I believe my work experience and my record of community involvement positions me to be a contributor to the SCAQMD's goal of ensuring clean and healthful air in the South Coast basin.

Currently I am the Senior Manager of Global Chemical Policy & Strategy in the Global Enterprise Sustainability organization for The Boeing Company. In this role I am responsible for executing the enterprise-wide advocacy strategy for emerging chemical regulations. In previous roles I was responsible for environmental compliance at Southern California Boeing sites with operations that included engineering, test and evaluation, research, and manufacturing of aerospace and military products. All of my roles have focused on maintaining compliance with environmental regulations and each of them has exposed me to varying types of regulations and methods to comply. This experience, including experience working directly with the SCAQMD on compliance matters, certainly provides a valuable perspective for the Hearing Board.

I have taken an active leadership role in my community and strive to be a good representative of the community members. First elected in 2017, I continue to serve on the City of Signal Hill City Council. This position has provided experience interacting with the public to understand their concerns and work with them and city staff to help resolve issues and improve my community. It has also provided me valuable experience in deliberating openly and honestly in a public forum. In addition, it has been my pleasure to serve as a Public Member Alternate on the SCAQMD Hearing Board since my first appointment to the position in 2012.

I am very interested in the Public Member Alternate position and look forward to an opportunity to speak with you. Thank you for your time and consideration.

Respectfully yours,

Robert D. Copeland

ROBERT D. COPELAND

[redacted] • Signal Hill, CA • [redacted]

SUMMARY

Leader with experience managing complex programs requiring integration of teams and functions across a global enterprise. Demonstrated record of strategically re-aligning challenged projects to achieve key business objectives. Recognized as an expert in process and digital system development to manage compliance and sustainability risks.

EXPERIENCE

The Boeing Company

Senior Manager, Global Chemical Policy & Strategy, 2022 - Present

- Promoted to develop the enterprise chemical sustainability strategy.
- Lead team to analyze emerging global chemical regulatory activity and develop strategies to mitigate risks to company operations.
- Lead and coordinate the development of an integrated chemical strategy to facilitate sustainable product design.
- Ensure accurate capture, assessment, and mitigation of chemical compliance risks for all products and distribution businesses.

Program Manager, Chemical Compliance Strategy, 2020 - 2022

- Selected to join the newly formed Enterprise Sustainability organization and develop the enterprise-wide chemical compliance strategy.
- Led cross functional enterprise-wide team to develop assessment process to evaluate risks posed by chemical regulations (REACH, TSCA, WFD, etc.) on business continuity.
- Partnered with Engineering, Product Development, Policy, and Legal to ensure data and data systems are appropriate to manage chemical contents of parts and formulations.

Deputy Program Manager, EHS Digital Transformation, 2017 - 2020

- Selected by executive leadership to lead the enterprise-wide implementation of EHS management system software.
- Led the four-year initial phase of platform configuration, process alignment, design and launch of all Enablon environmental applications with a global team of 70 EHS professionals.

Senior Manager, Environmental Programs, 2008 - 2017

- Promoted to lead a team of environmental engineers at four major manufacturing facilities.
- Achieved initial ISO140001 certification for multiple facilities in less than one year.
- Partnered with regulatory agencies on several projects to further compliance and resource conservation. Earned one-time rebates and cost savings of $5.5 million and annual rebates and costs savings of over $570,000.

Environmental Engineer/Scientist, 1998 - 2008

- Developed and maintained environmental compliance programs in all environmental disciplines at four facilities.

EDUCATION

Juris Doctor	Southwestern University School of Law
Masters of Business Administration	Pepperdine University
Bachelor of Science, Chemistry	University of California, Los Angeles

Steve Dunwoody

Objective: Environmental advocacy professional with extensive experience developing advocacy strategies for engaging on climate change, clean energy, and environmental justice.

Skills: Develop and execute engagement strategies with a proven record of results; stakeholder outreach and engagement at the state, Federal, and local levels; adept at staff leadership, direction, and guidance; excellent writing and interpersonal communication skills; drafting internal and external communications documents; media and interview savvy; excellent public speaker for briefings and presentations before individual and organizational stakeholders; monitoring legislation and policy trends; fundraising, financial management, reporting, and budgetary planning; energetic, self - motivated; team-oriented; thrive working in a fast-paced environment, meeting tight deadlines; "big picture" strategist; MS Office Tools; Slack

Professional Experience:

Independent Consulting, Los Angeles/Sacramento/Washington, DC, 2020-Present
Environmental Advocacy Consultant

- Direct and design environmental advocacy strategies for companies, nonprofit clients, trade associations, campaigns, and institutions, emphasizing state and federal policy. Relevant successful campaign advocacy work:
    - *Transition to Clean Energy at Inglewood Oilfield*
    - *California Legislature Clean Energy Bills SB 350 and AB 197*
    - *Protecting the San Gabriel Mountains & Mojave National Preserve*

Climate Nexus, Washington, DC, 2023- 2024
Director, Government Affairs

- Led stakeholder engagement at the Federal level to over 70 member offices in Congress on issues ranging from clean energy, climate change, and environmental justice.
- Monitored and reported on legislation and hearings, keeping staff and leaders informed.
- Managed staff to assist Congressional staff outreach, providing offices with briefing materials, fact sheets, and talking points on environmental and energy issues.

Tom Steyer for President 2020, San Francisco, CA, 2019-2020
California Political Director

- Designed and oversaw the execution of a strategic engagement plan for clean energy investor Tom Steyer, garnering the support of over 60 elected state legislators.
- Supervised a team of 6 Deputy Directors, ensuring coordination of their efforts and providing guidance, support, and feedback on implementing an engagement strategy.

UCLA, Institute of the Environment and Sustainability, 2018-2019
Deputy Director, Center for Diverse Leadership in Science

- Led public engagement, operations, fundraising, personnel, budget, and administration of the Center for Diverse Leadership in Science (CDLS), which focused on recruiting and preparing underserved students for careers in the environment and STEM fields.
- Developed a strategic plan for organizational engagement of stakeholders on campus and at the local, state, and Federal levels, enhancing the organization's visibility.

The Vet Voice Foundation (501c3), Los Angeles, CA, 2014-2017
California Director

- Directed Federal, state, and local partnerships, building and utilizing a membership network of over 60,000 veterans statewide for advocacy efforts in climate change, conservation, and clean energy issue campaigns, organized online petitions, press conferences, and legislative advocacy, securing nearly $2 million in funding.

Obama Administration, Washington, D.C., 2009-2012
Political Appointee
U.S. Department of Energy, *Special Assistant to Deputy Secretary of Energy, 2011-2012*

- Oversaw briefing preparations for the Deputy Secretary, directing representatives across the department to provide briefing documents for meetings.
- Served as a spokesman for a program to train veterans for clean energy jobs.

The White House, *Staff Assistant, 2010-2011*

- Managed operations for multiple offices, coordinating meetings, logistics, and policy documents across several Federal agencies, meeting tight deadlines.

U.S. Department of Defense, *Special Assistant for Budget and Appropriations, 2009-2010*

- Assisted with coordinating legislative affairs office focused on budget, served as liaison to Capitol Hill, and provided research & analysis to department executives.

Obama for America Campaign, Multiple States (IA/NV/WA/OH/KY/IN/NC/PA/MI), 2007-2008
State Outreach Director/Field Organizer

- Managed the day-to-day operations of nine-member staff in executing aggressive outreach plans to key demographic groups throughout the state; efforts augmented support in targeted areas and maximized voter turnout.
- Recruited, trained, and coordinated volunteer phone and door-to-door canvassing activities to increase the campaign's supporter base before eight primary elections.

Military Service:

U.S. Air National Guard, 2001- 2007
Financial Manager/Staff Sergeant

- Managed and accounted for $4.5 million in cash funds for infrastructure projects in Iraq.
- Coordinated payments to contractors for tools, supplies, and other materials.
- Performed customer service duties for a unit serving over 400 personnel.
- Awarded Commendation Medal and named "Most Outstanding Airman" in SW Asia.

Internship:

The U.S. Commercial Service, The U.S. Embassy - London, 2006
Commercial Service Specialist/Intern

- Developed market research reports on business-identified key players in the market.
- Liaised with clients from U.S. companies seeking to partner with UK counterparts.
- Staffed a Business Information Office for potential clients at an international trade show.

Education:

UCLA Law School

- Coursework in "*Energy Law and Regulation" & "Legislation and Statutory Interpretation"*

University of California - Berkeley, CA, The Goldman School of Public Policy
Master of Public Affairs(MPA) - Concentration: Advocacy

- Completed coursework in advocacy, campaign communications, and voter behavior.
- Served on a committee to advance diversity, equity, and inclusion within the school.

Kent State University - Kent, Ohio, College of Arts and Sciences
Bachelor of Arts - Political Science

- Founded and served as President of the Kent Political Union

Teaching Experience:

UCLA, *"**Intro to American Politics", 2022***
UC - Berkeley, *"**Culture and the Environment", 2021, "California Politics", 2020***
Santa Monica College, *Lecture: "What Is Environmental Justice?", 2022*
UC - Irvine, Dept. of Science, *Lecture: "How to Engage Elected Officials", 2019*

Professional Associations:

Sierra Club - LA Chapter, Fmr. Board Member/Conservation Committee Chair
SCOPE (Strategic Concepts for Organizing Policy Education), Board Member
National Association of Black Veterans, Member

Stephen Dunwoody
[redacted]

Hiring Manager
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

12/10/2024

Dear Hiring Manager,

I am writing to express my interest in the position on the South Coast Air Quality Management District's (South Coast AQMD) Hearing Board. With a strong background in environmental advocacy and policy development, coupled with extensive experience in stakeholder engagement and regulatory processes, I am excited about the opportunity to contribute to South Coast AQMD's mission of ensuring clean air and a healthy environment for Southern California.

As a seasoned professional with over a decade of experience in the environmental sector, I have developed and executed engagement strategies that have consistently delivered results. My tenure as Director of Government Affairs at Climate Nexus involved leading stakeholder engagement at the federal level, interacting with over 70 member offices in Congress on critical issues such as clean energy and climate change. I monitored and reported on legislation, ensuring our team was informed and prepared to advocate effectively.

In my role as an Environmental Advocacy Consultant, I designed political advocacy strategies for a diverse range of clients, emphasizing energy and environmental policy. My work on successful campaigns, such as the Transition to Clean Energy at Inglewood Oilfield and California Legislature Clean Energy Bills SB 350 and AB 197, underscores my capability to drive impactful policy initiatives that align with South Coast AQMD's goals.

My experience extends to supervisory roles where I have managed teams and coordinated efforts across various levels of government. As California Political Director for climate investor Tom Steyer's presidential campaign, I led a team of six Deputy Directors in executing a strategic engagement plan that garnered widespread support from elected officials and stakeholders.

Additionally, my tenure with the Obama Administration provided me with a solid foundation in federal regulatory processes and interagency collaboration. As Special Assistant to the Deputy Secretary of Energy, I oversaw briefing preparations and served as a spokesman for a program to train veterans for clean energy jobs.

I am particularly drawn to South Coast AQMD because of its commitment to creating and maintaining a diverse and inclusive work environment. My leadership skills, coupled with my passion for environmental justice, align perfectly with the values and mission of South Coast AQMD.

I am eager to bring my skills and experience to the South Coast AQMD's Hearing Board, where I can contribute to making informed decisions that ensure fairness in regulatory actions and support the goal of clean air for all. Thank you for considering my application. I look forward to the opportunity to discuss my candidacy further.

Sincerely,

Steve Dunwoody

ADRIENNE KONIGAR-MACKLIN, ESQ.
[redacted]

January 7, 2025

Department Administrator
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California, 91765

Re: Hearing Board Member (Public Member Appointment)

Dear Administrator:

I am writing in response to the opening for a Hearing Board Member (permanent and alternate) with the Air Quality Management District in Diamond Bar, California, posted on your website. I have an extensive and solid legal background, highlighted on the attached resume, which I believe illustrates that I have the skill, experience, and knowledge to serve and that I would be an excellent choice for you to consider for this position.

I currently serve as the Alternative Attorney Member for the past four years. In that capacity I have sat for numerous hearings and volunteered to work with outside board counsel to establish hearing protocol and procedures. I believe that working together and fostering open dialogue with the community is essential to the work performed as hearing board members. We are not only to protect the community interests, but to ensure services are provided that meet the environmental standards set forth by our state and county.

In addition, for more than three decades, I have served as a lawyer, general counsel, hearing officer and certified mediator/dispute resolution professional. I have served as an Administrative Law Judge for the State or California, and as a hearing officer for numerous public agencies, including the City of Los Angeles. I am a graduate of U.C. San Francisco College of Law (formerly Hastings College of Law) and I am licensed to practice law in the state of California, the United States Central District Court and before the United States Supreme Court.

In my capacity as an Administrative Law Judge II, I routinely ascertained and reviewed pertinent evidence, weighed evidence, prepared summaries of fact, and rendered decisions. I was also assigned to analyze difficult and complex legal problems in state taxation cases and applied legal principles and precedents to particular sets of facts concerning federal and state law, regulations to render a decision and adopt a decisive course of action.

Prior to my work as an Administrative Law Judge, I served as a hearing officer and settlement officer for various public agencies, presiding over quasi-judicial hearings as provided under the Administrative Procedure Act and other state and federal statutes. I was responsible for conducting fair and impartial hearings while controlling the course of the hearing in a manner that would secure confidence and respect. I was also responsible for applying principles of law, ruling on the relevance or admissibility of evidence as provided by law, issuing subpoenas, receiving, and reviewing evidence, examining testimony, preparing decisions containing findings of facts and conclusions of law and advising administrative agencies on the application of law, policies, and regulatory compliance with issued decisions.

As the General Counsel for several public agencies, I have significant experience in establishing and maintaining cooperative relations with those with whom I work. My former position(s) allowed me to develop an administrative skill set applicable to developing and ensuring levels of efficiency. In addition to my legal and adjudication skills, I have served as a school board president and member for over 11 years. This position is also relevant to the skill set needed to serve as an Attorney Board Member, as I am often required to interface with the public, hear issues and complaints and administer opinions while working in concert with other board members.

I have the temperament, communication skills and patience to interact with members of the public who appear. My strong work ethic is evidenced by my work history and references which are indicated on the application as requested. As a dedicated public servant, I believe I would make a solid addition to the board as the Attorney Member or Alternate.

ADRIENNE KONIGAR-MACKLIN, ESQ.
[redacted]

I welcome the opportunity to further discuss the possibility of becoming the newest attorney board member (or alternate) and I am available for an interview at your convenience. Thank you for your time and attention.

Sincerely,

Adrienne Konigar-Macklin
Adrienne Konigar Macklin, Esq.

ADRIENNE KONIGAR-MACKLIN, ESQ.

[redacted]

BAR MEMBERSHIP

California State Bar 1987
United States District Court, Central District 1987
United States Supreme Court 2005

EDUCATION

University of California, San Francisco Hastings College of Law	J.D., 1984
University of California, Irvine/Dartmouth College Social Ecology/Political Science	B.A., 1981
Pepperdine University, School of Law Strauss Institute for Dispute Resolution	Certification 1997

ELECTED BOARD OFFICES

Pomona Unified School District Board of Education-Appointed 5/2008
Pomona Unified School District Board of Education-Elected 11/2009/President 2010
Pomona Unified School District Board of Education-Elected 11/2013/President 2015
Pomona Unified School District Board of Education-Elected 11/2018- 12/22President 2020

BOARD OFFICES

California 48th District Agricultural Board, Governor Gavin Newsom Appointment, 2024
AQMD, Alternate Attorney Hearing Board Member, 2021-2024
Pomona Unified School District, Member, Past-President, 2008-2022
California State University Dominguez Hills/ Mervyn L. Dymally Political Policy Advisory Institute, President 2020-2024
California State University Dominguez Hills/ Mervyn L. Dymally Political Policy Advisory Institute, Vice President, 2018-2020
California State University Dominguez Hills/ Mervyn L. Dymally Political Policy Advisory Institute, Member 2017, 2022-present
Los Angeles County Commission on Children and Families, 2nd Supervisorial District, 2013-2016
Board of Directors, Serra Catholic High School, 2012
California Association of African American Superintendents and Administrators, 2006-Present

EMPLOYMENT

Law Offices of Adrienne Konigar & Associates
Managing Partner
9/2022-Present

Advise school district and educational corporations on policy, board policies,laws and contract provisions; Serve as lead counsel to the district board and staff; advise Board of Education on application of the Fair Political Practices Act, the Ralph M. Brown Act, the Radda Act, and public employment labor law and policy; advise Board of Education and staff on legal issues pertaining to the Charter School Act, the IDEA, special education law, worker's compensation, civil rights, constitutional law, collective bargaining of union contracts.

San Diego County Office of Education
Firm General Counsel
Law Offices of Adrienne Konigar & Associates
2/2018-8/2022

Served as lead counsel to the Superintendent and staff; advise and represent county office executive level officers and administrators, in the development, adherence and implementation of public policy and legislation; advise Board of Education on application of the Fair Political Practices Act, the Ralph M. Brown Act, the Radda Act, boardsmanship, public employment labor law and policy; advise Board of Education and staff on legal issues pertaining to the Charter School Act, the IDEA, special education law, worker's compensation, civil rights, constitutional law, collective bargaining of union contracts, student expulsion, public construction funding, territory annexation, public facility modernization and funding, public contracting, school construction and administrative law; provide in-service training on sexual harassment, special education and Section 504 compliance; special education and affirmative action; monitor and assure District's legal compliance with state and federal workplace and funding regulations; represent District in proceedings before the Public Employment Relations Board, the State Department of Education and other state agencies; represent county office in arbitration of employee grievances in state and federal litigation; supervise outside counsel in litigation; coordinate legal services with insurance providers; initiate and defend litigation; review and provide direction on pleadings, legal strategies; maintain costs and oversee efficient case management; develop and monitor legal expenditures; prepare written opinions and conduct independent investigations; provide general legal advice; manage coordination of legal services between Office of the General Counsel and Human Resources. Serve as Special Counsel on school improvement; develop and implement legal infrastructure and legal policies; oversee administration of legal services; coordinate provision of legal services for county school district.

Lynwood Unified School District
General Counsel and Assistant Superintendent of Human Resources
1/2013 to 1/2017

Serve as lead counsel to the Board of Education and elected officials; advise and represent school district executive level officers and district administrators, in the development, adherence and implementation of public policy and legislation; advise Board of Education on application of the Fair Political Practices Act, the Ralph M. Brown Act, the Radda Act, and public employment labor law and policy; advise Board of Education and staff on legal issues pertaining to the Charter School Act, the IDEA, special education law, worker's compensation, civil rights, constitutional law, collective bargaining of union contracts, student expulsion, public construction funding, territory annexation, public facility modernization and funding, public contracting, school construction and administrative law; provide in-service training on sexual harassment, special education and Section 504 compliance; special education and affirmative action; monitor and assure District's legal compliance with state and federal workplace and funding regulations; represent District in proceedings before the Public Employment Relations Board, the Commission on Professional Competence and other state agencies; represent Adult School; represent District in arbitration of employee grievances in state and federal

litigation; supervise outside counsel in litigation; coordinate legal services with insurance providers; initiate and defend litigation; review and provide direction on pleadings, legal strategies; maintain costs and oversee efficient case management; develop and monitor legal expenditures; prepare written opinions and conduct independent investigations; serve as counsel to the Personnel Commission; supervise and manage legal and non-legal staff; provide general legal advice; manage coordination of legal services and Office of the General Counsel and Human Resources. Serve as Special Counsel on school improvement.

California Unemployment Insurance Appeals Board
Administrative Law Judge II
9/2010 to 12/2013

Presides over quasi-judicial hearings on complex, and sensitive matters, as provided under the Administrative Procedure Act, State tax law and other state and federal statutes; control the course of the hearing, secure its reasonable expedition and orderly conduct throughout; apply legal principles, evidence, and precedents to issues of law; question witnesses; rules on the relevancy or admissibility of evidence as provided by law; issue subpoenas; receive and review evidence; examine testimony; prepare proposed decisions containing findings of facts and conclusions of law; advise administrative agencies on application of law and complying with issued decisions; prepare reports to supplement findings; opine on matters of policy, procedure, and interpretation of laws and administrative regulations; assist in research programs in connection with the study of administrative law and procedure including their relationship to effective public administration; assist with the preparation of reports on the research program for the Governor and the State Legislature.

Aleshire & Wydner, LLP
Partner- Education/Litigation
12/2008 to 8/2010

Serve as counsel/city attorney to various municipal corporations and entities; initiate and defend litigation; review and provide direction on pleadings, legal strategies and prepare written opinions and conduct independent investigations. Litigate in state and federal court; supervise litigation and associates in the handling of litigation and transactional matters; counsel to elected officials on application of labor and employment laws and regulations, the Fair Political Practices Act, the Ralph M. Brown Act, the Radda Act, and public employment labor law and policy; represent school districts and cities before the EEOC, DFEH and Public Employees Relations Board; represent agencies in administrative law matters; advise and represent school district executive level officers and district administrators; provide advice on the Charter School Act, worker's compensation, civil rights, constitutional law, collective bargaining of union contracts, public construction funding, territory annexation, public facility modernization and funding, public contracting, school construction and administrative law.

Inglewood Unified School District
General Counsel
8/2003 to 9/2008

Serve as lead counsel to the Board of Education and elected officials; advise and represent school district executive level officers and district administrators, in the development, adherence and implementation of public policy and legislation; advise Board of Education on application of the Fair Political Practices Act, the Ralph M. Brown Act, the Radda Act, and public employment labor law and policy; advise Board of Education and staff on legal issues pertaining to the Charter School Act, the IDEA, special education law, worker's compensation, civil rights, constitutional law, collective bargaining of union contracts, student expulsion, public construction funding, territory annexation, public facility modernization and funding, public contracting, school construction and

administrative law; provide in-service training on sexual harassment, special education and Section 504 compliance; special education and affirmative action; monitor and assure District's legal compliance with state and federal workplace and funding regulations; represent District in proceedings before the Public Employment Relations Board, the Commission on Professional Competence and other state agencies; represent Adult School; represent District in arbitration of employee grievances in state and federal litigation; supervise outside counsel in litigation; coordinate legal services with insurance providers; initiate and defend litigation; review and provide direction on pleadings, legal strategies; maintain costs and oversee efficient case management; develop and monitor legal expenditures; prepare written opinions and conduct independent investigations; serve as counsel to the Personnel Commission; supervise and manage legal and non-legal staff; provide general legal advice; manage coordination of legal services and Office of the General Counsel.

Los Angeles Unified School District
Associate General Counsel II, Field/General Services Legal Division Chief
11/2001 to 8/2003

Represented and supervised the provision of legal services to 1100 school sites, administrators and instructional divisions within the Los Angeles Unified School District on issues concerning implementation of instructional policy, preventative policies and compliance with law; advised administrators on student constitutional and civil rights, emergency response procedures, educational equity, child abuse and compliance; represented District in class action lawsuits; supervised and directed work of staff attorneys assigned to Field Services; advised administrators and executives on matters of administrative law; advised dependency court on application and interpretation of special education laws and legal requirements; advised Board of Education, Superintendent, Assistant and Associate Superintendents, Local District Superintendents and staff on instructionally relevant legal issues; represented Adult School division; assisted in the development and negotiation of educational policies; served as liaison to the City of Los Angeles on inter-governmental relations; assisted in the development and formulation of inter-agency schools; developed Charter School review process, advised on policies and provided advice on Charter School Act; provided advice on Section 504 compliance and special education; provided and directed the preparation and provision of legal opinions, drafting and revision of district policies; represented District before state and federal regulatory agencies; directed and supervised litigation and litigation strategies; supervised, managed and directed staff; monitored and supervised litigation budgets and expenses; served as General Counsel upon request of District General Counsel.

Los Angeles Unified School District/Barbosa Garcia LLP
Supervising Staff Counsel, Special Education
5/1996 to 11/2001

Represented the Los Angeles Unified School District in the 83,000 plaintiff *Chanda Smith* special education class action lawsuit and in all special education legal matters; drafted and advised Board and staff on issues of state and federal special education policy and law; supervised and directed the work of special education staff attorneys; represented District in due process hearings, state and federal courts and before consent decree special masters; negotiated and advised on implementation of special education legal corrective action plans; served as a liaison to Barbosa Garcia LLP on case
management; supervised and directed outside counsel; prepared litigation budgets and case management reports.

Pomona Unified School District
General Counsel/Legal Advisor
8/1987 to 4/1996

Advised and represented District in drafting, negotiation and maintenance of employee collective bargaining agreements; advised Board of Education and staff on issues of labor, contract, education, and administrative law; implemented and monitored Affirmative Action Plan; monitored and assured District's legal compliance with state and federal workplace and funding regulations; drafted and implemented District policies on employee relations; represented District in proceedings before the Public Employment Relations Board and the Commission on Professional Competence, specifically litigating unfair labor practice charges and in the dismissal and suspension of classified and certificated employees; represented District in arbitration of employee grievances; consulted and contracted with outside counsel on issues of land acquisition, eminent domain, and certificates of participation; developed and implemented Board policy on assessment and implementation of developer fees; represented District in state and federal litigation; advised Board on implementation of District policy concerning open meeting laws and conflict of interest provisions; represented District before other state agencies; coordinated work of and supervised outside counsel; initiated and defended litigation.

ARBITRATION/MEDIATION

- Judge Pro-Tem Los Angeles and San Bernardino Superior Courts
- Dispute Resolution Services
- Los Angeles County Superior Court Mediation and Settlement Officer
- City of Los Angeles Personnel Commission Hearing Officer
- Centinela Valley School District Personnel Commission Special Counsel/Hearing Officer
- Ontario- Montclair Personnel Hearing Officer
- City of Los Angeles Department of Disability Hearing Officer
- Chino Unified School District Hearing Officer
- Mountainview School District Hearing Officer
- Pomona Unified School District
- ASCIP Insurance Cooperative
- Corona-Norco School District Hearing Officer
- Hawthorne School District-Hearing Officer
- Adelanto School District-Special Counsel/Board Advisor/Investigations
- Lucerne Valley School District-Hearing Officer
- City of Carson-Special Counsel- Risk Management/Personnel Investigations
- Apple Valley Union High School District
- 100 Black Men, Riverside

PROFESSIONAL ORGANIZATION AFFILIATION

- Advisory Board Cal State Dominguez Hills/ Mervyn L. Dymally Institute, Vice President 2018-2020
- Los Angeles County Commission on Children and Families, 2nd Supervisorial District, 2013-2016
- Board of Directors, Serra Catholic High School, 2012
- President, Pomona Unified School District Board of Education, 2010, 2015, 2020
- General Counsel, California Association of African American Administrators and Superintendents (2005-2011)
- Life Member, California Association of Black Lawyers/President, (2008-2009)
- Life Member, Black Women Lawyers of Los Angeles, Inc./ President (2002-2003)
- Board of Directors, John Langston Bar Association Education Committee Chair, (2005-2007),

- California State Bar Association, Public Law Section Executive Committee Member, (1990-1993)
- Member, School Law Attorneys Association
- Member, Editorial Board (1997-1998), Los Angeles Lawyer Magazine
- Member, National School Boards Association Council of Attorneys
- Board of Directors (1990-1993), House of Ruth Women's Shelter
- Mt. Zion Church, Financial Advisory Board (2017-2018)
- Board of Directors (1987-2003), First Baptist Church of Greater Los Angeles
- Board of Directors, Treasurer, (2004-2007) Diamond Bar/ Pomona Youth Basketball Association
- Board of Directors (2006) Salvation Army Pomona Valley
- Member, University of California Hastings Alumni Association
- Board Member, (2008- 2013) Pomona Unified School District
- Member, Alpha Kappa Alpha Sorority, Incorporated
- Member, The Links, Incorporated
- Member, Chums, Inc.
- The Links Inc., Western Area Ethics Chair, The Links, Inc. (2014-2019)
- The Links, Inc., Western Are Organization Effectiveness Chair (2019-Present)
- University of California, Irvine, Alumni Association
- University of California Hastings College of Law, Alumni Association

GUEST LECTURER/TEACHER/SPEAKER

- Ventura County Non-Profit Association, Ethical Leadership
- California School Board Association- Education 2012 and the Federal Education Act- "Why We Can't Wait."
- "Taming the Tongue" Mt. Zion Church, Bible Teaching Series
- "Bag Lady", Letting Go to Grab On"- Women of the Word, MZ 2016
- Mervyn Dymally/ Cal State Dominguez Hills, "Aging Symposium" Seniors STILL Have It"
- CSEA Area 14- Anatomy of Collective Bargaining and Administrative Law
- CAAASA - Administrative and Legislative Law- Accessing the Court System
- California State University Los Angeles, "The Business of Education"
- School Employees Association of California- SEAC's School Management Negotiators Certificate Program

HONORS

A complete list of honors and awards is available upon request

PUBLICATIONS

H.E.L.P. Handbook of Emergency Legal Procedures-Los Angeles Unified School District, 1985. Revision Author.

Article: "The Business of Education, Issues That Arise During Board Meetings: Anatomy of a Board Meeting", April 1998, National School Boards Association (NSBA) Counsel of School Attorneys

"Ethically Speaking…Ethically Leading" Webinar Series (2014-2018)

Available Upon Request

Steven L. Samaniego

[redacted]

December 10, 2024

Ms. Terri Steele, Human Resources Manager
South Coast Air Quality Management District
21865 Copley Dr, Diamond Bar, CA 91765

Re: South Coast AQMD Hearing Board Members - Public and Medical Appointments (Regular and Alternate).

Dear Ms. Steele,

Thank you for this opportunity to submit this application for the SCAQMD Hearing Board Member Public Appointments (Regular and Alternate) position.

My training relevancy, experience, and interest to the work with the South Coast AQMD Hearing Board are listed below:

- I am currently an appointed Public Alternate Hearing Board Member for the South Coast AQMD Hearing Board, and I enjoy the duties and responsibilities of serving the public in that capacity.

- My past 45 years of public service experience has been involved with enforcing environmental regulations to protect our environment, including air quality. I have a good understanding of environmental issues, including air quality concerns.

- I have served as an appointed Hearing Panel Officer Commissioner to the Los Angeles County Board of Supervisors for the Public Health Department Environmental Health Waste Management Department.

- I have also served as an appointed Hearing Officer Commissioner to the Los Angeles City Council for the Public Works Environmental Services Department to the Sunshine Canyon Landfill operations.

I am interested in applying to serve a second term as an alternate or regular capacity to the South Coast AQMD Hearing Board because as a current alternate to the board. I enjoy the duties and responsibilities of serving the public in this capacity and I am passionate about working jointly with the industry to improve our local and global air quality standards in achieving South Coast AQMD's goal in protecting the health of 17 million people in the South Coast Air Basin.

Sincerely,

Steven L. Samaniego

RINCON ENVIRONMENTAL LLC

STEVEN L. SAMANIEGO
[redacted]

PROFILE

Over 45 years of experience working in the Environmental Public Health and Safety Regulatory Environmental Compliance fields specializing in Food Establishments, Waste Management, Water Quality and Air Quality.

PROFESSIONAL EXPERIENCE

July 1, 2022 to present: appointed to the South Coast AQMD Hearing Board as an Alternate Public Member.

March 2020 to present: City of West Covina Waste Management Local Enforcement Agency (LEA) Contract Services Implementation of Cal Recycles LEA Enforcement Program Plan (EPP) assuring state regulatory environmental compliance with the BKK landfill.

December 2016 to 2022: City of Los Angeles City Council appointment to the Independent Hearing Panel of the Department of Building and Safety Environmental Affairs Division's Local Enforcement Agency of the Sunshine Canyon Landfill.

June 2016 to 2022: County of Los Angeles Board of Supervisors Appointed Commissioner to the Department of Public Health Environmental Health Services Solid Waste Facilities Hearing Board.

August 2000 to 2022: UCLA Environmental Health Services Curriculum advisory board member.

June 2009 to 2016: City of West Covina Waste Management Local Enforcement Agency (LEA) Contract Implementation of Cal Recycles LEA Enforcement Program Plan (EPP) assuring environmental compliance with the BKK landfill.

1992 – 2009: Environmental Management Director, City of West Covina - Responsibilities included administering the City's Local Solid Waste Management Local Enforcement Agency program including oversight of the City's waste collection & recycling systems ensuring that the BKK Landfill and waste collection in the City were operated in compliance with all applicable state environmental solid waste management laws and regulations.

1979 - 1992 – Environmental Health Specialist, Riverside County - Responsibilities included Environmental Regulatory Enforcement Compliance in the public health and Safety programs of food, housing, drinking water supply, swimming pools, waste collection, landfills, plan check and supervision of the Waste Management Local Enforcement Agency program for all Riverside County landfills.

EDUCATION

California State University Long Beach, BA Biology/Environmental Science Emphasis

Clerk of the Boards, SCAQMD
21865 Copley Drive
Diamond Bar, CA 91765

Dear Hearing Board; December 26, 2024

I am applying for the public hearing board position. My qualification for this position is I have over 25 years of experience in the environmental field. I worked for four years at the SCAQMD as an Air Quality Engineer. I have strong knowledge of Air Quality Regulation, and its applicability to industries. During my work, I have attended hearing boards numerous times and understand the role of the board member's responsibilities towards the public. I believe strongly that I am a good candidate for this position.
If you have any questions or comments, don't hesitate to get in touch with me.

Sincerely

Frank Tavakoli
[redacted]

RESUME
for
CYNTHIA VERDUGO-PERALTA
Present South Coast AQMD Hearing Board Chair
Administrative Law Judge and Air Pollution Control Specialist

OBJECTIVE: To continue to utilize over 30 years of extensive air quality experience, as a regulator (South Coast AQMD Governing Board Member and Hearing Board member), stake holder and advocate for clean technologies and small businesses, to ensure fairness for the regulated community, as well as to help mitigate poor air quality that is affecting the health of over 17 million residents in the South Coast Basin. My goal is to find a balance between clean air, while promoting a robust economy in in the four county region of the South Coast AQMD region.

AIR QUALITY EXPERIENCE (over 30 years)

South Coast Air Quality Management District Board

- Hearing Board: Public Member, 2013 – to present.
  - Originally appointed in 2013, as alternate; then appointed as a regular member in 2019
  - Served as Chairperson, from 2021 to 2024 (3 term.
  - First person to ever serve on both the Governing Board and the Hearing Board.
  - Adjudicate and provide an appellate process for companies and public agencies that are subject to South Coast AQMD rules and regulations. Grant variances, revoke and/or suspend operating permits and issue Orders of Abatement.
  - As Chairperson lead all Hearings; respond to any Emergency and/or Ex Partee requests, review all out-going documents, i.e., Minute Orders, Findings & Decisions. Provide training for my fellow board members, as well as District Inspectors.
- Governing Board: Governor's Appointee/Air Pollution Control Specialist, 2000 – 2007
  - First Latina appointed by a Governor to this position.
  - Confirmed unanimously by the Senate Rules Committee and the full Legislature, twice.
  - Assisted in rule development and voted on rules and regulations affecting emissions from stationary sources and public fleets in the four county Los Angeles Basin and responsible for a $150M annual budget.
  - Prior to Governing Board appointment, from 1993 – 2000, as well as during tenure as a Governing Board member, served on several South Coast AQMD standing committees, including Local Government/Small Business Advisory Group; Technology Advancement Committee, Vice-Chair; Ethnic Community Advisory Group, Chair; and Environmental Justice Task Force and Permit Streamlining Task Force.
  - Created and chaired the Small Business Amnesty & Permit Streamlining Conference, to promote positive relations between the South Coast AQMD and the business community, while assisting them in bringing them into compliance by providing tools and the time to do so.
  - Delivered numerous domestic and international oral presentations regarding air quality, energy, alternative transportation, zero emission fuel vehicles, refueling infrastructure and the importance of strategic partnerships. Published a White Paper, *"Accelerating Hydrogen Refueling Infrastructure by Jointly Harnessing Resources with CNG Refueling Stations,"* which was delivered at the World Hydrogen Energy Conference in Montreal, Canada.
  - Represented South Coast AQMD on DOE's International Partnership for a Hydrogen Economy Steering Team; CA Stationary Fuel Cell Collaborative and State Fire Marshall's National Assoc. Hydrogen Executive Leadership Panel (HELP)
  - Directed two technical board consultants who briefed me for each Governing Board meeting.

- **California Fuel Cell Partnership -** Steering Team, Chair and Vice Chair (2000 – 2007)
  - Represented the South Coast AQMD in this public/private partnership state organization, including high-level representatives from state and federal government agencies, major auto manufacturers, energy and hydrogen producers, as well as fuel cell manufacturers. The goal was to bring fuel cell vehicles to commercialization.
  - Chaired the "Action Plan: Vehicle and Station Deployment Plan–A Strategy for Meeting the Challenge Ahead," as well as Steering Team meetings in an effort to establish goals, objectives, tasks and timelines for successful implementation.

- **California Hydrogen Highway Network -** Advisory Panel and Blue Print Roll-Out Chair
  - Hand-picked by Governor Schwarzenegger and Air Resources Board Chairman, Dr. Alan Lloyd, to represent all 35 Air Pollution Control Districts in the state, to provide relevant input and review all Topic Team reports.

- Chaired the Blue Print Implementation Panel of stake-holders to develop a multi-phased approach for commercialization beyond 2010 and to achieve and build the Governor's vision for CA, as *the* leader in hydrogen and fuel cell technologies.

RELATED EXPERIENCE

- CA Energy Commission Certified Energy Auditor and Inspector on behalf of the electric and gas utilities.
- Employed at Southern California Edison 13 years, in customer service, service planning and energy services departments.
- Completed Southern California Edison Company's Service Planner Course.
- CA Home Energy Efficiency Rating System (CHEERS) qualifying homes for energy efficiency home mortgages.
- Certified for the Energy Conservation and Weatherization Outreach & Assessment Program by the Gas Company
- Served on President-Elect Obama's 1st Term Transition Team in Diversity, to vet Cabinet Secretary candidates

VPC ENERGY, Inc, - Founder, President and CEO

- Founded in 1989, to conduct energy and water conservation audits and inspections on behalf of the utilities;
- Facilitate strategic partnerships for energy, air quality, clean transportation and related projects
- Provide consulting services regarding permitting, land-use as well as governmental and regulatory affairs.

North Orange County Community College District–Grant Writer/Energy Efficiency Specialist (1997–2000)

- Provided energy efficiency and regulatory affairs consulting services to businesses, on behalf of NOCCCD.
- Prepared and wrote successful grants for NOCCCD.
- Designed, organized and implemented outreach conferences/workshops for small business networking opportunities.
- Assessed and directed businesses to appropriate regulatory agencies, as well as assisted in the navigation process.

NON-PROFIT EXPERIENCE

- **SEETA, Strategic Energy, Environmental & Transportation Alternatives –** Founder, President and CEO
  - Founded in 2004, to conduct public education and outreach activities regarding energy and water conservation, air pollution, as well as advocacy for new and more efficient technologies, resulting in a cleaner environment.
  - Conduct research and planning for air quality, energy and clean transportation projects.
  - Develop, plan, and facilitate roundtables and conferences domestically and internationally.
  - Manage between 5 individuals and 3 interns and up to 30 contractors, depending on the project.
  - Develop and coordinate fundraising campaigns.

- **Asthma & Allergy Foundation of America –** President, Vice President and Board of Directors (2000 – 2010)
  - Acquired major funding to offset program costs, including the Breathmobiles; a mobile clinic, which provides onsite diagnosis, treatment and education to high risk, inner city school children.
  - Brought in new sources of contacts from other regions in California, formerly unacquainted with AAFA, i.e., governmental and regulatory agencies, major auto manufacturers, utilities and industry sectors.
  - Provided education to community groups and organizations increasing public awareness of the severity of asthma and allergic diseases, connecting the dots between the sources of pollution and the health affects of poor air quality.
  - Represented AAFA at National meetings in Washington, DC.

- **CA Asthma Partners -** Steering Team (2009 to 2011)
  - Served on the CAP steering team, a state-wide partnership of numerous governmental and non-governmental organizations, agencies, institutions, coalitions and collaboratives to develop and facilitate comprehensive solutions for asthma prevention and management to improve the health and quality of life for Californians with asthma.
  - Promote and facilitate implementation of California's Strategic Plan for Asthma, state-wide.

- **Professional Hispanics In Energy –** President, Vice President and Board of Directors (1989 – 2005)
  - Developed and coordinated all regional conferences and outreach events
  - Procured sponsorship from utility, energy, large corporations and government agencies.
  - Developed and chaired annual retreats
  - Developed workshops for community awareness regarding energy efficiency programs
  - Developed fundraising strategies and campaigns

AWARDS

National Hydrogen Association's Public Outreach & Education Award
South Coast AQMD's Clean Air Award-Citizen Promotion of Good Environmental Stewardship
Int'l Chinese Transportation Professionals Association Award - Outstanding Contributions & Leadership in Transportation

EDUCATION

University of La Verne	Public Administration / Organizational Management (4.0 GPA)
Cal Poly, Pomona	Business Management/Marketing/Commercial & Industrial
Orange Coast College	Title 24 Energy Efficient Construction and Solar Energy
Cypress College	Heating/Ventilating and Air Conditioning
East Los Angeles College	History/Psychology
Long Beach State University	English/Psychology

[redacted]

January 3, 2025

Faye Thomas,
Clerk of the Boards
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Dear Ms. Thomas:

Thank you for the opportunity to submit my application, resume and list of references for consideration in seeking reappointment, as the regular Public Member, to the South Coast Air Quality Management District's Hearing Board. I possess over 30 years of air pollution control experience. Initially by volunteering on several AQMD technical committees and advisory groups, from 1993 to 2000. As a result of my service, I earned the agency's prestigious Clean Air Award for Environmental Stewardship. In 2000, as a result of my work with the AQMD, I was appointed by Governor Gray Davis, to the AQMD's Governing Board, as the Air Pollution Control Specialist. I was unanimously confirmed by both the Senate Rules Committee and the full legislature, becoming the first Hispanic to be appointed to that position and the first to be confirmed in 11 years. I remained on the Governing Board during the Schwarzenegger administration and was reappointed serving as Governor Schwarzenegger's appointee. While serving in his administration, I gained additional technical experience as he appointed me to several Fuel Cell and Hydrogen Advisory committees.

While on the Governing Board, I represented the South Coast AQMD, as a member and eventually Chairperson of the California Fuel Cell Partnership, the Governor's Hydrogen Hwy Advisory Committee, and the Department of Energy's International Partnership for a Hydrogen Economy. I served as Vice Chair and Chair on several AQMD standing committees.

While serving the South Coast AQMD's Governing Board, I gained tremendous insight regarding how the rules and regulations are developed and deployed. Serving as a Hearing Board Member has given me an additional dimension to my air pollution control experience, by learning how the cases are adjudicated. It has also enabled me to make knowledgeable and prudent decisions when cases come before us. since we have the authority to grant variances and Orders of Abatement. I have gained a better awareness of the effect the South Coast AQMD rules and regulations have on jobs, the business sectors and public health, in the South Coast basin. Serving on the Hearing Board has allowed me to appreciate a different side of the agency, while observing how the rules and regulations are adjudicated, some of which I helped develop and how they affect the regulated community. Just as important is public testimony and how the Hearing Board decisions can affect public health.

In addition, I have over 30 years of energy efficiency/utility experience and over 28 years as a small business owner. I also have over 21 years of non-profit experience in public education regarding the effects of poor air quality on public health. I have been involved with non-profit, respiratory health related organizations such as the Asthma & Allergy Foundation. I served as Vice-President, then President of this organization, which provides doctors and medication for children K to 12. As a result, I was awarded the National Hydrogen Association's Public Outreach & Education Award.

My leadership qualities have also been helpful. My fellow Hearing Board members recognized those qualities, by electing me as their chairperson three times. I served as chairperson from. July 2021 to July 2024. I believe my knowledge, experience and expertise in the fields listed above, as well as my leadership qualities continue to be an asset to the South Coast AQMD Hearing Board. It would be an honor to continue to serve this agency and continue to be involved in the regulatory process. Especially knowing what a tremendous benefit this agency is to the protection of public health, as well as an encouragement to our business community.

With my extensive experience, knowledge and expertise in air quality/air pollution control, rulemaking and the adjudication of the South Coast AQMD's rules and regulations, I feel I am a worthy candidate for reappointment to the Hearing Board. Air Quality is truly my passion. Please do not hesitate to contact me, if further information is required.

Sincerely,

Cynthia Verdugo-Peralta

Cynthia Verdugo-Peralta
South Coast AQMD Hearing Board Member
Air Pollution Control/Energy Efficiency Specialist

Attachments

References for Cynthia Verdugo-Peralta,
South Coast AQMD Hearing Board Incumbent Public Member Candidate

Name/Title	Organization/Address	Phone #/Email
Dr. Bill Burke Former Governing Board Chairman	**South Coast AQMD**	[redacted]
Cliff Gladstein Founding President	**Gladstein, Neandros & Associates** [redacted]	[redacted]
Dr. Alan Lloyd Research Director Former Cal EPA Secretary Former CARB Chair	**University of Texas, Austin** Center for Electromechanics	[redacted]
Dr. Matt Miyasato Vice President, Strategic Growth And Government Affairs	**FirstElement Fuel Inc.** Irvine, CA	[redacted]
Dr. Don Paul Executive Director Former Sr. V.P. Chevron	**USC Viterbi** [redacted]	[redacted]
Dr. Jack Brouwer Director	**Advanced Power & Energy Program** **Samueli School of Engineering** University of CA, Irvine Irvine, CA 92697-3550	[redacted]
Eileen Wenger-Tutt Executive Director	**Cal ETC** [redacted]	[redacted]

Clean Transportation Funding from the MSRC
Mobile Source Air Pollution Reduction Review Committee

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 14

PROPOSAL: Approve Allocation as Approved by MSRC

SYNOPSIS: The MSRC approved a $2,000,000 funding allocation to partner with South Coast AQMD on the Strategic Pathways for Extended Electric Drayage project to deploy Class 8 battery electric trucks and truck chargers in Southern California, develop and demonstrate a high-power charging-capable truck, collect truck and charger operational data, and develop and implement a workforce training program for battery electric trucks and charging equipment. The MSRC seeks Board approval of the allocation as part of the FYs 2024-27 Work Program.

COMMITTEE: Mobile Source Air Pollution Reduction Review, May 15, 2025; Recommended for Approval

RECOMMENDED ACTIONS:

1. Approve MSRC allocation in an amount not to exceed $2,000,000 to partner with South Coast AQMD on the Class 8 battery electric truck portion of the Strategic Pathways for Extended Electric Drayage (SPEED) project as part of approval of the FYs 2024-27 Work Program, as described in this Board Letter.

Larry McCallon
Committee Chair, MSRC

AK:CR

Background

In September 1990, Assembly Bill 2766 was signed into law (Health & Safety Code Sections 44220-44247) authorizing an annual $4 motor vehicle registration fee to fund the implementation of programs exclusively to reduce air pollution from motor vehicles. AB 2766 provides that 30 percent of the annual $4 vehicle registration fee subvened to the South Coast AQMD be placed into an account to be allocated pursuant to a work program developed and adopted by the MSRC and approved by the Board.

Proposal

At its May 15, 2025 meeting, the MSRC considered recommendations from its MSRC Technical Advisory Committee (MSRC-TAC) and approved the following:

FYs 2024-27 Advanced Technology Demonstration and Pilot Projects

On October 26, 2023, South Coast AQMD submitted a proposal for the Strategic Pathways for Extended Electric Drayage (SPEED) project in response to a joint CARB and CEC solicitation for CARB's FY 2021-22 and FY 2022-23 Advanced Technology Demonstration and Pilot Project program. South Coast AQMD, in partnership with Volvo, is leading a collaborative effort to expand battery electric truck deployment in the South Coast AQMD jurisdiction and beyond. This new initiative will further advance battery electric truck technologies by developing and demonstrating a high-power (750 kW) charging-capable truck for regional transportation between Southern California and the Central Valley. This project also aims to meet the workforce needs for increasing adoption of battery electric trucks, supporting infrastructure, and the upcoming rollout of high-power truck charging technologies. The project aligns with the goal of Advanced Technology Demonstration and Pilot Project to strategically accelerate the advancement of innovative and economically viable technologies into the commercial marketplace.

On February 6, 2025, CEC released a Notice of Proposed Awards in which South Coast AQMD was awarded $22,000,000 in CARB funds and $19,295,211 in CEC funds for the SPEED project. South Coast AQMD and its project partners plan to deploy a total of 100 Class 8 Volvo battery electric trucks with approximately 10 truck fleets in the South Coast AQMD and San Diego County Air Pollution Control District (SDCAPCD) areas. With the addition of funding from MSRC, each truck deployed within the South Coast AQMD area will receive funding up to $242,222, while each truck deployed within SDCAPCD area will receive funding up to $220,000. An estimated 79 Combined Charging System ports, each receiving funding up to $80,000, will be deployed at the participating fleets' depots. The MSRC considered this partnership opportunity and approved an allocation of up to $2,000,000 to augment the partners' contributions as an element of the FYs 2024-27 Work Program. The MSRC's funding would be designated towards the truck incentives within South Coast AQMD.

At this time, the MSRC requests South Coast AQMD Board to approve the allocation as part of approval of the FYs 2024-27 AB 2766 Discretionary Fund Work Program as outlined above.

Sole Source Justification

Section VIII.B.2. of the Procurement Policy and Procedure includes four possible provisions under which a sole source award may be justified. The request for sole source awards for the technology and fleet partners in this project is made under the provisions B.2.c.(1): The unique experience and capabilities of the proposed contractor or contractor team; B.2.c.(2): The project involves the use of proprietary technology; and B.2.d.(1): Projects involving cost-sharing by multiple sponsors. Volvo, CARB, CEC, truck fleets,

WattEV, workforce training providers, including Cerritos College, Clean Fuels Education, TRC Environmental Corporation Companies, and CharIN, Inc. and other partners have extensive knowledge and experience in advanced EV technologies that are needed to complete this project successfully. The manufacturer will utilize their proprietary technologies to develop high-power capable trucks for future Class 8 battery electric truck production design for the North American market. The Project's megawatt chargers will support the future state of high-power heavy-duty truck charging. The proposed project includes match share by South Coast AQMD, CARB, CEC, Volvo, participating fleets, and WattEV.

Resource Impacts
South Coast AQMD acts as fiscal administrator for the AB 2766 Discretionary Fund Program (Health & Safety Code Section 44243). Money received for this program is recorded in a special revenue fund (Fund 23) and the allocation specified herein will be drawn from this fund.

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BOARD MEETING DATE: June 6, 2025 AGENDA NO. 15

REPORT: Legislative, Public Affairs and Media Report

SYNOPSIS: This report highlights the April 2025 outreach activities of the Legislative, Public Affairs and Media Office, which includes: Major Events, Community Events/Public Meetings, Environmental Justice Update, Speakers Bureau/Visitor Services, Communications Center, Public Information Center, Small Business Assistance, Media Relations, and Outreach to Community Groups and Governments.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file.

Wayne Nastri
Executive Officer

AL:DS:bel;cb

Background
This report summarizes the activities of the Legislative, Public Affairs and Media Office for April 2025. The report includes Major Events, Community Events/Public Meetings, Environmental Justice (EJ) Update, Speakers Bureau/Visitor Services, Communications Center, Public Information Center, Small Business Assistance, Media Relations, and Outreach to Community Groups and Governments.

Major Events Hosted and Sponsored
Each year, staff engage in hosting and sponsoring several major events throughout South Coast AQMD's four-county jurisdiction to promote, educate, and provide important information to the public regarding reducing air pollution, protecting public health, and improving air quality while minimizing economic impacts.

2025 OC Children's Water Education Festival

On April 23 and 24, South Coast AQMD hosted a booth at the OC Children's Water Festival, which had approximately 2,000 students in attendance. Staff conducted a live demonstration on how smog is formed in the Basin as well as educated students on the agency, air quality, and careers.

Community Events/Public Meetings

Staff engaged with residents and stakeholders in different communities to provide information about the agency, incentive programs, and ways individuals can help reduce air pollution through events and meetings sponsored by South Coast AQMD or in partnership with others. Attendees typically receive information regarding the following:

- Tips on reducing their exposure to smog and its negative health effects;
- How to file a complaint;
- Clean air technologies and their deployment;
- Invitations to or notices of conferences, seminars, workshops, and other public events;
- South Coast AQMD incentive programs;
- Funding/grant opportunities by South Coast AQMD and partner agencies;
- Rule updates;
- Ways to participate in South Coast AQMD's rules and policy development; and
- Assistance in resolving air pollution-related problems.

Staff attended and/or provided information and updates at the following April events and meetings:

South Bay Association of Chambers of Commerce

On April 1, staff participated in the South Bay Association of Chambers of Commerce meeting to share program announcements for the 2025 Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program).

Lake Arrowhead Communities Chamber of Commerce

On April 1, staff participated in the Lake Arrowhead Communities Chamber of Commerce Government Affairs Committee meeting to provide updates on Proposed Amended Rules 1111 - Reduction of NOx Emissions from Natural-Gas-Fired Furnaces; and 1121 - Reduction of NOx Emissions from Residential Type, Natural-Gas-Fired Water Heaters (PARs 1111 and 1121), including the Myth vs. Fact handout.

Redlands

On April 1, staff participated in the Redlands City Council meeting to provide public comment on the Residential and Commercial Electric Lawn and Garden Equipment (eL&G) programs.

Reach Out
On April 1, staff attended the Healthy Jurupa Valley Reach Out meeting to provide updates on PARs 1111 and 1121 including the Myth vs. Fact handout.

Redlands Chamber of Commerce
On April 2, staff participated in the Redlands Chamber of Commerce Government Review Committee meeting to provide an update on PARs 1111 and 1121 including the Myth vs. Fact handout.

Harbor Association of Industry and Commerce
On April 3, staff participated in the Harbor Association of Industry and Commerce Government Affairs Committee meeting to share information on funding opportunities under the Carl Moyer Program.

Eco-Friendly Fair
On April 5, staff hosted an information booth at the City of Paramount's 8th Annual Eco-Friendly Fair to provide information on PARs 1111 and 1121, how to file an air quality complaint, eL&G, Residential EV program, Air Quality Index (AQI), and the South Coast AQMD App.

2nd Annual Earth Day Event
On April 5, staff hosted a booth at Los Angeles County 4th Supervisorial District 2nd Annual Earth Day event in Cerritos to provide information on PARs 1111 and 1121, how to file an air quality complaint, eL&G, Residential EV program, AQI, and the South Coast AQMD App.

Orange County Business Council
On April 8, staff participated in the Orange County Business Council Infrastructure Committee meeting to provide an update on the Carl Moyer program and PARs 1111 and 1121 including the Myth vs. Fact handout.

Santa Ana Chamber of Commerce
On April 8, staff attended the Santa Ana Chamber of Commerce Government Affairs Committee meeting to provide an update on PARs 1111 and 1121, Myth Vs. Fact handout, and the Carl Moyer Program.

Sunland-Tujunga Neighborhood Council
On April 9, staff presented at the Sunland-Tujunga Neighborhood Council meeting on how to file an air quality complaint.

South Bay Cities Council of Governments
On April 10, staff participated in the South Bay Council Cities of Governments Legislative Briefing meeting to provide an update on PARs 1111 and 1121 and the Carl Moyer program.

Upland Chamber of Commerce
On April 10, staff participated in the Upland Chamber of Commerce Government Affairs Committee meeting to share an update on PARs 1111 and 1121 including the Myth vs. Fact handout.

Corona del Mar Chamber of Commerce
On April 10, staff participated in the Corona del Mar Chamber of Commerce Government Affairs committee meeting to provide an update on PARs 1111 and 1121 and the Carl Moyer program.

Torrance Area Chamber of Commerce
On April 10, staff participated in the Torrance Area Chamber of Commerce Governmental Affairs Policy meeting to provide an update on PARs 1111 and 1121 and the Carl Moyer program.

Inland Empire Resource Conservation District
On April 10, staff attended at the Inland Empire Resource Conservation District meeting to share information on the Commercial eL&G program.

Orange County Business Council
On April 11, staff participated in the Orange County Business Council Government Affairs meeting to provide an update on PARs 1111 and 1121 and the Carl Moyer program.

Carson
On April 12, staff participated the City of Carson's Earth Day Kid's Fest by hosting an air quality information booth featuring the CAPES program, the South Coast AQMD App, how to file an air quality complaint, AQI, PARs 1111 and 1121, and eL&G programs.

Sierra Madre
On April 12, staff hosted a booth at Sierra Madre's 2025 Earth Day Fair and Wistaria Festival to share information about how to file an air quality complaint, the South Coast AQMD App, AQI, Myth vs. Fact, and eL&G programs.

Discovery Cube
On April 12, staff hosted a booth at Discovery Cube Los Angeles' Earth Day event to share information on South Coast AQMD, tips on how to help clean the air, CAPES and Why Healthy Air Matters (WHAM) programs, and how to file an air quality complaint.

Resource Pop-Up
On April 12, staff attended Los Angeles City 4th District Resource Pop-Up at Reseda Elementary School to provide information on how to file an air quality complaint, eL&G, the South Coast AQMD App, and PARs 1111 and 1121.

Vernon
On April 15, staff participated in-person at the Vernon City Council meeting to share information on the Carl Moyer program.

Earth Day Celebration
On April 19, staff attended the City of Diamond Bar's annual Earth Day Celebration to host an information booth featuring how to file an air quality complaint, the South Coast AQMD App, eL&G, and PARs 1111 and 1121.

California State University, Dominguez Hills Earth Day Festival
On April 22, staff hosted an informational booth at the California State University, Dominguez Hills Earth Day Festival featuring how to file an air quality complaint, the AQI, and the South Coast AQMD App.

EF Academy Earth Day Festival
On April 22, staff participated in the EF Academy Earth Day Festival in Pasadena by providing an informational booth introducing South Coast AQMD, how to file an air quality complaint, special air monitoring in the Eaton wildfire area, and South Coast AQMD's student internship.

5th Annual Climate Action Summit
On April 22, staff participated in the Rialto Unified School District's 5th Annual Climate Action Summit at Eisenhower High School to provide an overview of the South Coast AQMD.

U.S. Department of Veterans Affairs
On April 22, staff attended the U.S. Department of Veterans Affairs Long Beach Earth Week event to host a booth to share information on how to file an air quality complaint, the South Coast AQMD App, PARs 1111 and 1121, AQI and the residential eL&G program.

San Gabriel Valley Economic Partnership
On April 23, staff participated in-person at the San Gabriel Valley Economic Partnership Government Affairs Committee to share updates on PARs 1111 and 1121 and the Carl Moyer program.

Echo Park Earth Fest 2.0
On April 26, staff exhibited a booth at Senator Elena Durazo's Echo Park Earth Fest 2.0 to share information including how to file and air quality complaint, the South Coast AQMD App, PARs 1111 and 1121, and eL&G programs.

23rd Annual Corn Feed Run Car Show & Cruise
On April 26, staff hosted a booth at the 23rd Annual Corn Feed Run Car Show & Cruise to provide information on how to file an air quality complaint, eL&G, and PARs 1111 and 1121.

Proposed Amended Rules 1111 and 1121
In April, staff conducted outreach on PARs 1111 and 1121. Updates and fact sheets were distributed to cities, local, state and federal elected officials, chambers of commerce, community organizations, and other stakeholders. Staff organized presentations or provided public comments at the following governmental meetings:

- April 1 – Fountain Valley City Council
- April 1 – Redlands City Council
- April 2 – San Bernardino County Transportation Authority
- April 2 – San Gabriel Valley Council of Governments Energy, Environment & Natural Resources Committee
- April 2 – Gateway Cities Council of Governments
- April 2 - Redlands Chamber of Commerce
- April 3 - Southern California Association of Governments Energy and Environment Committee
- April 10 – Coachella Valley Association of Governments Energy and Sustainability Committee
- April 24 – Orange County Council of Governments

Environmental Justice Update
The following are key EJ related activities in which staff participated during April. These events and meetings involve communities affected disproportionately from adverse air quality impacts.

Chino Hills High School
On April 1, South Coast AQMD met with Chino Hills High School to provide information regarding the WHAM program, how to file an air quality complaint, the South Coast AQMD App, and wildfire safety information.

Euclid Elementary, Ontario
On April 2, staff visited Euclid Elementary School to provide information regarding CAPES, how to file an air quality complaint, the South Coast AQMD App, and wildfire safety information.

Pacoima Community Initiative
On April 4, staff participated in the Pacoima Community Initiative's April meeting. Staff shared information on the CAPES and WHAM program and how to report air quality issues.

Walnut High School Career Day
On April 8, staff attended Walnut High School's Career Day to share information on how to file a complaint, WHAM, and environmental career pathways.

Diamond Bar High School Career Day
On April 11, staff attended Diamond Bar High School's Career Day to share information on how to file a complaint, the WHAM program, and environmental career pathways.

Lady of Lourdes Catholic School, Tujunga and Fenton Academy, Sun Valley
On April 16, staff visited Our Lady of Lourdes Catholic School and Fenton Academy to provide information regarding the CAPES and WHAM programs, and how to file an air quality complaint.

Nathaniel Narbonne Senior High School, Harbor City
On April 17, staff visited Nathaniel Narbonne Senior High School to provide information regarding the WHAM program, how to file an air quality complaint, the South Coast AQMD App, and wildfire safety information.

Earth Day Webinars
On April 22, staff conducted special Earth Day webinars for students for the CAPES and WHAM education programs. A combined total of 26 classrooms registered for the events.

Speakers Bureau/Visitor Services
South Coast AQMD regularly receives requests for staff to speak on air quality-related issues from a wide variety of organizations, such as trade associations, chambers of commerce, community-based groups, schools, hospitals, and health-based organizations. South Coast AQMD also hosts visitors from around the world who meet with staff on a wide range of air quality issues.

There were no presentations in April.

Communication Center Statistics
The Communication Center handles calls on South Coast AQMD's main line, 1-800-CUT-SMOG®, the Spanish line, and after-hours calls to those lines. Total calls received in the Month of April are summarized below:

Calls to South Coast AQMD's Main Line and 1-800-CUT-SMOG®	2,307
Calls to South Coast AQMD's Spanish Line	19
Clean Air Connections	8
Total Calls	2,334

Public Information Center Statistics

The Public Information Center (PIC) handles phone calls and assists individuals who walk in for general information. Email advisories provide information on upcoming meetings and events, program announcements and alerts on time-sensitive issues. Information for the Month of April is summarized below:

Calls Received by PIC	45
Calls to Automated System	98
Total Calls	143
Visitor Transactions	153
Email Advisories Sent	35,111

Small Business Assistance

South Coast AQMD notifies local businesses of proposed regulations so they can participate in the agency's rule development process. South Coast AQMD works with other agencies and governments to identify efficient, cost-effective ways to reduce air pollution and shares that information broadly. Staff provided personalized assistance to small businesses over the telephone, at South Coast AQMD headquarters and via virtual on-site consultation, as summarized below for Month.

- Provided permit application assistance to 219 companies, and
- Processed 137 Air Quality Permit Checklists.

Types of businesses assisted:

Architecture Firms	Engineering Firms	Restaurants
Auto Body Shops	Gas Stations	Retail Facilities
Construction Firms	Manufacturing Facilities	Schools
Dry Cleaners	Offices	Warehouses

Media Relations
The Media Office handles all South Coast AQMD outreach and communications with television, radio, newspapers and all other publications, and media operations. The April report is listed below:

Major Media Interactions	179
Press Releases	18
News Carousel	6

Major Media Topics:

- **Chiquita Canyon Landfill (CCL)**: Staff participated in an interview with Bloomberg Businessweek on ongoing enforcement activities at the landfill. Reporter also requested a copy of a video taken by staff at the landfill. KCAL requested information regarding CCL's compliance with previous abatement orders and potential enforcement actions by our agency Responses were provided.
- **Methyl Bromide (MeBr)**: Staff participated in an interview with CalMatters regarding methyl bromide, AB 2588 Air Toxics Hot Spots Program. Reporter had four rounds of follow-up questions before and after the interview. Staff also provided clarifications/corrections on the reporter's previous MeBr story. Long Beach Post requested a comment on the letter by Congresswoman Nanette Barragán regarding the MeBr levels discovered in a West Long Beach community. Response was provided.
- **Windblown Dust**: Staff participated in an interview with NBC Palm Springs to discuss a windblown dust advisory in the Coachella Valley. Univision requested an interview regarding the dust advisory. Response was provided. Newsweek inquired about the dust advisories for the Coachella Valley including whether these conditions are typical for this time of year. Responses were provided.
- **State of the Air**: Staff participated in an interview with ABC News and Spectrum Noticias regarding the newly released "State of the Air" 2025 Report by the American Lung Association.
- **LA County Fires**: Staff participated in an interview with Orange County Environmental Justice Youth Committee regarding LA county wildfires and their impact on Orange County communities.
- **Space and Water Heater Rules (PARs 1111/1121)**: Voice of OC requested responses for a story on proposed regulations for the rule, including the Go Zero incentive program and public outreach efforts. Canary Media submitted 1st and 2nd round post-interview follow-up questions. Floodlight requested information on when the public hearing will be held and if a final vote will take place. Responses were provided.

- **Wildfire Monitoring**: Association of Public Health Laboratories requested our review of the reporter's draft blog post on wildfire air monitoring for accuracy check before publishing. Response was provided.
- **Climate Pollution Reduction Grant (CPRG)**: Inside Climate News requested information on the status and progress of projects related to Inflation Reduction Act and CPRG.
- **South Gate Truck Yard**: LA Public Press inquired about the regulations and enforcement regarding a truck yard in the City of South Gate. Response was provided.
- **Sunshine Canyon Landfill (SCL)**: OPIS requested an interview regarding the odor issues of Sunshine Canyon Landfill. Response was provided.
- **Rail Yard Indirect Source Rule (ISR)**: Capital & Main requested an interview regarding rail yard ISR and what is being done to curb pollution near rail yards. Response was provided.
- **Air Quality Index**: Newsweek inquired about the current air quality conditions in our region and the reasons behind the poor air quality (Unhealthy for Sensitive Groups). Response was provided.
- **Colorado Lagoon**: Long Beach Post inquired about any charges filed against Colorado Lagoon Open Channel Project. Response was provided.
- **EJ Grants**: Stateline requested an interview regarding the potential EJ grant cuts. Response was provided.
- **Zachau Sediment Placement Site (SPS)**: LA Times requested data on community concerns about noise and odors from the SPS in Tujunga. Response was provided.
- **State Implementation Plan (SIP)**: Inside EPA inquired about contingency measures mentioned in the Draft South Coast Air Basin Contingency Measure State Implementation Plan (SIP) Revision for the 2015 8-Hour Ozone Standard, and other National Ambient Air Quality Standards (NAAQS). Reporter had follow-up questions. Responses were provided.
- **Inglewood Oil Field**: UCLA student requested an interview regarding Inglewood Oil Field and Baldwin Hills Parklands. Written responses were provided. Working on scheduling.
- **Climate Change**: RAND Corporation requested a research interview regarding the Community Air Protection Program and equity in policy responses to climate change in the LA County region. Looking into request.
- **Chiquita Canyon Landfill Press Release**: Pitched to media outlets resulting in media coverage.
- **Air Monitoring Update Press Releases**: Pitched to media outlets.
- **Windblown Dust Advisory**: Pitched to media outlets resulting in media coverage.

News Releases:

- Press Release issued on Eaton and Palisades Air Monitoring Update. To view, click the following: 4/4, 4/11, 4/18 & 4/25.
- Windblown Dust Advisory issued due to high winds in the Coachella Valley. Informed the public of windblown dust due to high wind events. To view, click the following: 4/4, 4/16, 4/17 & 4/23.
- Press Release issued on Chiquita Canyon Landfill Required to Take Further Actions to Address Odors. To view, click here.

Social Media Posts:

- AQ Forecast (4/7): 561 Twitter Impressions
  --RT by @CodeRed001Blue

- Windblown Dust Advisory (4/16): 3,154 Twitter Impressions
  --RT by @NWSSanDiego

- Windblown Dust Advisory (4/23): 2,969 Twitter Impressions
  --RT by @NWSSanDiego

- AQ Complaints (4/29): 1,380 Instagram Views

News Carousel:

- **Public school districts, apply now for funding to replace old school buses with zero-emission models (4/1) –** Linked to Lower-Emission School Bus Program webpage.
- **Off-road diesel vehicle fleets, apply now for funding to replace diesel vehicles with low-emission heavy-duty engines (4/8) –** Linked to Off-Road Diesel Engines (SOON Program).
- **Keep up with the latest news from South Coast AQMD. View the March/April edition of the Advisor newsletter (4/16) –** Linked to the Advisory Newsletter webpage.
- **Celebrate Earth Day today! This year's theme, "Our Power, Our Planet" focuses on supporting the tripling of renewable energy by 2030 (4/22) –** Linked to earthday.org website.
- **Attend working group meeting on proposed rule 2304 commercial marine ports on Apr. 25 (4/23) –** Linked to Facility-Based Mobile Source Measures webpage.
- **Stay informed! The American Lung Association's *State of the Air 2025* Report finds nearly half of people in the U.S. face unhealthy air (4/24) –** Linked to State of the Air report.

Outreach to Community Groups and Federal, State and Local Governments
Communication was conducted in April with elected officials and/or staff from the following state and federal offices:

- U.S. Senator Alex Padilla
- U.S. Senator Adam Schiff
- U.S. Representative Pete Aguilar
- U.S. Representative Nanette Barragán
- U.S. Representative Julia Brownley
- U.S. Representative Ken Calvert
- U.S. Representative Judy Chu
- U.S. Representative Gil Cisneros, Jr.
- U.S. Representative Lou Correa
- U.S. Representative Laura Friedman
- U.S. Representative Robert Garcia
- U.S. Representative Jimmy Gomez
- U.S. Representative Sydney Kamlager-Dove
- U.S. Representative Young Kim
- U.S. Representative Ted Lieu
- U.S. Representative Dave Min
- U.S. Representative Jay Obernolte
- U.S. Representative Luz Rivas
- U.S. Representative Dr. Raul Ruiz
- U.S. Representative Linda Sánchez
- U.S. Representative Brad Sherman
- U.S. Representative Mark Takano
- U.S. Representative Norma Torres
- U.S. Representative Derek Tran
- U.S. Representative Maxine Waters
- U.S. Representative George Whitesides
- Senator Ben Allen
- Senator Bob Archuleta
- Senator Josh Becker
- Senator Catherine Blakespear
- Senator Sabrina Cervantes
- Senator Steven Choi
- Senator María Elena Durazo
- Senator Lena Gonzalez
- Senator Monique Limon
- Senator Mike McGuire
- Senator Caroline Menjivar
- Senator Rosilicie Ochoa Bogh
- Senator Steve Padilla
- Senator Sasha Renée Pérez
- Senator Eloise Gómez Reyes
- Senator Laura Richardson
- Senator Susan Rubio
- Senator Kelly Seyarto
- Senator Lola Smallwood-Cuevas
- Senator Henry Stern
- Senator Tom Umberg
- Assemblymember Juan Alanis
- Assemblymember Isaac Bryan
- Assemblymember Lisa Calderon
- Assemblymember Jessica Caloza
- Assemblymember Juan Carrillo
- Assemblymember Leticia Castillo
- Assemblymember Phillip Chen
- Assemblymember Damon Connolly
- Assemblymember Laurie Davies
- Assemblymember Diane Dixon
- Assemblymember Sade Elhawary
- Assemblymember Bill Essayli
- Assemblymember Heath Flora
- Assemblymember Mike Fong
- Assemblymember Jesse Gabriel
- Assemblymember Robert Garcia
- Assemblymember Mike Gipson
- Assemblymember Jeff Gonzalez
- Assemblymember Mark Gonzalez
- Assemblymember Matt Haney
- Assemblymember John Harabedian
- Assemblymember Josh Hoover
- Assemblymember Jacqui Irwin

- Assemblymember Dr. Corey Jackson
- Assemblymember Ash Kalra
- Assemblymember Tom Lackey
- Assemblymember Josh Lowenthal
- Assemblymember Tina McKinnor
- Assemblymember Al Muratsuchi
- Assemblymember Blanca Pacheco
- Assemblymember Gail Pellerin
- Assemblymember Cottie Petrie-Norris
- Assemblymember Sharon Quirk-Silva
- Assemblymember James Ramos
- Assemblymember Celeste Rodriguez
- Assemblymember Michelle Rodriguez
- Assemblymember Blanca Rubio
- Assemblymember Kate Sanchez
- Assemblymember Pilar Schiavo
- Assemblymember Nick Schultz
- Assemblymember José Luis Solache, Jr.
- Assemblymember Tri Ta
- Assemblymember Avelino Valencia
- Assemblymember Greg Wallis
- Assemblymember Buffy Wicks
- Assemblymember Rick Chavez Zbur

Outreach was conducted personally and virtually in April to communicate with elected officials or staff from the following cities:

Agoura Hills
Alhambra
Aliso Viejo
Anaheim
Arcadia
Artesia
Avalon
Azusa
Baldwin Park
Banning
Beaumont
Bell
Bell Gardens
Bellflower
Beverly Hills
Big Bear Lake
Bradbury
Brea
Buena Park
Burbank
Calabasas
Calimesa
Canyon Lake
Carson
Cathedral City
Cerritos
Chino
Chino Hills
City of Industry
Claremont
Coachella
Colton
Commerce
Compton
Corona
Costa Mesa
Covina
Cudahy
Culver City
Cypress
Dana Point
Desert Hot Springs
Diamond Bar
Downey
Duarte
Eastvale
El Monte
El Segundo
Fontana
Fountain Valley
Fullerton
Garden Grove
Gardena
Glendale
Glendora
Grand Terrace
Hawaiian Gardens
Hawthorne
Hemet
Hermosa Beach
Hidden Hills
Highland
Huntington Beach
Huntington Park
Indian Wells
Indio

Inglewood
Irvine
Irwindale
Jurupa Valley
La Cañada Flintridge
La Habra
La Habra Heights
La Mirada
La Palma
La Puente
La Quinta
La Verne
Laguna Beach
Laguna Hills
Laguna Niguel
Laguna Woods
Lake Elsinore
Lake Forest
Lakewood
Lawndale
Loma Linda
Lomita
Long Beach
Los Alamitos
Los Angeles
Lynwood
Malibu
Manhattan Beach
Maywood
Menifee
Mission Viejo
Monrovia
Montclair
Montebello
Monterey Park
Moreno Valley
Murrieta
Newport Beach
Norco
Norwalk
Ontario
Orange
Palm Desert
Palm Springs
Palos Verdes Estates
Paramount
Pasadena
Perris
Pico Rivera
Placentia
Pomona
Rancho Cucamonga
Rancho Mirage
Rancho Palos Verdes
Rancho Santa Margarita
Redlands
Redondo Beach
Rialto
Riverside
Rolling Hills
Rolling Hills Estates
Rosemead
San Bernardino
San Clemente
San Dimas
San Fernando
San Gabriel
San Jacinto
San Juan Capistrano
San Marino
Santa Ana
Santa Clarita
Santa Fe Springs
Santa Monica
Seal Beach
Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Stanton
Temecula
Temple City
Torrance
Tustin
Upland
Vernon
Villa Park
Walnut
West Covina
West Hollywood
Westlake Village
Westminster
Whittier
Wildomar
Yorba Linda
Yucaipa

Staff represented South Coast AQMD in April and/or provided updates or a presentation to the following governmental agencies and business organizations:

Alhambra Chamber of Commerce
Big Bear Chamber of Commerce
CALFire
CalTrans
CARB
Carson Chamber of Commerce

Coachella Valley Association of Governments
Coachella Valley Resource Conservation District
Colton Chamber of Commerce
Corona Del Mar Chamber of Commerce
County of Riverside
County of San Bernardino
Crestline Chamber of Commerce
Foothill Transit
Gardena Valley Chamber of Commerce
Greater Riverside Chamber of Commerce
Gold Line Foothill Extension Construction Authority
Harbor Association of Industry and Commerce
Hermosa Beach Chamber of Commerce
IATSE Local 33
Inland Empire Economic Partnership
Inland Empire Fire Safe Alliance
Inland Empire Regional Chamber of Commerce
Inland Empire Resource Conservation District
Inland Empire Utilities Agency
Inland Regional Energy Network
Kaiser Permanente
Lake Arrowhead Communities Chamber of Commerce
La Cañada Flintridge Chamber of Commerce
Las Virgenes-Malibu Council of Governments
Lomita Chamber of Commerce
Long Beach Area Chamber of Commerce
Los Angeles County Fire Department
Los Angeles County Metropolitan Transportation Authority
Los Angeles County Sanitation Districts
Manhattan Beach Chamber of Commerce
March Joint Powers Authority
Metropolitan Water District of Southern California
Monterey Park Chamber of Commerce
Mountain Transit
Newport Beach Chamber of Commerce
Omnitrans
Ontario International Airport Authority
Orange County Business Council
Orange County Transportation Authority
Palos Verdes Peninsula Chamber of Commerce
Pasadena Chamber of Commerce
Redlands Chamber of Commerce
Redondo Beach Chamber of Commerce

Riverside Transit Agency
San Bernardino Area Chamber of Commerce
San Bernardino County Department of Public Health
San Bernardino County Fire Protection District
San Bernardino County Transportation Authority
San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy
San Gabriel Valley Council of Governments
San Gabriel Valley Economic Partnership
San Gabriel Valley Mosquito and Vector Control District
San Pedro Chamber of Commerce
Santa Ana Chamber of Commerce
SCAG
South Bay Association of Chambers of Commerce
South Pasadena Chamber of Commerce
Sun Valley Chamber of Commerce
Sun Valley Recreation Center of Los Angeles
Sunland-Tujunga Neighborhood Council
SunLine Transit Agency
Torrance Area Chamber of Commerce
Union Pacific Railroad
U.S. Fire Administration
Upland Chamber of Commerce
Upper San Gabriel Valley Municipal Water District
Valley Industry and Commerce Association
Western Riverside Council of Governments

In April, staff represented South Coast AQMD and/or provided updates or a presentation to the following community and educational groups and organizations:

AHEAD with Horses, Sunland
Alliance Marine - Innovation & Technology 6-12 Complex, Sun Valley
Apperson Street Elementary, Sunland
Cal Burke High School, Panorama City
California Housing Foundation
Calvary Chapel Burbank
Center for Community Action and Environmental Justice, San Bernardino
Citrus College, Glendora
Diamond Bar Woman's Club
Discovery Cube Los Angeles
Fenton Charter Leadership Academy, Sun Valley
Fernangeles Elementary, Sun Valley
Glenwood Elementary, Sun Valley
Inland Empire Biking Alliance

ISANA Cardinal Academy, Sun Valley
John H. Francis Polytechnic Senior High School, Sun Valley
Kiwanis Club of Chino
Making Hope Happen Foundation, San Bernardino
Mount Gleason Middle School, Sunland
Mount Lukens Continuation High, Tujunga
Mountain View Elementary School, Claremont
Mt. San Antionio College, Walnut
Options for Learning, West Covina
Our Lady of Lourdes Catholic School, Tujunga
Panorama High School & Magnets
Pinewood Avenue Elementary, Tujunga
Plainview Academic Charter Academy, Tujunga
Rancho Santiago Community College District
Rialto Unified School District
Richard E. Byrd Middle School, Sun Valley
Rim of the World School District
Robert H. Lewis Continuation High School
Roscoe Elementary School, Sun Valley
Saint James Syriac Orthodox Church
San Antonio Regional Hospital
San Bernardino City Unified School District
Southern California Mountains Foundation
Stonehurst Steam Magnet, Sun Valley
Sun Valley Magnet School
Sunland Elementary School
Sunland Senior Citizen Center
Sunland-Tujunga American Legion Post 377
Sunland-Tujunga Branch Library
Sunland-Tujunga Elks Lodge #2098
Tierra del Sol Foundation
Tree People
Upland Unified School District
Uplift San Bernardino
Urban Conservation Corps of the Inland Empire
Valley Oaks Center for Enriched Studies Magnet
Verdugo Hills High School
Vinedale College Preparatory Academy, Sun Valley
WeCompost2, Riverside
Western Diocese of the Armenian Church
YMCA of the Foothills

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BOARD MEETING DATE: June 6, 2025 AGENDA NO. 16

REPORT: Hearing Board Report

SYNOPSIS: This reports the actions taken by the Hearing Board during the period of April 1 through April 30, 2025.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file.

Micah Ali
Hearing Board Chair

ft

Attached are the following summaries: **April 2025 Hearing Board Cases,** and **Rules From Which Variances and Orders for Abatement Were Requested from April 1, 2025 through April 30, 2025**. The applicable South Coast AQMD Rules for April 2025 are also attached.

There were no appeals filed during the period of April 1, 2025 to April 30, 2025.

Report of April 2025 Hearing Board Cases

Case Name and Case No. (South Coast AQMD Attorney)	Rules	Reason for Petition/Hearing	South Coast AQMD Position/Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
1. Amazon.com Services LLC Case No. 6267-1 (K. Roberts)	203(b)	SCE implemented PSPSs across several counties in Southern California. Petitioner approached the 200-hours per calendar year limit of their permits and needs to use their emergency generators.	Not Opposed/Granted	RV granted commencing on 4/23/2025 and continuing through 12/31/2025.	TBD by 1/31/2026
2. CalPortland Company Case No. 3221-23 (Consent Calendar)	203(b)	SCE implemented PSPSs across several counties in Southern California. Petitioner approached the 200-hours per calendar year limit of their permits and needs to use their emergency generators.	Not Opposed/Granted	RV granted commencing on 4/23/2025 and continuing through 12/31/2025.	TBD by 1/31/2026

Case Name and Case No. (South Coast AQMD Attorney)	Rules	Reason for Petition/Hearing	South Coast AQMD Position/Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
3. Chevron Products Company Case No. 831-405 (Consent Calendar)	203(b) 2004(f)(1) 3002(c)(1)	The petition for a short variance and AOC concern required maintenance on important air pollution control equipment at the refinery. The maintenance period is expected to take no more than nine weeks, which is well within the 90-day relief period for which is allowable.	Not Opposed/Granted	SV and AOC granted commencing on 4/7/25 and continuing through 6/9/25.	None
4. Los Angeles Regional Interoperable Communications System Joint Powers Authority (LA-RICS) Case No. 6234-5 (Consent Calendar)	203(b)	SCE implemented PSPSs across several counties in Southern California. Petitioner approached the 200-hours per calendar year limit of their permits and needs to use their emergency generators	Not Opposed/Granted	RV granted commencing on 4/23/2025 and continuing through 12/31/2025.	CO: 3.19 lbs./day NOx: 18.6 lbs./day RHC: 11.34 lbs./day
5. South Coast AQMD vs Chiquita Canyon, LLC Case No. 6177-4 (K. Roberts, M. Reichert & R. Mansell)	203 402 431.1 1150 3002 H&S §41700	The Modified Stipulated Order for Abatement is likely to mitigate conditions that could contribute to potential odors and potential nuisance.	Stipulated/Modified	Status report given; Mod. O/A issued commencing 4/16/25. The Hearing Board shall retain jurisdiction over this matter until 12/31/25.	N/A

Case Name and Case No. (South Coast AQMD Attorney)	Rules	Reason for Petition/Hearing	South Coast AQMD Position/Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
6. The Termo Company Case No. 3014-23 (Consent Calendar)	203(b) 463(d)(3) 1148.1(d)(8) 1173(m)(1) 3002(c)(1)	Petitioner will be in violation of South AQMD Rules and Conditions by not operating the required vapor recovery while maintenance is being performed on the SoCalGas gas processing equipment located in the Aliso Canyon Gas Storage Facility. With no gas sales capacity, VOC or methane emissions may be released to the atmosphere from the tanks normally under vapor recovery if pressures within the tanks and pipelines exceed the vent setpoints.	Not Opposed/Granted	SV granted commencing on 4/28/2025 and continuing through 5/15/2025.	VOC: 1.6772 lbs./day

Case Name and Case No. (South Coast AQMD Attorney)	Rules	Reason for Petition/Hearing	South Coast AQMD Position/Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
7. The Termo Company Case No. 3014-24 (Consent Calendar)	203(b) 463(d)(3) 1148.1(d)(8) 1173(m)(1) 2004(f)(1)	Petitioner will be in violation of South AQMD Rules and Conditions by not operating vapor recovery while maintenance is being performed on the SoCalGas gas processing equipment located in the Aliso Canyon Gas Storage Facility Dehydration Station, which will prevent SoCalGas from receiving Termo's produced gas.	Not Opposed/Granted	SV granted commencing on 4/28/2025 and continuing through 5/15/2025	VOC: 0.0647 lbs./day

Acronyms
CO: Carbon Monoxide
N/A: Not Applicable
NOx: Oxides of Nitrogen
OA: Order for Abatement
PSPS: Public Safety Power Shutoff
RHC: Reactive Hydrocarbons
RV: Regular Variance
SCE: Southern California Edison
SV: Short Variance
TBD: To Be Determined
VOC: Volatile Organic Compound

Rules from which Variances and Orders for Abatement were Requested in 2025

Rules	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Actions
201		1											1
203				1									1
203(a)		1											1
203(b)	4	5	5	6									20
402			2	1									3
415		1											1
431.1				1									1
461(c)(2)(B)			1										1
463(d)(3)				1									1
1128			1										1
1134	1												1
1134(d)(3)	1												1
1147			1										1
1148.1(d)(8)				2									2
1150				1									1
1173(m)(1)				2									2
1426		1											1
1469		1											1
2004(f)	1												1
2004(f)(1)			1	2									3
3002				1									1
3002(c)(1)	3		2	2									7
CA H&S§41700			2	1									3

SOUTH COAST AQMD RULES AND REGULATIONS INDEX
FOR 2025 HEARING BOARD CASES AS OF APRIL 30, 2025

REGULATION II – PERMITS

Rule 201	Permit to Construct
Rule 203	Permit to Operate

REGULATION IV - PROHIBITIONS

Rule 402	Nuisance
Rule 415	Odors from Rendering Facilities
Rule 431.1	Sulfur Content of Gaseous Fuels
Rule 461	Gasoline Transfer and Dispensing
Rule 463	Organic Liquid Storage

REGULATION XI – SOURCE SPECIFIC STANDARDS

Rule 1128	Paper, Fabric, and Film Coating Operations
Rule 1134	Emissions of Oxides of Nitrogen from Stationary Gas Turbines
Rule 1147	NOx Reductions from Miscellaneous Sources
Rule 1148.1	Oil and Gas Production Wells
Rule 1150	Excavation of Landfill Sites
Rule 1173	Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants

REGULATION XIV - TOXICS AND OTHER NON-CRITERIA POLLUTANTS

Rule 1426	Emissions from Metal Finishing Operations
Rule 1469	Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations

REGULATION XX – REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)

Rule 2004 Requirements

REGULATION XXX – TITLE V PERMITS

Rule 3002 Requirements

CALIFORNIA HEALTH & SAFETY CODE

§41700 Prohibited Discharges

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BOARD MEETING DATE: June 06, 2025 AGENDA NO. 17

REPORT: Civil Filings and Civil Penalties Report

SYNOPSIS: This report summarizes monthly penalties and legal actions filed by the General Counsel's Office from April 1 through April 30, 2025. An Index of South Coast AQMD Rules is attached with the penalty report.

COMMITTEE: Stationary Source, May 16, 2025, Reviewed

RECOMMENDED ACTION:
Receive and file.

Bayron T. Gilchrist
General Counsel

BTG:cr

	CIVIL FILINGS	VIOLATIONS
1.	Ardases Kalpakcian dba Excel Cleaners	3
	County of Los Angeles Superior Court – Small Claims	
	Case No.: 25VESC00897; Filed 4.24.25 (CM)	
	NOV Nos.: P74023, P69568, P69564	
	203 - Permit to Operate 1421 - Control of Perchloroethylene Emissions from Dry Cleaning Operations California Health and Safety Code § 42402	
2.	The Hazmat Team	1
	County of Orange Superior Court – Small Claims	
	Case No.: 30-2025-01478466-SC-SC-CJC; Filed 4.29.25 (CL)	
	NOV No.: P75904	
	1403 – Asbestos Emissions from Demolition/Renovation Activities California Health and Safety Code § 42402	
		4 Violations

Attachments
April 2025 Penalty Report
Index of South Coast AQMD Rules and Regulations

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

General Counsel's Office

Settlement Penalty Report (04/01/2025 - 04/30/2025)

Total Penalties

Civil Settlement: $175,564.00

Hearing Board Settlement: $438,883.91

MSPAP Settlement: $246,570.50

Total Cash Settlements: $861,018.41

Total SEP Value: $0.00

Fiscal Year through 04/30/2025 Cash Total: $7,866,285.67

Fiscal Year through 04/30/2025 SEP Value Only Total: $0.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
Civil						
800016	BAKER COMMODITIES INC	415, 2004, 3002	04/03/2025	DH	P63824, P65291, P65293, P67318, P67319, P67321, P72855, P72866, P72871, P72872	$15,000.00
202571	DREAM GIRL	2305	04/01/2025	JL	O15130	$15,000.00
202361	EGREEN TRANSPORTATION	2305	04/22/2025	JL	O15171	$1,500.00
139808	INLAND EMPIRE REGIONAL COMPOSTING AUTHORITY	1133, 1133.2, 3002	04/01/2025	ND	P70146	$22,971.00
201747	KEECO	2305	04/22/2025	JL	O15095, SRV2022-00049, SRV2022-00050	$28,000.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
102159	RANCHO SAN JOAQUIN GOLF COURSE	403, 461	04/22/2025	KCM	P69936, P75307, P76407, P76409, P76412, P76414, P76418, P77611, P77803, P77804, P77805, P77808, P77809, P77817, P77819, P77820, P77831, P77832, P77833, P77834, P77835, P77836, P78555, P78557, P78558, P78559, P78560, P78562, P78563, P78564, P78565, P78568, P78570, P78571, P78572, P78573, P78574, P78575, P78576, P78578, P78579, P78582, P78583	$60,000.00
198315	ROYAL WHITE CEMENT INC	201, 203, 403	04/01/2025	JL	P76258, P76281	$16,700.00
202627	RSC CONSTRUCTION INC	1403	04/01/2025	EC	P75770	$1,209.00
98296	SOUTH COAST OIL CORPORATION	203, 463, 1148.1, 1173	04/01/2025	SH	P74398, P80704, P80706, P80707	$9,000.00
115184	TILDEN-COIL CONSTRUCTOR INC	1403, 40 CFR 61.145	04/25/2025	DH	P80311	$1,500.00
178695	VIRAMONTES EXPRESS	403	04/17/2025	CL	P73920	$4,684.00
Total Civil Settlements: $175,564.00						
Hearing Board						
140373	AMERESCO CHIQUITA ENERGY LLC	203, 431.1, 3002	04/10/2025	KER	6143-4	$2,600.00
119219	CHIQUITA CANYON LLC	431.1, 3002	04/22/2025	KER/MR	6177-4	$435,283.91
146536	WALNUT CREEK ENERGY LLC	203, 2004, 3002	04/01/2025	KCM	6230-6	$1,000.00
Total Hearing Board Settlements: $438,883.91						
MSPAP						
203394	6TH ST	2305	04/25/2025	CM	O15245	$5,000.00
145406	7-ELEVEN (#33459)	461, H&S 41960.2	04/01/2025	VB	P80207	$1,437.00
197672	7-ELEVEN (#43183)	461, H&S 41960.2	04/15/2025	VB	P80572	$4,313.00
139282	7TH & VALLEY JOINT VENTURE (DBA "SHELL GAS STATION")	203, 461	04/15/2025	SW	P80218	$12,490.00
200565	AGUA CONSTRUCTION LLC	403	04/04/2025	VB	P79258	$1,813.00
200565	AGUA CONSTRUCTION LLC	403	04/04/2025	VB	P79263	$1,693.00
21321	AIRCRAFT X-RAY LABS INC	1469	04/08/2025	CL	P79956	$1,891.00
129216	ALLEN INDUSTRIAL & MACHINE	203, 1469	04/18/2025	CL	P75873	$3,706.00
155224	AMERICAN ROYAL PETROLEUM INC	203, 461	04/08/2025	SW	P80230	$4,396.00
100318	ANAHEIM ARENA MANAGEMENT	203	04/04/2025	VB	P80283	$1,049.00
100542	AUTRY NATIONAL CENTER	1146.1	04/01/2025	CL	P75468	$6,045.00
119940	BUILDING MATERIALS MANUFACTURING CORP	3002	04/25/2025	CL	P77954	$2,747.00
195686	CALTROL INC	203	04/01/2025	SW	P75337	$1,009.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
153992	CANYON POWER PLANT	2009, 3002	04/01/2025	CL	P79467	$4,435.00
104307	CHANDLER AGGREGATES INC	1157	04/25/2025	CL	P75889	$1,715.00
27601	CHEVRON	203, 461	04/25/2025	SW	P79611	$8,472.00
142435	CLAREMONT CITY	461	04/18/2025	VB	P78472	$2,689.00
181377	COACHELLA VALLEY WATER DISTRICT	403, 403.1	04/11/2025	VB	P68352, P74285	$2,098.00
200350	CORODATA	2305	04/04/2025	CM	O15276	$5,000.00
170202	CPT 6TH & CLEVELAND LLC	203	04/25/2025	SW	P78473	$996.00
167770	DATE PALM PETROLEUM INC (DBA "ARCO AMPM (#8321))	461, H&S 41960.2	04/25/2025	CM	P73530	$1,049.00
98554	DECORE PLATING	203, 1469	04/08/2025	VB	P74788, P74789, P74798, P79516	$19,344.00
139111	DEL AMO MILLS LIMITED PARTNERSHIP	203	04/25/2025	VB	P78308	$3,513.00
181985	DINO STATION	461	04/01/2025	CM	P73529	$2,098.00
140059	EL MONTE AUTO SPA & RESORT	203	04/25/2025	SW	P80216	$847.00
194209	ESS SERVICE STATION	461, H&S 41960.2	04/15/2025	CM	P73521	$1,009.00
39245	EXXONMOBIL	203, 461, H&S 41960.2	04/01/2025	SW	P80217	$3,868.00
111357	G & M OIL CO LLC (#57)	203	04/15/2025	CM	P80220	$1,049.00
126408	G & M OIL CO LLC (#97)	461, H&S 41960.2	04/15/2025	CM	P73543	$1,049.00
203546	G&M OIL COMPANY (#222)	201, 203	04/15/2025	CM	P79396	$2,098.00
200167	GRAND CHANNEL INC	2305	04/01/2025	CM	O15273	$3,562.00
129571	HAWK II ENVIRONMENTAL CORP	461, H&S 41960.2	04/18/2025	VB	P80223	$2,674.00
158146	HERMETIC SEAL CORP/AMETEK	203, 222	04/25/2025	CM	P74893	$3,147.00
196133	HONOR RANCHO WAYSIDE CANYON HOLDINGS	2004	04/08/2025	CL	P79670	$5,245.00
201743	IFS (RYDER)	2305	04/01/2025	CM	O15127	$7,200.00
201891	KC EXCLUSIVE INC (DBA "ZENANA")	2305	04/08/2025	VB	O15143	$3,800.00
114998	KIM'S ARCO AM/PM	203, 461	04/18/2025	VB	P80232	$2,747.00
201487	LECANGS LLC	2305	04/11/2025	VB	O15263	$11,000.00
178103	MARINE TERMINAL CORPORATION	203, 461.1	04/25/2025	CL	P76278	$6,054.00
118986	MAYWOOD SHELL	461, H&S 41960.2	04/08/2025	SW	P73538	$2,055.00
113241	MD CHEVRON (DUCM INC)	461	04/08/2025	VB	P79634	$3,447.00
162110	MEYMARIAN BROTHERS INC (DBA "MIRACLE MILE")	461, H&S 41960.2	04/01/2025	SW	P74687	$1,550.00
95451	MOBIL DLR (GLENDALE MOBIL SERVICE)	461, H&S 41960.2	04/01/2025	VB	P79091	$1,400.00
150554	MONTECITO MEMORIAL PARK	461	04/11/2025	VB	P74659, P79717	$1,209.00
193554	N & N OIL INC	203, 461	04/15/2025	SW	P68816	$2,727.00
112931	NATIONAL READY MIXED CONCRETE COMPANY	403	04/11/2025	VB	P75466	$2,875.00
192371	OAK VALLEY EXPRESS LLC	461	04/15/2025	VB	P80958	$3,027.00
33572	ORANGE UNIFIED SCHOOL DIST	461	04/04/2025	CM	P80278	$863.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
140600	PACIFIC MARITIME SERVICES LLC	462	04/08/2025	CL	P76288	$1,813.00
202158	PIONEER TECHNOLOGY INC	2305	04/04/2025	VB	O15230	$11,000.00
191746	PRECISION WORKS INC	1403	04/15/2025	CM	P80818	$15,135.00
172840	R & R DEMO & GRADING CORPORATION	1403	04/25/2025	CM	P78132	$1,009.00
162863	REDONDO BEACH 76	203	04/01/2025	VB	P80639	$1,009.00
177835	ROCKET (#0280)	461, H&S 41960.2	04/01/2025	SW	P74686	$1,800.00
198352	ROM INVESTMENTS	1403, 40 CFR 61.145	04/11/2025	VB	P79757	$1,816.00
202781	SAI FUEL INC	461, H&S 41960.2	04/04/2025	VB	P73522	$1,286.00
84043	SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT	461	04/01/2025	SW	P79722	$4,436.00
171436	SPECIALTY SPRAY SERVICE INC	203	04/15/2025	CM	P78462	$2,724.00
146879	SSA TERMINALS LLC	462	04/08/2025	CL	P76287	$1,813.00
205576	TAN CONSTRUCTION INC	1403	04/25/2025	VB	P78639	$2,269.00
113952	TMB OIL CO INC (#2)	461, H&S 41960.2	04/11/2025	VB	P79618	$1,588.00
184258	TOP WRENCH	109, 1151	04/01/2025	VB	P74486	$1,513.00
79193	UNITED PARCEL SERVICE	461	04/08/2025	SW	P80282	$1,996.00
118622	VERNON FUEL DISTRIBUTING INC	461, H&S 41960.2	04/01/2025	CM	P74690	$3,027.00
82395	VONS (#2384)	461, H&S 41960.2	04/08/2025	VB	P73523	$1,513.50
146343	WALMART (#1832)	201	04/25/2025	CM	P80576	$1,049.00
183120	WOLVERINE DISTRIBUTION CENTER PH1	2305	04/11/2025	VB	O15253	$11,000.00
81068	YUCAIPA VALLEY WATER DISTRICT	461	04/18/2025	CL	P79337	$5,274.00

Total MSPAP Settlements: $246,570.50

SOUTH COAST AQMD'S RULES AND REGULATIONS INDEX
FOR APRIL 2025 PENALTY REPORT

REGULATION I - GENERAL PROVISIONS

Rule 109	Recordkeeping for Volatile Organic Compound Emissions

REGULATION II - PERMITS

Rule 201	Permit to Construct
Rule 203	Permit to Operate
Rule 222	Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II

REGULATION IV - PROHIBITIONS

Rule 403	Fugitive Dust
Rule 403.1	Wind Entrainment of Fugitive Dust
Rule 415	Odors from Rendering Facilities
Rule 431.1	Sulfur Content of Gaseous Fuels
Rule 461	Gasoline Transfer and Dispensing
Rule 461.1	Gasoline Transfer and Dispensing for Mobile Fueling Operations
Rule 462	Organic Liquid Loading
Rule 463	Storage of Organic Liquids

REGULATION XI - SOURCE SPECIFIC STANDARDS

Rule 1133	Composting and Related Operations – General Administrative Requirements
Rule 1133.2	Emission Reductions from Co-Composting Operations
Rule 1146.1	Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters
Rule 1148.1	Oil and Gas Production Wells
Rule 1151	Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations
Rule 1157	PM10 Emission Reductions from Aggregate and Related Operations
Rule 1173	Fugitive Emissions of Volatile Organic Compounds

REGULATION XIV - TOXICS

Rule 1403	Asbestos Emissions from Demolition/Renovation Activities
Rule 1421	Control of Perchloroethylene Emissions from Dry Cleaning Operations
Rule 1469	Hexavalent Chromium Emissions from Chrome Plating and Chromic Acid Anodizing Operations

SOUTH COAST AQMD'S RULES AND REGULATIONS INDEX
FOR APRIL 2025 PENALTY REPORT

REGULATION XX - REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)

Rule 2004	Requirements
Rule 2009	Compliance Plan for Power Producing Facilities

REGULATION XXIII - FACILITY BASED MOBILE SOURCE MEASURES

Rule 2305	Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (Waire) Program

REGULATION XXX - TITLE V PERMITS

Rule 3002	Requirements

CODE OF FEDERAL REGULATIONS

40 CFR 61.145	Standards for Demolition and Renovation

CALIFORNIA HEALTH AND SAFETY CODE

H&S § 41960.2	Gasoline Vapor Recovery
H&S § 42402	Violation of Emission Limitations – Civil Penalty

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 18

REPORT: Intergovernmental Review of Environmental Documents and CEQA Lead Agency Projects

SYNOPSIS: This report provides a listing of environmental documents prepared by other public agencies seeking review by South Coast AQMD between April 1, 2025 and April 30, 2025, and proposed projects for which South Coast AQMD is acting as lead agency pursuant to CEQA.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file.

Wayne Nastri
Executive Officer

SR:MK:BR:SW:ET:DC

Background

The California Environmental Quality Act (CEQA) Statute and Guidelines require public agencies, when acting in their lead agency role, to provide an opportunity for other public agencies and members of the public to review and comment on the analysis in environmental documents prepared for proposed projects. A lead agency is when a public agency has the greatest responsibility for supervising or approving a proposed project and is responsible for the preparation of the appropriate CEQA document.

Each month, South Coast AQMD receives environmental documents, which include CEQA documents, for proposed projects that could adversely affect air quality. South Coast AQMD fulfills its intergovernmental review responsibilities, in a manner that is consistent with the Board's 1997 Environmental Justice Guiding Principles and Environmental Justice Initiative #4, by reviewing and commenting on the adequacy of the air quality analysis in the environmental documents prepared by other lead agencies. The status of these intergovernmental review activities is provided in this report in two sections: 1) Attachment A lists all of the environmental documents prepared by other

public agencies seeking review by South Coast AQMD that were received during the reporting period; and 2) Attachment B lists the active projects for which South Coast AQMD has reviewed or is continuing to conduct a review of the environmental documents prepared by other public agencies. Further, as required by the Board's October 2002 Environmental Justice Program Enhancements for fiscal year (FY) 2002-03, each attachment includes notes for proposed projects which indicate when South Coast AQMD has been contacted regarding potential air quality-related environmental justice concerns. The attachments also identify for each proposed project, as applicable: 1) the dates of the public comment period and the public hearing date; 2) whether staff provided written comments to a lead agency and the location where the comment letter may be accessed on South Coast AQMD's website; and 3) whether staff testified at a hearing.

In addition, the South Coast AQMD will act as lead agency for a proposed project and prepare a CEQA document when: 1) air permits are needed; 2) potentially significant adverse impacts have been identified; and 3) the South Coast AQMD has primary discretionary authority over the approvals. Attachment C lists the proposed air permit projects for which South Coast AQMD is lead agency under CEQA.

Attachment A – Log of Environmental Documents Prepared by Other Public Agencies and Status of Review, and Attachment B – Log of Active Projects with Continued Review of Environmental Documents Prepared by Other Public Agencies

Attachment A contains a list of all environmental documents prepared by other public agencies seeking review by South Coast AQMD that were received pursuant to CEQA or other regulatory requirements. Attachment B provides a list of active projects, which were identified in previous months' reports, and which South Coast AQMD staff is continuing to evaluate or prepare comments relative to the environmental documents prepared by other public agencies. The following table provides statistics on the status of review[1] of environmental documents for the current reporting period for Attachments A and B combined[2]:

[1] The status of review reflects the date when this Board Letter was prepared. Therefore, Attachments A and B may not reflect the most recent updates.

[2] Copies of all comment letters sent to the lead agencies are available on South Coast AQMD's website at: http://www.aqmd.gov/home/regulations/ceqa/commenting-agency.

Statistics for Reporting Period from April 1, 2025 to April 30, 2025	
Attachment A: Environmental Documents Prepared by Other Public Agencies and Status of Review	70
Attachment B: Active Projects with Continued Review of Environmental Documents Prepared by Other Public Agencies (which were previously identified in the February and March 2025 report)	4
Total Environmental Documents Listed in Attachments A & B	**74**
Comment letters sent	*10*
Environmental documents reviewed, but no comments were made	*59*
Environmental documents currently undergoing review	*5*

Staff focuses on reviewing and preparing comments on environmental documents prepared by other public agencies for proposed projects: 1) where South Coast AQMD is a responsible agency under CEQA (e.g., when air permits are required but another public agency is lead agency); 2) that may have significant adverse regional air quality impacts (e.g., special event centers, landfills, goods movement); 3) that may have localized or toxic air quality impacts (e.g., warehouse and distribution centers); 4) where environmental justice concerns have been raised; and 5) which a lead or responsible agency has specifically requested South Coast AQMD review.

If staff provided written comments to a lead agency, then a hyperlink to the "South Coast AQMD Letter" is included in the "Project Description" column which corresponds to a notation in the "Comment Status" column. In addition, if staff testified at a hearing for a proposed project, then a notation is included in the "Comment Status" column. Copies of all comment letters sent to lead agencies are available on South Coast AQMD's website at: http://www.aqmd.gov/home/regulations/ceqa/commenting-agency. Interested parties seeking information regarding the comment periods and scheduled public hearings for projects listed in Attachments A and B should contact the lead agencies for further details as these dates are occasionally modified.

In January 2006, the Board approved the Clean Port Initiative Workplan (Workplan). One action item of the Workplan was to prepare a monthly report describing CEQA documents for projects related to goods movement and to make full use of the process to ensure the air quality impacts of such projects are thoroughly mitigated. In accordance with this action item, Attachments A and B organize the environmental documents received according to the following categories: 1) goods movement projects; 2) schools; 3) landfills and wastewater projects; 4) airports; and 5) general land use projects. In response to the action item relative to mitigation, staff maintains a compilation of mitigation measures presented as a series of tables relative to off-road engines; on-road engines; harbor craft; ocean-going vessels; locomotives; fugitive dust; and greenhouse gases which are available on South Coast AQMD's website at:

http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies. Staff will continue compiling tables of mitigation measures for other emission sources such as ground support equipment.

Attachment C – Proposed Air Permit Projects for Which South Coast AQMD is CEQA Lead Agency

The CEQA lead agency is responsible for determining the type of environmental document to be prepared if a proposal requiring discretionary action is considered to be a "project" as defined by CEQA. South Coast AQMD periodically acts as lead agency for its air permit projects and the type of environmental document prepared may vary depending on the potential impacts. For example, an Environmental Impact Report (EIR) is prepared when there is substantial evidence that the project may have significant adverse effects on the environment. Similarly, a Negative Declaration (ND) or Mitigated Negative Declaration (MND) may be prepared if a proposed project will not generate significant adverse environmental impacts, or the impacts can be mitigated to less than significance. The ND and MND are types of CEQA documents which analyze the potential environmental impacts and describe the reasons why a significant adverse effect on the environment will not occur such that the preparation of an EIR is not required.

Attachment C of this report summarizes the proposed air permit projects for which South Coast AQMD is lead agency and is currently preparing or has prepared environmental documentation pursuant to CEQA. As noted in Attachment C, South Coast AQMD is lead agency for four air permit projects during April 2025.

Attachments

A. Environmental Documents Prepared by Other Public Agencies and Status of Review
B. Active Projects with Continued Review of Environmental Documents Prepared by Other Public Agencies
C. Proposed Air Permit Projects for Which South Coast AQMD is CEQA Lead Agency

ATTACHMENT A
ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OR REVIEW
April 1, 2025 to April 30, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Goods Movement TRAPAC INC#	The project consists of adding one ship-to-shore crane at Berths 136-147. The project is located at the port of Los Angeles in San Pedro within the designated AB 617 Wilmington, Carson, and West Long Beach community. References: LAC140930-02; LAC131023-03; and LAC130305-08 Comment Period: N/A Public Hearing: 4/24/2025	Other	Port of Los Angeles	Document reviewed - No comments sent
Warehouse & Distribution Centers **LAC250402-02** Prologis Del Amo and Prairie Center	The project consists of constructing a 403,003 square foot warehouse on 31.3 acres. The project site is bounded by Madrona/Prairie Avenue to the West, Del Amo Boulevard to the south, and railroad tracks from the northwest to the southwest, forming a triangular shape project site. https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/april-2025/lac250402-02.pdf Comment Period: 3/28/2025 - 4/28/2025 Public Hearing: N/A	Notice of Preparation of a Draft Environmental Impact Report	City of Torrance	Comment letter sent on 4/23/2025
Warehouse & Distribution Centers **LAC250402-03** Prologis Vermont and Redondo Project#	The project consists of constructing and maintaining a 340,298 square foot warehouse, which includes a 25,000 square foot mezzanine and 40,000 square feet for office use. The project is located at 15116-15216 South Vermont Avenue and 747-861 West Redondo Beach Boulevard in Los Angeles. The project is within two designated AB 617 communities: 1) Wilmington, Carson, and West Long Beach, and 2) South Los Angeles. Comment Period: N/A Public Hearing: 4/24/2025	Final Environmental Impact Report	City of Los Angeles	Document reviewed - No comments sent

Key:
# = Project has potential environmental justice concerns due to the nature and/or location of the project.
LAC = Los Angeles County, ORC = Orange County, RVC = Riverside County, SBC = San Bernardino County, ALL = All counties within the South Coast AQMD jurisdiction, and ODP = Project located outside of South Coast AQMD jurisdiction

Project Notes:
1. Disposition may change prior to Governing Board Meeting
2. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.

ATTACHMENT A
ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OR REVIEW
April 1, 2025 to April 30, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Warehouse & Distribution Centers **LAC250409-03** Intex Corporate Office and Fulfillment Center#	The project consists of constructing a 517,437 square foot warehouse on 26.47 acres, which includes developing 570 parking stalls and 174 trailer loading parking spaces. The project is located at 4000 Via Oro Avenue on the northeast corner of West Carson Street and Via Oro Avenue within the designated AB 617 Wilmington, Carson, and West Long Beach community. Staff previously provided comments on the Notice of Preparation which can be accessed at: https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/september-2024/lac240801-04-draft-eir-intex-corporate-office-and-fulfillment-center-project.pdf. In addition, staff previously provided comments on the Draft Environmental Impact Report which can be accessed at https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/may-2023/LAC230418-06.pdf. References: LAC240801-04 and LAC230418-06 Comment Period: N/A Public Hearing: 5/1/2025	Final Environmental Impact Report	City of Long Beach	Document reviewed - No comments sent
Warehouse & Distribution Centers **RVC250402-05** Newland Simpson Project	The project consists of constructing two warehouses totaling 1,192,418 square feet (Building 1: 883,080 square feet; Building 2: 309,338 square feet) on 74.88 acres. The project is located on the southeast corner of Warren Road and Simpson Road in Hemet. References: RVC241203-04 and RVC240522-11 Comment Period: N/A Public Hearing: 4/8/2025	Other	City of Hemet	Document reviewed - No comments sent

Key:
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Project Notes:
1. Disposition may change prior to Governing Board Meeting
2. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.

ATTACHMENT A
ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OR REVIEW
April 1, 2025 to April 30, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Industrial and Commercial **LAC250401-05** Berth 191-194 (ECOCEM) Low-Carbon Cement Processing Facility Project#	The project consists of constructing a new processing facility that would import raw materials by ship and truck, temporarily store and process them to produce a low-carbon binder, and load third-party trucks that would transport the product to local consumers. The project is located at 100 Yacht Street in Wilmington within the designated AB 617 Wilmington, Carson, and West Long Beach community. References: LAC231012-01 and LAC231012-01 Comment Period: N/A Public Hearing: N/A	Response to Comments	City of Los Angeles Harbor Department	Document reviewed - No comments sent
Industrial and Commercial **LAC250401-07** Revised Oil Well Ordinance (ROWO)#	The project consists of: 1) Amendments to Title 22 – Planning & Zoning of Los Angeles County Code to prohibit new oil wells and production facilities, designate oil wells and production facilities as nonconforming due to use, and modify standards for oil wells during the amortization period; 2) Amendments to the Baldwin Hills Community Standards District to be consistent with countywide prohibition oil wells and production facilities and standards for oil wells during amortization period; 3) Amendments to Title 12 – Environmental Protection of the Los Angeles County Code to remove noise exemptions for oil wells; and 4) Amendments to the County of Los Angeles General Plan to support sustainability and environmental justice goals by phasing out oil production. The project is located in unincorporated in Los Angeles County within four designated AB 617 communities: 1) Southeast Los Angeles, 2) East Los Angeles, Boyle Heights, and West Commerce, 3) South Los Angeles, and 4) Wilmington, Carson, and West Long Beach. Comment Period: 3/27/2025 - 4/26/2025 Public Hearing: N/A	Notice of Preparation of an Environmental Impact Report	County of Los Angeles	Document reviewed - No comments sent
Industrial and Commercial **LAC250408-02** Conditional Use Permit Case No 853	The project consists of a conditional use permit to allow a trucking facility for tractors, trailers, and tankers. The project is located at 11708 Pike Street in Santa Fe Springs. Comment Period: N/A Public Hearing: 4/14/2025	Other	City of Santa Fe Springs	Document reviewed - No comments sent
Industrial and Commercial **RVC250401-08** MA25030-PAR25008	The project consists of constructing: 1) an auto, semi-truck and trailer, construction and landscaping equipment rental service; 2) removal of unpermitted structures and construction of a new 900 square foot office building with an Americans with Disabilities Act (ADA) compliant bathroom; and 3) construction of two prefabricated steel canopies for minor service. The project is located on Limonite Avenue in Jurupa Valley. Comment Period: 4/1/2025 - 4/16/2025 Public Hearing: N/A	Site Plan	City of Jurupa Valley	Document reviewed - No comments sent

Key:
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Project Notes:
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2. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.

ATTACHMENT A
ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OR REVIEW
April 1, 2025 to April 30, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Industrial and Commercial **RVC250411-04** Viscar Terrace Grading Plan Project	The project consists of demolishing 20,000 square feet of buildings, a concrete driveway, and underground utility lines, and grading that requires 8,165 cubic yards of fill export. The project site is located on the north side of Vista Murrieta Road, west of Carrigan Street, and east of Interstate 15 corridor and Jackson Avenue in Murrieta. Comment Period: 4/11/2025 - 4/12/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Murrieta	Document reviewed - No comments sent
Industrial and Commercial **RVC250415-05** Nance Street Trailer Storage and Maintenance Yards	The project consists of constructing three separate sites. Site 1 includes consolidating eight parcels to construct an 11,700 square foot office/maintenance shop and trailer storage on 5.18 acres. Site 2 includes consolidating two parcels to construct an 11,700 square foot office/maintenance on 1.82 acres. Site 3 includes constructing a trailer storage facility on three parcels on 2.73 acres. All sites are located north and south of Nance Street between Nevada Zone and Webster Avenue in Perris. Comment Period: 4/11/2025 - 5/12/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Perris	Document reviewed - No comments sent
Industrial and Commercial **RVC250423-07** Mead Valley Vesting Mine Determination (PAR23004)	The project consists of determining a vested right to mine approximately 365 acres on eight parcels. The project is located north of Lexington Road, south of Cajalco Road, east of Seaton Avenue, and west of Day Street in Riverside County. Comment Period: N/A Public Hearing: 5/20/2025	Other	County of Riverside	Document reviewed - No comments sent
Waste and Water-related **LAC250408-04** Proposed Land Use Restriction for Alpine Village#	The project consists of restricting uses of Alpine Village due to the presence of hazardous substances in the subsurface. The property is located at 833 West Torrance Boulevard in Torrance within the designated AB 617 Wilmington, Carson, and West Long Beach community. Comment Period: N/A Public Hearing: N/A	Other	Department of Toxic Substances Control (DTSC)	Document reviewed - No comments sent

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Waste and Water-related **LAC250408-05** Community Survey – Harbor City	The project consists of a Removal Action Work Plan to remove volatile organic compounds (VOC) from soil on 4.25 acres. The project is located at 1661 West 240th Street in Harbor City. Comment Period: 4/8/2025 - 4/28/2025 Public Hearing: N/A	Other	Department of Toxic Substances Control (DTSC)	Document reviewed - No comments sent
Waste and Water-related **LAC250414-01** San Gabriel Valley Greenway Network Strategic Implementation Plan	The project consists of: 1) developing a transportation and recreational corridor; 2) beautifying the Los Angeles County Flood Control District (LACFCD); and 3) enhancing stormwater management and natural habitats around river channels, stormwater channels, washes, and creeks in the San Gabriel Valley (SGV). The project is located at the LACFCD rights of way and adjacent parcels along 15 washes and creeks in the SGV. Comment Period: 4/15/2025 - 4/30/2025 Public Hearing: N/A	Notice of Availability of Draft Program Environmental Impact	County of Los Angeles	Document reviewed - No comments sent
Waste and Water-related **LAC250417-02** Crosby & Overton, Inc. Class 2 Permit#	The project consists of a Class 2 Permit Modification Request to add a shaker screen and hopper bin to Unit 9 and replace the bulk transfer trailer to Unit 12 with totes and drums. The project is located at 1610 West 17th Street in Long Beach, within the designated AB 617 Wilmington, Carson, and West Long Beach community. Comment Period: N/A Public Hearing: N/A	Response to Comments	Department of Toxic Substances Control (DTSC)	Document reviewed - No comments sent
Waste and Water-related **LAC250417-03** Crosby & Overton, Inc. Class 2 Permit#	The project consists of approving a Hazardous Waste Facility Class 2 Permit Modification Request for completing modifications to a container unit within Unit 12 and making technological advancements in Unit 9. The project is located at 1630 West 17th Street in Long Beach, within the designated AB 617 Wilmington, Carson, and West Long Beach community. References: LAC240410-11 and LAC240207-10 Comment Period: N/A Public Hearing: N/A	Other	Department of Toxic Substances Control (DTSC)	Document reviewed - No comments sent

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Waste and Water-related **LAC250422-02** Community Survey – Cleanup @ 2471 Lincoln Boulevard	The project consists of a cleanup of tetrachlorethylene (PCE) which has been detected in soil vapor and groundwater at concentrations that exceed applicable screening levels. The Journey Site, which is 37 acres, consists of two parcels of land and is located at 2471 Lincoln Boulevard, in the City of Los Angeles. Comment Period: 4/22/2025 - 5/2/2025 Public Hearing: N/A	Other	Department of Toxic Substances Control (DTSC)	Document reviewed - No comments sent
Waste and Water-related **RVC250411-03** Cherry Channel Drainage Project	The project consists of replacing the turn geo-mat lining along an existing channel with concrete to improve runoff flow conditions and maintenance. The project is located along Cherry Avenue, between Cougar Way and Oak Valley Parkway in Beaumont. Comment Period: 4/10/2025 - 5/10/2025 Public Hearing: N/A	Notice of Intent to Adopt an Initial Study/Mitigated Negative Declaration	City of Beaumont	Document reviewed - No comments sent
Waste and Water-related **RVC250414-02** Soboba Band of Luiseno Indians' Septic to Sewer Conversion Project	The project consists of constructing 19.6 miles of sewer pipelines, lift stations, and staging areas. The project is located within the Soboba Band of Luiseno Indian's 8,320-acre Reservation and unincorporated area of Riverside County in San Jacinto. https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/may-2025/rvc250414-02.pdf Comment Period: 4/14/2025 - 5/9/2025 Public Hearing: N/A	Draft Environmental Impact Report	County of Riverside	Comment letter sent on 5/9/2025

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Waste and Water-related **RVC250414-03** Sunnymead Master Drainage Plan Line F and F-7	The project consists of providing flood protection to support habitat and preserve beneficial uses during a 100-year storm event in the local area. The project improvements would include 4200 feet of storm drain, 10 catch basins, two infiltration facilities, two diversion structures, one weir structure and energy dissipation, a dual-purpose Stormwater Management and Retention Treatment basin south of Sunnymead Boulevard to reduce flows through detention of the peak rate of a 100-year storm. The project is located at the corner of Hemlock Avenue and Graham Street, continuing westerly along Hemlock Avenue, then turning southerly through the Towngate Racquet Club Apartments, continuing southerly of Sunnymead Boulevard and is in the City of Moreno Valley. Comment Period: 4/12/2025 - 5/12/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Moreno Valley	Document reviewed - No comments sent
Transportation **ALL250418-02** 2025 Federal Transportation Improvement Program #25-06#	The six projects consist of reaffirming transportation conformity. The six projects are located in the South Coast Air Basin. The project includes six designated AB 617 communities: 1) East Los Angeles, Boyle Heights, West Commerce, 2) Eastern Coachella Valley, 3) San Bernardino, Muscoy, 4) Southeast Los Angeles, 5) South Los Angeles, and 6) Wilmington, Carson, West Long Beach. Reference: ALL250225-05 Comment Period: 4/18/2025 - 4/28/2025 Public Hearing: N/A	Other	Southern California Association of Governments (SCAG)	Document reviewed - No comments sent
Transportation **RVC250423-08** Santa Ana River Trail (SART)	The project consists of constructing, operating, and maintaining three segments of the Santa Ana River Trail (SART Project), which covers a 2.79-mile gap. The project is located at the Army Corps-owned property at the Prado Dam Reservoir in Riverside County. Comment Period: 4/24/2025 - 5/27/2025 Public Hearing: N/A	Draft Environment Assessment	U.S. Army Corps of Engineers	Document reviewed - No comments sent

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Institutional (schools, government, etc.) **LAC250402-01** Middle Ranch Private Recreation Club	The project consists of modifying an existing clubhouse and parking lot to host special events with food and alcohol consumption. The project includes enclosing an existing outdoor patio and re-striping 128 existing and new parking spaces. The project is located at 11700 Little Tujunga Canyon Road in the unincorporated San Fernando Valley Planning Area. Comment Period: 3/6/2025 - 5/7/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	County of Los Angeles	Document reviewed - No comments sent
Institutional (schools, government, etc.) **LAC250402-04** Natural Disaster Rebuild - Malibu Minor LCP Amendment No. LCP-4-MAL-25-0012-1	The project consists of modifying the implementation plan (IP) portion of its certified Local Coastal Programs' existing regulations and permit procedures to facilitate the rebuilding of structures damaged or destroyed by natural disaster, including a structure rebuild exemption and Coastal Development Permit (CDP) waiver. The project is located in Malibu. Comment Period: N/A Public Hearing: 4/10/2025	Other	California Coastal Commission	Document reviewed - No comments sent
Institutional (schools, government, etc.) **LAC250409-02** Sylmar Charter High School Major Modernization Project	The project consists of modifying the 30.6-acre Sylmar Charter High School Campus, which includes: 1) demolishing four permanent buildings and six portable classroom buildings; 2) constructing one permanent building; 3) utility upgrades; 4) parking reconfiguration; 5) accessibility upgrades; 6) painting exterior buildings; and 7) landscaping and hardscaping outdoor learning areas and interim facilities to allow the school to remain operational. The project is located at 13050 Borden Avenue in Los Angeles. Comment Period: 4/7/2025 - 5/7/2025 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	Los Angeles County Unified School District	Document reviewed - No comments sent

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Institutional (schools, government, etc.) **LAC250415-07** Azusa Greens Redevelopment Project	The project consists of an industrial site, a residential site, and a golf course site, each with demolition, construction, and renovation activities. The three project sites comprise 92.12 acres located at 919 Sierra Madre Avenue in Azusa. Reference: LAC231227-04 Staff previously provided comments on the Notice of Preparation of a Draft Environmental Impact Report which can be accessed at: https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/LAC231227-04.pdf Comment Period: 4/11/2025 - 5/27/2025 Public Hearing: 7/9/2025	Notice of Availability of a Draft Environmental Impact Report	City of Azusa	Under review, may submit comments
Institutional (schools, government, etc.) **LAC250423-03** ENV-2024-575-MND	The project consists of constructing a 56,466 square foot public charter school with two vacant adjoining lots on approximately 2.5 acres. The project is located at 11600-16602 West Van Owen Street and 16601 West Archwood Street in Los Angeles. Comment Period: 4/24/2025 - 5/22/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
Institutional (schools, government, etc.) **ORC250401-02** Costa Mesa High School Expansion	The project consists of constructing a new building, expanding two existing buildings, installing a new permanent home and away bleachers, implementing a new fire lane, and new landscaping. The project is located at 2650 North Fairview Road Costa Mesa in Orange County. Comment Period: 3/31/2025 - 4/30/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	Newport-Mesa School District	Document reviewed - No comments sent

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Institutional (schools, government, etc.) **RVC250402-07** Rockport Golf Course Verizon Wireless Facility	The project consists of the development of a new 70-foot-tall mono-eucalyptus wireless unmanned cellular phone site, which includes a 347.5 square foot lease area enclosed by an 8-foot-tall decorative precision block wall with cap, and equipment enclosure. The project site is located at 29875 Menifee Lakes Drive in Menifee, north of Newport Road, east of Menifee Lakes Drive, and west of Menifee Road. Comment Period: N/A Public Hearing: 4/9/2025	Other	City of Menifee	Document reviewed - No comments sent
Medical Facility **RVC250401-04** Riverside University Health System	The project consists of: 1) an expansion of the one-story Emergency Department, approximately 65,000 square feet; 2) construction of a new two-story Wellness Center, approximately 150,000 square feet; 3) a new two-story Medical Office Building, approximately 150,000 square feet; 4) constructing parking areas, driveways, and boundaries; 5) addition to a helicopter pad; and 6) four two- to three-story parking structures. The 80-acre project is located is located at 26520 Cactus Avenue in Moreno Valley. Comment Period: N/A Public Hearing: N/A	Notice of Preparation of a Draft Environmental Impact Report	County of Riverside	Document reviewed - No comments sent
Medical Facility **RVC250423-04** PLN25-0068	The project consists of constructing a 22,000 square foot medical clinic, 112 parking stalls, landscaping, lighting, and associated improvements on one existing vacant parcel. The project is located on the east side of Bradley Road south of Cherry Hills Boulevard in Menifee. Comment Period: N/A Public Hearing: N/A	Site Plan	City of Menifee	Document reviewed - No comments sent
Retail **LAC250411-01** First Citizens Bank -Long Beach Project	The project consists of merging three parcels on vacant, underdeveloped land into one parcel and constructing a 12,469 square-foot two-story office/bank building. The project also includes a 51-foot tower and 44 parking stalls (eight of which will accommodate electric vehicles). The building is located at 3450-3470 Long Beach Boulevard in Long Beach. References: LAC240813-03 and LAC240716-06 Comment Period: 4/14/2025 - 5/28/2025 Public Hearing: N/A	Draft Environmental Impact Report	City of Long Beach	Document reviewed - No comments sent

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Retail **LAC250423-01** 3600 Peck Road	The project consists of redeveloping three of six existing commercial buildings, which includes demolishing 24,847 square feet of combined existing buildings and constructing 9,898 square feet of commercial buildings. The project size will be reduced from 52,268 square feet to 37,219 square feet. The project is located along the 3600 block of Peck Road, south of the Sitka Street intersection in El Monte. Comment Period: 4/23/2025 - 5/23/2025 Public Hearing: 6/10/2025	Notice of Intent/Initial Study Mitigated Negative Declaration	City of El Monte	Document reviewed - No comments sent
Retail **ORC250416-01** The Village Santa Ana Specific Plan	The project consists of constructing 1,583 residential units, 1,850,000 square feet of building space, 80,000 square feet of retail space, and 300,000 square feet of office space on 17.2 acres. The project is located on the northeast corner of West Sunflower Avenue and Bear Street, transected by South Plaza Drive in Santa Ana. Reference: ORC231108-02 Staff previously provided comments on the Notice of Preparation Draft Supplemental Environmental Impact Report which can be accessed at: https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/december-2023/ORC231108-02.pdf. Comment Period: 4/17/2025 - 6/2/2025 Public Hearing: N/A	Notice of Availability of a Supplemental Environmental Impact Report	City of Santa Ana	Document reviewed - No comments sent
Retail **ORC250422-03** B-2 Hotel Project	The project consists of constructing: 1) a hotel comprised of 500 guest suites with balconies and amenities; 2) an entertainment/pool deck with amenities; and 3) a five-level parking garage with a total of 538 spaces inclusive of spaces available for valet parking. The 3.72-acre project is located at the northwest corner of Harbor Boulevard and Twintree Avenue, along the west and east sides of and on Thackery Drive in Garden Grove. Reference: ORC220609-04 Comment Period: 4/18/2025 - 5/19/2025 Public Hearing: N/A	Notice of Preparation of a Supplemental Environmental Impact Report	City of Garden Grove	Under review, may submit comments

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Retail **RVC250407-03** PP2024-0043 - 1546 and 1548 E 6th Street	The project consists of constructing commercial office/retail professional buildings on a 58,115 square foot vacant lot, with a combined floor area of 13,830 square feet. The project also includes a 34,812 square-foot parking lot with 60 parking spaces, including six electric vehicle charging spaces. The project is located at 1546 and 1548 East 6th Street in Beaumont. Comment Period: N/A Public Hearing: N/A	Site Plan	City of Beaumont	Document reviewed - No comments sent
Retail **RVC250408-07** Marketplace at Oak Valley	The project consists of constructing six commercial buildings totaling 66,130 square feet, which includes a grocery store, a convenience store, a gas station, a carwash, a multi-tenant retail space, and two restaurant buildings with drive-thru. The 20-acre site is located on the northeast corner of Oak Valley Parkway and Desert Lawn Drive and Oak Valley Parkway in the Community Commercial Zone in Beaumont. Comment Period: N/A Public Hearing: N/A	Site Plan	City of Beaumont	Document reviewed - No comments sent
Retail **RVC250415-04** Vallarta Market Place Community Shopping Center	The project consists of constructing and operating eight commercial and retail buildings on 10.55 acres which includes: 1) a grocery store (59,371 square feet); 2) three quick serve restaurant buildings (7,067 total square feet); 3) three retail buildings (30,113 total square feet); 4) one convenience store with an eight-pump fueling station (4,913 square feet); and 5) 489 parking spaces with 18 accessible spaces. The project is located on the southeast corner of North Perris Boulevard and Placentia Avenue in Perris. Comment Period: 4/11/2025 - 5/26/2025 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	City of Perris	Under review, may submit comments
General Land Use (residential, etc.) **LAC250403-01** Pioneer Place Mixed Use Project	The project consists of developing a six-story mixed use podium-style building on a 0.83-acre site with most living units and other elements located two levels of above the parking area. The project is located at 17610- 17618 Pioneer Boulevard in Artesia. Comment Period: 3/28/2025 - 4/28/2025 Public Hearing: N/A	Notice of Intent to Adopt an Initial Study/Mitigated Negative Declaration	City of Artesia	Document reviewed - No comments sent

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General Land Use (residential, etc.) **LAC250404-01** Bouquet Canyon Residential Project	The project consists of constructing 323 lots in three areas on 328.7 combined acres. The project includes 281 residential lots, 33 Homeowner Association (HOA) lots, four water quality basin lots, three Los Angeles County Flood Control lots, one water tank lot, and one Santa Clarita Valley Water Agency lot. Area 1 is located on the northwest corner of Bouquet Canyon Road and Vasquez Road. Area 2 is located on the northeast corner of Bouquet Canyon Road and Vasquez Road. Lastly, Area 3 is located on the southeast corner of Bouquet Canyon Road and Vasquez Road. All areas are located in Santa Clarita. Reference: LAC200423-09 https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/may-2025/south-coast-aqmd-comments---nop-deir-bouquet-canyon-residential-project.pdf Comment Period: 4/7/2025 - 5/19/2025 Public Hearing: N/A	Notice of Preparation of Draft Environmental Impact Report	County of Los Angeles	Comment letter sent on 5/14/2025
General Land Use (residential, etc.) **LAC250404-02** 3822 South Figueroa Project#	The project consists of demolishing eight residential buildings and constructing a seven-story mixed-use building with a total floor area of 252,148 square feet on 1.43 acres. The project includes 209 residential units, 2,705 square feet of ground level retail and restaurant uses, and 23,127 square feet of open space. The project is located at 3822 South Figueroa in Los Angeles within the designated AB 617 South Los Angeles community. https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/april-2025/lac250404-02.pdf Comment Period: 4/2/2025 - 5/2/2025 Public Hearing: N/A	Notice of Preparation of Draft Environmental Impact Report	City of Los Angeles	Comment letter sent on 4/23/2025
General Land Use (residential, etc.) **LAC250407-01** TCE Main Los Angeles Project - Alameda District Specific Plan Addendum No. 2	The project consists of demolishing existing improvements and constructing two mixed-used buildings with a buildable area totaling 193,493 square feet (38,828 square feet for commercial use and 154,665 square feet for 175 residential units). The project is located at 108-1087 North Vignes Street and 124-128 East Augusta Street in Los Angeles. Comment Period: 4/7/2025 - 4/21/2025 Public Hearing: N/A	Addendum to Draft Environmental Impact Report	City of Los Angeles	Document reviewed - No comments sent
General Land Use (residential, etc.) **LAC250409-01** The SoLa Technology and Entrepreneurship Center#	The project consists of constructing a 10,000 square foot building for 195 residential units and a Tech and Entertainment Center on the ground floor. The project is located in the historic Leimert Park neighborhood in Los Angeles within the designated AB 617 South Los Angeles community. Comment Period: 4/9/2025 - 4/16/2025 Public Hearing: N/A	Finding of No Significant Impact	City of Los Angeles	Document reviewed - No comments sent

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General Land Use (residential, etc.) **LAC250410-01** 347 Highland Place and New Debris Basin Project	The project consists of demolishing an existing residence, outbuildings, low dam, and retention basin and constructing three residential units on 7.8 acres. The project is located at 347 Highland Place between West Hillcrest Boulevard and Scenic Drive in Monrovia. Comment Period: 3/31/2025 - 4/30/2025 Public Hearing: N/A	Recirculated Draft Initial Study/Draft Mitigated Negative Declaration	City of Monrovia	Document reviewed - No comments sent
General Land Use (residential, etc.) **LAC250411-02** The Locke Lofts – Madison Enlightenment Plaza Project	The project consists of developing four housing projects for the homeless: Montesquieu Manor, Rousseau Residences, Voltaire Villas, and Locke Lofts. The project focuses on Locke Lofts that will provide 148 units with 146 Permanent Supportive Housing. The project is located in the Enlightenment Plaza at 345 North Madison Avenue in Los Angeles. Reference: LAC140918-07 Comment Period: 4/11/2025 - 4/27/2025 Public Hearing: N/A	Finding of No Significant Impact	City of Long Beach	Document reviewed - No comments sent
General Land Use (residential, etc.) **LAC250415-06** Northlake Specific Plan Project	The project consists of constructing 3,150 residential units, 9.2 acres of commercial uses, 13.7 acres of industrial uses, 23 acres for school uses, a 1.4-acre pad for future development of fire station, and 799.5 acres of parks and open space on 1,330 acres. The project is located on the northeast corner of Castaic Road and Lake Hughes Road in Castaic in unincorporated Los Angeles County. References: LAC180123-02; LAC180822-02; LAC170503-02; and LAC150324-04 Staff previously provided comments on the Notice of Preparation which can be accessed at: https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2015/march/nopnorthlake.pdf. Comment Period: 4/14/2025 - 5/29/2025 Public Hearing: N/A	Notice of Completion and Availability of Recirculated Partial Draft Supplemental Environmental Impact Report	County of Los Angeles	Under review, may submit comments

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ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OR REVIEW
April 1, 2025 to April 30, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
General Land Use (residential, etc.) **ORC250401-01** Victoria Place Project	The project consists of constructing 36 residential units and four detached units on approximately 1.77 acres. The project is located at 220, 222, 234, and 236 Victoria Street in the southern portion of Costa Mesa. Comment Period: 4/1/2025 - 4/30/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Costa Mesa	Document reviewed - No comments sent
General Land Use (residential, etc.) **ORC250403-02** TTMap Number 19361 – Meritage Homes Project	The project consists of combining two existing lots into one lot for future construction of condominiums. The project is located at 13751 and 13841 Red Hill Avenue in Tustin. Comment Period: 4/3/2025 - 4/14/2025 Public Hearing: N/A	Site Plan	City of Tustin	Document reviewed - No comments sent
General Land Use (residential, etc.) **RVC250401-03** Park Lane Homes	The project consists of constructing 167 residential units, a community center, a community swimming pool, and 222 parking spaces on 7.54 acres. The project is located on the northeast corner of Palm Drive and Park Lane in Desert Hot Springs. Comment Period: 3/28/2025 - 4/17/2025 Public Hearing: N/A	Notice of Availability and Intent to Adopt a Mitigated Negative Declaration	City of Desert Hot Springs	Document reviewed - No comments sent
General Land Use (residential, etc.) **RVC250402-06** Tract 38625 Salt Creek Project (PLN22-2094)	The project consists of: 1) subdividing 325 single family condominium lots on 55.4 acres; 2) constructing a 4.9-acre city park; and 3) constructing 1.4-acre Homeowners Association (HOA) amenities which include walking paths, pool, shower and bathroom, barbeque area with shade structures, and two water quality basins. The project is located on the southwest corner of Simpson Road and Briggs Road in Menifee. Comment Period: N/A Public Hearing: 4/9/2025	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Menifee	Document reviewed - No comments sent

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General Land Use (residential, etc.) **RVC250402-08** Keller Crossing	The project consists of constructing 694 residential units, an 8.97-acre public park, 3.49 acres of manufactured slopes, 16.06 acres of drainage and water quality features, 61.42 acres designated to Open Space-Conservation Habitat, and 18.65 acres of major roadways. The 196.05-acre project is located on the northwest corner of Keller Road at Winchester Road in unincorporated Riverside County. References: RVC210901-06; RVC210720-10; RVC121121-01; RVC110810-05; and RVC100817-04 https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/may-2025/rvc250402-08.pdf Comment Period: 4/3/2025 - 5/3/2025 Public Hearing: N/A	Notice of Preparation of a Draft Environment Impact Report	County of Riverside	Comment letter sent on 5/2/2025
General Land Use (residential, etc.) **RVC250409-04** Sage Temecula Senior Development	The project consists of constructing 29 residential units on 6.91 acres. The project also includes offices, community lounge, clubhouse, craft room, business center, fitness room, yoga studio, great room private dining, media lounge/theatre, billiards room, and pub/card lounge, a courtyard and swimming pool amenity area, two pickleball courts a dog park, paved parking area, and associated landscaping. The project site is located at 80134 Winchester Road in Temecula. Comment Period: N/A Public Hearing: N/A	Initial Project Consultation	County of Riverside	Document reviewed - No comments sent

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General Land Use (residential, etc.) **RVC250415-01** Aster River Oaks – Site Development Review 23-001 and Variance 23-001	The project consists of appealing the decision of the Hemet Planning Commission to approve Site Development Review (SDR) 23-001 and Variance 23-001 (Aster River Oaks). The project also consists of developing 228 residential units, a Variance related to private open space, and a Parcel Merger to combine the two parcels into a single parcel. The project encompasses 10.07 acres and is located at the southeast corner of West Stetson Avenue and South Elk Street in Hemet. Reference: RVC241224-09 Comment Period: N/A Public Hearing: 4/22/2025	Other	City of Hemet	Document reviewed - No comments sent
General Land Use (residential, etc.) **RVC250417-01** West Campus Upper Plateau Project	The project consists of a conservation easement and a specific plan under Modified Alternative 2 for developing 60.28 acres of recreational uses, 42.22 acres of commercial and retail uses, 65.32 acres of business park uses, 143.31 acres of industrial uses, 37.91 acres of streets, 2.84 acres of public facilities, 17.72 acres of open space, and 445.43 acres of conservation uses on 817.90 acres. The project also consists of constructing two industrial buildings. Building 1 will be a 1,250,000 square foot distribution warehouse on 59.55 acres located at 20133 Cactus Avenue. Building 2 will be a 587,000 square foot distribution warehouse on 27.58 acres located at 20600 Cactus Avenue. The project is located on the southwest corner of Meridian Parkway and Alessandro Boulevard in Moreno Valley. References: RVC240605-02; RVC240604-16; RVC231206-08; RVC230111-04; and RVC211123- 02 Staff previously provided comments on the project which can be accessed at: https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/february/RVC231206-08.pdf https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/march-2023/RVC230111-04.pdf https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2021/december/RVC211123-02.pdf Comment Period: 4/17/2025 - 5/1/2025 Public Hearing: 5/12/2025	Other	March Joint Powers Authority	Document reviewed - No comments sent

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General Land Use (residential, etc.) **RVC250422-05** Town Center at Moreno Valley	The project consists of constructing 800 residential units, a 105,809 square foot mixed-use commercial and retail center with a 106-room hotel, 20,160 square feet of retail dining space, a 30,000 square foot civic center, and a passive recreation consisting of 4.9 acres of public park area as specified in the Town Center at Moreno Valley Specific Plan. The project is located on the northwest corner of the intersection of Nason Street and Allesandro Boulevard in Moreno Valley. References: RVC250218-01 and RVC220426-07 Comment Period: N/A Public Hearing: 5/8/2025	Other	City of Moreno Valley	Document reviewed - No comments sent
Plans and Regulations **LAC250407-02** Specific Plan 3.0 Buildout Project	The project consists of constructing 1,791 residential units and 480,000 square feet of non-residential uses on 134 acres. The project is bounded to the north by Cerritos Avenue, to the east near Walker Street, to the west by Lexington Drive, and to the south by Katella Avenue in Cypress. https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/april-2025/lac250407-02.pdf Comment Period: 4/4/2025 - 5/5/2025 Public Hearing: N/A	Notice of Preparation of Draft Environmental Impact Report	City of Cypress	Comment letter sent on 4/23/2025
Plans and Regulations **LAC250408-01** City of Irwindale Housing Element and General Plan Update	The project consists of five sites in need of General and Zoning amendments under an update to the City Housing and Safety Elements. In addition, the project includes the development of a new Environmental Justice element to accommodate the City's 6th Cycle Regional Housing Needs Allocation (RHNA), which includes housing policies and programs for City guidance and decision-making achievement allocations under the RHNA. The five sites are located in Irwindale. Staff previously provided comments on the Notice of Preparation of Draft Program Environmental Impact Report which can be accessed at: https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/LAC231219-03.pdf. Reference: LAC231219-03 Comment Period: 4/4/2025 - 5/19/2025 Public Hearing: N/A	Notice of Availability of a Draft Program Environmental Impact Report	City of Irwindale	Document reviewed - No comments sent

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Plans and Regulations **LAC250408-03** Zone Change (25-01)	The project consists of amending the rezoning designation and Official Zoning Map for 337 parcels from the existing RD Residential Zone to High Density Residential (Zone Change). There is no specific development project in connection with the Zone Change. The parcels are located in Covina. Comment Period: N/A Public Hearing: 4/22/2025	Other	City of Covina	Document reviewed - No comments sent
Plans and Regulations **LAC250423-02** Mixed Use Overlay Zone	The project consists of a Mixed-Use Overlay Zone to implement the City of Artesia 6th Cycle Housing Element of the Artesia General Plan to promote and incentivize new mixed-use infill, residential, retail, commercial development, and to facilitate affordable multifamily housing for very- low and low income classifications. The project is located in Artesia. Comment Period: 4/18/2025 - 5/22/2025 Public Hearing: N/A	Notice of Availability of a Recirculated Draft Supplemental Environmental Impact Report	City of Artesia	Document reviewed - No comments sent
Plans and Regulations **ORC250415-08** RAR 2025-0001, DR 2024-0014, DA 2024-0004, SUB 2024-0005 TTM 19361, TTM 19361, & Density Bonus requests	The project consists of constructing 73 residential units in nine buildings, two-car garages, and private open space for each unit, 18 guest parking spaces, common open space, landscaping and public on 3.39 acres. The project is located at 13751 and 13841 Red Hill Avenue in Tustin. Comment Period: N/A Public Hearing: 4/22/2025	Site Plan	City of Tustin	Document reviewed - No comments sent

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Plans and Regulations **ORC250416-02** PLN25-0059 and Tentative Tract Map TTM 39203 PLN 25-0058 - Waring Project (SB330)	The project consists of constructing 91 residential units on one existing parcel with 15 buildings, 180 parking spaces, an amenity area, and landscaping improvements. The project is located in Menifee. Comment Period: N/A Public Hearing: N/A	Site Plan	City of Menifee	Document reviewed - No comments sent
Plans and Regulations **RVC250402-09** 5954 Etiwanda Ave	The project consists of constructing a 117,200 square foot self-storage facility on 2.87 acres, utilizing one of two designs. Design 1 proposes three buildings totaling 117,200 square feet and Design 2 proposes three buildings totaling 73,440 square feet. The project is located at 5954 Etiwanda Avenue in Jurupa Valley. Comment Period: N/A Public Hearing: N/A	Site Plan	City of Jurupa Valley	Document reviewed - No comments sent
Plans and Regulations **RVC250415-02** PAR25-00017	The project consists of constructing 80 residential units and shared amenities on 8.19 gross acres. The project is located east of Pawpaw Court, south of Apple Court, and west of Plumcot Drive in Temescal Canyon. Comment Period: N/A Public Hearing: N/A	Site Plan	County of Riverside	Document reviewed - No comments sent
Plans and Regulations **RVC250415-03** GPA240082/CZ2400050/PPt2400040	The project consists of amending the general plan, zone changes, and plot plan for constructing a 264,019 square foot industrial building, including onsite parking and landscape improvements on a 14.85-acre site. The project is located north of Money Lane, west of Patterson Avenue, and south of Walnut Street in the Riverside County. Comment Period: N/A Public Hearing: N/A	Site Plan	County of Riverside	Document reviewed - No comments sent

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Plans and Regulations **RVC250418-01** PR25-009 Arco AMPM Expansion	The project consists of constructing a 1,600 square foot quick service restaurant, adding two pumps and an extension of the gas canopy, and adding parking spaces. The project is located at 690 North State Street in Hemet. Comment Period: 4/18/2025 - 4/29/2025 Public Hearing: N/A	Site Plan	City of Hemet	Document reviewed - No comments sent
Plans and Regulations **RVC250422-04** Armtec Expansion Master Plan#	The project consists of constructing a three-phase development on a 52.65 site with: 1) Phase 1 constructing a 33,900 square foot ground mounted solar grid on the eastern half of the parcel; 2) Phase 2 constructing a new 15,000 square foot storage warehouse which includes a 73,200 square foot truck staging area, a 9,900 square foot retention basin in the northern parcel, a new 3,000 square foot research, development and production facility, and two retention basins totaling 65,750 square feet; and 3) Phase 3 constructing a new 15,000 square foot storage warehouse, all located on the southern parcel which includes offsite improvements adjacent to the site, and widening Tyler Street. The project is located at 85901 Avenue 53 in Coachella, within the designated AB 617 Eastern Coachella Valley community. Comment Period: 4/22/2025 - 5/22/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Coachella	Under review, may submit comments
Plans and Regulations **RVC250423-05** PAR250013	The project consists of re-subdividing 384 single family residential lots into 250 single family residential lots with a proposed minimum lot size of 7,200 square feet. The project is located near the northeast corner of McAllister Parkway and Citrus Heights Drive in Riverside County. Comment Period: 4/24/2025 - 4/30/2025 Public Hearing: N/A	Site Plan	County of Riverside	Document reviewed - No comments sent

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Plans and Regulations **RVC250423-06** TTM 39202	The project consists of subdividing a 7.98-acre site into 43 lots for future construction of 42 residential units and a water quality basin. The project is located south of East Florida Avenue, east of Fore Drive, and north of Acacia Avenue in Riverside County. Comment Period: 4/23/2025 - 4/30/2025 Public Hearing: N/A	Site Plan	County of Riverside	Document reviewed - No comments sent
Plans and Regulations **SBC250408-06** Villa Serena Specific Plan	The project consists of constructing 65 residential units on 9.16 acres, which include private community facilities and ancillary features, flood control basin, and a .15-acre public park. The project is located south of Upland Hills Country Club near the northeast corner of East 15th Street and Fernando Avenue in Upland. Reference: SBC241105-06 Comment Period: N/A Public Hearing: 4/23/2025	Other	City of Upland	Document reviewed - No comments sent

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ATTACHMENT B
ACTIVE PROJECTS WITH CONTINUED REVIEW OF ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Warehouse & Distribution Centers **LAC250219-05** Walnut Business Park	The project consists of constructing a multi-use development comprised of four concrete tilt-up buildings that would encompass a total of 414,778 square feet of building space. The buildings would include 392,488 square feet of warehousing space with 53,549 square feet designated for refrigerated uses, and 22,290 square feet of office and retail space. The project is located in the southern portion of the City of Walnut and is bordered by Paseo Del Prado to the north, existing industrial development to the east, Valley Boulevard to the south, and Lemon Avenue to the west. Reference: LAC230823-09 Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/september-2023/LAC230823-09.pdf https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/april-2025/lac250219-05.pdf Comment Period: 2/17/2025 - 4/3/2025 Public Hearing: N/A	Notice of Availability of a Supplemental Environmental Impact Report	City of Walnut	Comment letter sent on 4/3/2025
Industrial and Commercial **RVC250319-01** The Barker Business Park	The project consists of constructing a 25,750 square foot building on five acres and a 14,139 square foot building on 10 acres and designating 9.6 acres for the sale and rental of commercial trailers – all on a project site totaling 25.6 gross acres which is comprised of two vacant parcels bisected by E. Frontage Road. The project site is located northeast of Interstate 215 and Placentia Avenue interchange, between Walnut Avenue to the north and Placentia Avenue to the south in Perris. References: RVC200825-01; RVC200611-28 and RVC190924-01 https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/april-2025/rvc250319-01.pdf Comment Period: 3/21/2025 - 4/21/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Perris	Comment letter sent on 4/18/2025
Utilities **RVC250312-06** Savira Solar	The project consists of constructing a utility-scale solar photovoltaic electrical generating and storage facility and associated infrastructure to generate and deliver renewable electricity to the statewide electric transmission grid. The project is located in Riverside County, north of Interstate 10 and approximately 8.5 miles east of the town of Desert Center with regional access to the project site from the Corn Springs exit off I-10. https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/april-2025/rvc250312-06.pdf Comment Period: 3/24/2025 - 4/22/2025 Public Hearing: N/A	Notice of Preparation of Draft Environment Impact Report	County of Riverside	Comment letter sent on 4/10/2025

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Plans and Regulations **LAC250318-01** Princessa Crossroads Specific Plan Project	The project consists of constructing 300 multifamily dwelling/apartment units and business park units, inclusive of some commercial and light industrial uses, streets, private driveways, parking, other related infrastructure and landscaping and open space areas. The project site is located in Santa Clarita and is surrounded by undeveloped land to the east, residential and Golden Valley Road to the south, the Santa Clarita Sports Complex, business park, recreational, and residential land uses to the north; and business park land uses to the west; Golden Valley High School and La Mesa Junior High School are to the south and east of the site, respectively. Reference: LAC190319-02 https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/april-2025/lac250318-01.pdf Comment Period: 3/18/2025 - 4/16/2025 Public Hearing: N/A	Notice of Preparation of a Draft Environmental Impact Report	City of Santa Clarita	Comment letter sent on 4/10/2025

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ATTACHMENT C PROPOSED AIR PERMIT PROJECTS FOR WHICH SOUTH COAST AQMD IS CEQA LEAD AGENCY THROUGH APRIL 30, 2025

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
Quemetco is proposing to modify its existing South Coast AQMD permits to allow the facility to recycle more batteries and to eliminate the existing daily idle time of the furnaces. The proposed project will increase the rotary feed drying furnace feed rate limit from 600 to 750 tons per day and increase the amount of total coke material allowed to be processed. In addition, the project will allow the use of petroleum coke in lieu of or in addition to calcined coke and remove one existing emergency diesel-fueled internal combustion engine (ICE) and install two new emergency natural gas-fueled ICEs.	Quemetco	Environmental Impact Report (EIR)	The Draft EIR was released for a 124-day public review and comment period from October 14, 2021 to February 15, 2022 and approximately 200 comment letters were received. South Coast AQMD held two community meetings on November 10, 2021, and February 9, 2022, which presented an overview of the proposed project, the CEQA process, detailed analysis of the potentially significant environmental topic areas, and the existing regulatory safeguards. Response to written comments submitted relative to the Draft EIR and oral comments made at the community meetings are currently being prepared by the consultant. After the Draft EIR public comment and review period closed, Quemetco submitted additional applications for other permit modifications. South Coast AQMD staff is evaluating the effect of these new applications on the EIR process.	Trinity Consultants
Sunshine Canyon Landfill is proposing to modify its South Coast AQMD permits for its active landfill gas collection and control system to accommodate the increased collection of landfill gas. The proposed project will: 1) install two new low-emission flares with two additional 300-horsepower electric blowers; and 2) increase the landfill gas flow limit of the existing landfill gas collection system.	Sunshine Canyon Landfill	Subsequent Environmental Impact Report (SEIR)	The consultant has provided an updated Draft SEIR which is being concurrently reviewed by South Coast AQMD staff and the facility.	Castle Environmental Consulting

ATTACHMENT C PROPOSED AIR PERMIT PROJECTS FOR WHICH SOUTH COAST AQMD IS CEQA LEAD AGENCY THROUGH APRIL 30, 2025

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
SoCalGas is proposing to modify their Title V permit for the Honor Rancho Natural Gas Storage Field to: 1) replace five compressor engines with four new natural gas-fueled compressor engines (each rated at 5,000 horsepower (hp)), new selective catalytic reduction systems and a new aqueous urea storage tank; 2) install two new electric compressors (each rated at 5,500 hp) with associated ancillary equipment; 3) construct a new building to house the new compressors; 4) install an advanced renewable energy system, which will include hydrogen electrolyzers, hydrogen storage, and fuel blending equipment to mix hydrogen with natural gas which will fuel the compressor engines; 5) install a hydrogen vehicle fueling station; 6) install an electric microgrid with an energy storage system and a natural gas fuel cell system; and 7) install one new electricity transmission line which will connect to Southern California Edison.	Southern California Gas Company (SoCalGas)	Addendum to the Final Subsequent Environmental Assessment for Rule 1110.2 and Rule 1100, and the Final Program EIR for the 2016 Air Quality Management Plan	The consultant has prepared a revised preliminary draft Addendum which South Coast AQMD staff is reviewing.	Dudek
Tesoro is proposing modifications to its Carson Operations and Wilmington Operations at the Marathon Los Angeles Refinery in order to replace aging coke drums, produce asphalt binder, and make more high-octane, low vapor pressure clean-gasoline blendstock by modifying the fluid feed hydrodesulfurization unit, the fluidized catalytic cracking unit, and the alkylation units.	Tesoro Refining & Marketing Company, LLC (Tesoro)	Notice of Preparation of a Draft Environmental Impact Report and Initial Study (NOP/IS)	The consultant has prepared a preliminary draft NOP/IS which South Coast AQMD staff is reviewing.	Environmental Audit, Inc.

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 19

REPORT: Rule and Control Measure Forecast

SYNOPSIS: This report highlights South Coast AQMD rulemaking activities and public hearings scheduled for 2025.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file.

Wayne Nastri
Executive Officer

SLR:MK:IM:JA:ZS

2025 MASTER CALENDAR

The 2025 Master Calendar provides a list of proposed or proposed amended rules for each month, with a brief description, and a notation in the third column indicating if the rulemaking is for an AQMP, either the 2016 AQMP or 2022 AQMP, when adopted, Toxics, AB 617 (for BARCT) or measures identified in an AB 617 Community Emission Reduction Plan (CERP), SIP to address comments or actions from U.S. EPA for a rule that is in an approved SIP, or Other. Rulemaking efforts that are noted for implementation of the 2016 AQMP or 2022 AQMP when adopted, Toxics, and AB 617 are either statutorily required and/or are needed to address a public health concern. Projected emission reductions will be determined during rulemaking.

The following symbols next to the rule number indicate if the rulemaking will be a potentially significant hearing, will reduce criteria pollutants, or is part of the RECLAIM transition. Symbols have been added to indicate the following:

* *This rulemaking may have a substantial number of public comments.*
+ *This rulemaking will reduce criteria air contaminants and assist toward attainment of ambient air quality standards.*
# *This rulemaking is part of the transition of RECLAIM to a command-and-control regulatory structure.*

The following table provides a list of changes since the previous Rule Forecast Report.

301	**Permit and Associated Fees**
Rule 301 is being added to September 2025. Proposed Amendments to address proposed fees for implementation of Rules 1180 and 1180.1 were scheduled for May 2025. Additional time was needed to work with stakeholders on the proposed fees for the community monitoring.	
2304 **316.1**	**Commercial Marine Ports** **Fees for Rule 2304**
Proposed Rules 2304 and 316.1 are being moved from August to October 2025 to allow additional time to respond to stakeholder issues with the proposed rules.	
404 **444.1**	**Particulate Matter – Concentration** **Air Curtain Incinerators**
Proposed Amended Rules 404 and 444.1 are being moved from 4th Quarter to November 2025 to allow additional time to work with stakeholders on proposed amendments.	
1107	**Metal Products Coatings**
Proposed Amended Rule 1107 is being moved from October to November 2025 to allow additional time to work with stakeholders on proposed amendments.	
1469	**Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations**
Amendments to Rule 1469 are being moved from 4th Quarter to November 2025 to allow additional time to work with stakeholders on proposed amendments.	
1146	**Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters**
Proposed Amended Rule 1146 is being moved from 4th Quarter to December 2025 to allow additional time to work with stakeholders on proposed amendment.	

1146.1	Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters
Proposed Amended Rule 1146.1 is being moved from 4th Quarter to December 2025 to allow additional time to work with stakeholders on proposed amendment.	
1124	**Aerospace Coatings**
Proposed Amended Rule 1124 is being moved from October to December 2025 Calendar to allow additional time to work with stakeholders on proposed amendments.	
1445	**Control of Toxic Emissions from Laser and Plasma Arc Metal Cutting**
Proposed Amended Rule 1445 is being moved from October to December 2025 Calendar to allow additional time for testing and possible further amendments in light of the results.	
1136	**Wood Products Coatings**
Proposed Amended Rule 1136 is being moved from 4th Quarter to Tentative 2026 Calendar to allow additional time to work with stakeholders on proposed amendments.	
1420.2	**Emission Standards for Lead from Metal Melting Facilities**
Proposed Amended Rule 1420.2 is being moved from 4th Quarter to Tentative 2026 Calendar to allow additional time to provide the staff resources needed to start rulemaking.	
1426.1	**Hexavalent Chromium Emissions from Metal Finishing Operations**
Proposed Rule 1426.1 is being moved from 4th Quarter to Tentative 2026 Calendar to allow additional time to provide the staff resources needed to start rulemaking.	
1435	**Control of Toxic Air Contaminant Emissions from Metal Heating Operations**
Proposed Rule 1435 is being moved from 4th Quarter to Tentative 2026 Calendar to allow additional time to continue rulemaking due to staffing changes.	
Regulation XIII	**New Source Review**
Proposed Amended Regulation XIII is being moved from 4th Quarter to Tentative 2026 Calendar to allow additional time to work on resolving the remaining issues raised during rulemaking.	
Regulation XX	**RECLAIM**
Proposed Amended Regulation XX is being moved from 4th Quarter to Tentative 2026 Calendar to allow additional time to make necessary decisions on the RECLAIM program.	

** Potentially significant hearing*

+ Reduce criteria air contaminants and assist toward attainment of ambient air quality standards

 # Part of the transition of RECLAIM to a command-and-control regulatory structure

2025 MASTER CALENDAR

Month August	Title and Description	Type of Rulemaking
462	**Organic Liquid Loading** Proposed Amended Rule 462 will incorporate the use of advanced techniques to detect fugitive emissions and vapor leaks. Other amendments may be needed to streamline implementation and add clarity. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP
September	**Title and Description**	**Type of Rulemaking**
223	**Emission Reduction Permits for Large Confined Animal Facilities** Proposed Amended Rule 223 will seek additional ammonia emission reductions from large, confined animal facilities by lowering the applicability threshold based on US EPA's Most Stringent Measure requirement. Proposed amendments will implement BCM-04 in the 2016 AQMP. *Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP
301	**Permit and Associated Fees** Rule 301 will be amended to modify fees for cost recovery from operation and maintenance of community monitoring stations required in accordance with Rules 1180 and 1180.1. *Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
445*	**Wood Burning Devices** Proposed Amended Rule 445 will address additional U.S. EPA requirements for Best Available Control Measures and Most Stringent Measure requirement, including lowering the curtailment threshold. *Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP
1133 1133.1 1133.2 1133.3	**Composting, Chipping and Grinding, and Related Operations** Proposed Amended Rule 1133 series will seek additional VOC and ammonia emission reductions by implementing BCM-10 of the South Coast Air Basin Attainment Plan for the 2012 Annual PM2.5 Standard, US EPA's Most Stringent Measure requirement, and other best management practices. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP
1138+	**Control of Emissions from Restaurant Operations** Proposed Amended Rule 1138 will address U.S. EPA requirements to be no less stringent than other air districts. *Elaine Shen 909.396.2715; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP

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Part of the transition of RECLAIM to a command-and-control regulatory structure

2025 MASTER CALENDAR *(Continued)*

Month October	Title and Description	Type of Rulemaking
2304*+ 316.1	**Commercial Marine Ports** **Fees for Rule 2304** Proposed Rule 2304 will establish requirements for each commercial marine port to develop an alternative charging and fueling infrastructure plan for all port-related emission sources and subsequently install the infrastructure as planned. Proposed Rule 316.1 will establish fees to recover the South Coast AQMD's anticipated cost of implementing Proposed Rule 2304. *Elaine Shen 909 396. 2715; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP / AB 617 CERP
November	**Title and Description**	**Type of Rulemaking**
404 444.1	**Particulate Matter – Concentration** **Air Curtain Incinerators** Proposed Amended Rule 404 and Proposed Rule 444.1 seek to address operations of air curtain incinerators with new provisions and requirements *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
1107	**Coating of Metal Parts and Products** Proposed Amended Rule 1107 will seek to phase out two toxic compounds, pCBtF and tBAc, and consider interim VOC limits for certain coatings that are being reformulated as well as other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1469	**Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations** Amendments to Rule 1469 may be needed to address potential changes with the CARB's Hexavalent Chromium Airborne Toxic Control Measure for Chrome Plating and Chromic Acid Anodizing Operations. *Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other

* *Potentially significant hearing*

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2025 MASTER CALENDAR *(Continued)*

Month December	Title and Description	Type of Rulemaking
1124	**Aerospace Assembly and Component Manufacturing Operations** Proposed Amended Rule 1124 will seek to phase out two toxic compounds, pCBtF and tBAc, and consider interim VOC limits for certain coatings that are being reformulated as well as other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1124	**Aerospace Assembly and Component Manufacturing Operations** Proposed Amended Rule 1124 will seek to phase out two toxic compounds, pCBtF and tBAc, and consider interim VOC limits for certain coatings that are being reformulated as well as other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1146	**Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters** Proposed amendments to Rule 1146 will seek further emission reductions from an updated BARCT analysis. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP / Other
1146.1[#]	**Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters** Proposed amendments to Rule 1146.1 seeks further emission reductions from an updated BARCT analysis. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP / Other
1445*	**Control of Toxic Emissions from Laser and Plasma Arc Metal Cutting** Proposed Rule 1445 will establish requirements to reduce hexavalent chromium and other metal toxic air contaminant particulate emissions from laser arc cutting. *Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / AB 617 CERP

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2025 To-Be-Determined

2025	Title and Description	Type of Rulemaking
102	**Definition of Terms** Proposed amendments may be needed to update and add definitions, and potentially modify exemptions. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
103	**Definition of Geographical Areas** Proposed amendments are needed to update geographic areas to be consistent with state and federal references to those geographic areas. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
209	**Transfer and Voiding of Permits** Proposed amendments may be needed to clarify requirements for change of ownership and permits and the assessment of associated fees. *Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
403	**Fugitive Dust** Proposed Amended Rule 403 will seek to remove outdated provisions and clarify existing provisions to enhance compliance. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
403.1	**Supplemental Fugitive Dust Control Requirements for Coachella Valley Sources** Proposed Amended Rule 403.1 will clarify existing requirements for dust control and remove outdated provisions contained in supporting documents for Rule 403.1. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
407[#]	**Liquid and Gaseous Air Contaminants** Proposed Amended Rule 407 will update SOx emission limits to reflect Best Available Retrofit Control Technology, if needed, remove exemptions for RECLAIM facilities, and update monitoring, reporting, and recordkeeping requirements. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	AB 617 BARCT
410	**Odors from Transfer Stations and Material Recovery Facilities** Proposed Amended Rule 410 will clarify existing provisions. Additional provisions may be needed to address activities associated with diversion of food waste to transfer stations or material recovery facilities. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	Other

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2025 To-Be-Determined *(Continued)*

2025	Title and Description	Type of Rulemaking
425	**Odors from Cannabis Processing** Proposed Rule 425 will establish requirements for control of odors from cannabis processing. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
430	**Breakdown Provisions** Amendments to Rule 430 will be needed to remove exemptions for facilities that exit the RECLAIM program and update references to CEMS rules. Other amendments may be needed to address current policies from U.S. EPA regarding startup, shutdown, and malfunction requirements. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	RECLAIM / Other
431.1[#]	**Sulfur Content of Gaseous Fuels** Proposed Amended Rule 431.1 will assess exemptions, including RECLAIM, and update other provisions, if needed. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	AB 617 BARCT / AB 617 CERP
431.2[#]	**Sulfur Content of Liquid Fuels** Proposed Amended Rule 431.2 will assess exemptions, including RECLAIM, and update other provisions, if needed. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	AB 617 BARCT / AB 617 CERP
431.3[#]	**Sulfur Content of Fossil Fuels** Proposed Amended Rule 431.3 will assess exemptions, including RECLAIM, and update other provisions, if needed. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	AB 617 BARCT / AB 617 CERP
444	**Open Burning** Amendments may be needed to clarify existing provisions. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
461	**Gasoline Transfer and Dispensing** Amendments to Rule 461 may be needed to address potential regulatory gaps. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
468[#]	**Sulfur Recovery Units** Proposed Amended Rule 468 will update SOx emission limits to reflect Best Available Retrofit Control Technology, if needed, remove exemptions for RECLAIM facilities, and update monitoring, reporting, and recordkeeping requirements. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	AB 617 BARCT

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2025 To-Be-Determined *(Continued)*

2025	Title and Description	Type of Rulemaking
469[#]	**Sulfuric Acid Units** Proposed Amended Rule 469 will update SOx emission limits to reflect Best Available Retrofit Control Technology, if needed, remove exemptions for RECLAIM facilities, and update monitoring, reporting, and recordkeeping requirements. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	AB 617 BARCT
1101[#]	**Secondary Lead Smelters/Sulfur Oxides** Proposed Amended Rule 1101 will update SOx emission limits to reflect Best Available Retrofit Control Technology, if needed, remove exemptions for RECLAIM facilities, and update monitoring, reporting, and recordkeeping requirements. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	AB 617 BARCT
1102	**Dry Cleaners Using Solvent Other Than Perchloroethylene** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	AB 617 CERP
1105[#]	**Fluid Catalytic Cracking Units SOx** Proposed Amended Rule 1105 will update SOx emission limits to reflect Best Available Retrofit Control Technology, if needed, remove exemptions for RECLAIM facilities, and update monitoring, reporting, and recordkeeping requirements. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	AB 617 BARCT / AB 617 CERP
1108	**Cutback Asphalt** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1108.1	**Emulsified Asphalt** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1110.2*[+#]	**Emissions from Gaseous- and Liquid-Fueled Engines** Proposed amendments will address use of emergency standby engines, incorporate possible comments by U.S. EPA for approval into the SIP, and address monitoring provisions for new engines. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP / AB 617 BARCT

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2025 To-Be-Determined *(Continued)*

2025	Title and Description	Type of Rulemaking
1110.4	**Emissions from Emergency Generators** Proposed Rule 1110.4 will establish and revise rule provisions to reduce NOx, CO, and PM emissions from emergency generators. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	Other / AQMP
1113	**Architectural Coatings** Proposed amendments may be needed to address delisted compounds and other amendments to improve clarity and to remove obsolete provisions. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
1114	**Petroleum Refinery Coking Operations** Proposed Amended Rule 1114 will seek to add notification requirements when coke particles, liquid and/or gas is ejected from the coke drum during cutting. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
1119[#]	**Petroleum Coke Calcining Operations – Oxides of Sulfur** Proposed Amended Rule 1119 will update SOx emission limits to reflect Best Available Retrofit Control Technology, if needed, remove exemptions for RECLAIM facilities, and update monitoring, reporting, and recordkeeping requirements. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	AB 617 BARCT / AB 617 CERP
1122	**Solvent Degreasers** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1125	**Metal Container, Closure, and Coil Coating Operations** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1126	**Magnet Wire Coating Operations** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other

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2025 To-Be-Determined *(Continued)*

2025	Title and Description	Type of Rulemaking
1128	**Paper, Fabric, and Film Coating Operations** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1130	**Graphic Arts** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1130.1	**Screen Printing Operations** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1142	**Marine Tank Vessel Operations** Proposed Amended Rule 1142 will address VOC and hydrogen sulfide emissions from marine tank vessel operations, applicability, noticing requirements, and provide clarifications. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
1143	**Consumer Paint Thinners and Multi-Purpose Solvents** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1144	**Metalworking Fluids and Direct-Contact Lubricants** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1145	**Plastic, Rubber, Leather, and Glass Coatings** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other

** Potentially significant hearing*

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2025 To-Be-Determined *(Continued)*

2025	Title and Description	Type of Rulemaking
1162	**Polyester Resin Operations** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1166	**Volatile Organic Compound Emissions from Decontamination of Soil** Proposed Amended Rule 1166 will update requirements, specifically concerning notifications and usage of mitigation plans (site specific versus various locations). *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
1174	**Control of Volatile Organic Compound Emissions from the Ignition of Barbecue Charcoal** Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP / Other
1176	**VOC Emissions from Wastewater Systems** Proposed Amended Rule 1176 will clarify the applicability of the rule to include bulk terminals under definition of "Industrial Facilities," and streamline and clarify provisions. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	Other / AB 617 CERP
1186.1, 1191, 1192, 1193, 1194, 1195, 1196[*] [+]	**Fleet Rules** Proposed amendments to Rules 1186.1, 1191, 1192, 1193, 1194, 1195, 1196 will seek to align South Coast AQMD fleet rules with CARB's final Advanced Clean Fleets regulation. *Sang-Mi Lee: 909.396.3169; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP / Other
1401	**New Source Review of Toxic Air Contaminants** Proposed Amended Rule 1401 will amend Table 1 to include new toxic air contaminants identified by California Office of Environmental Health Hazard Assessment (OEHHA). *Kalam Cheung 909.396. 3281; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1403[*]	**Asbestos Emissions from Demolition/Renovation Activities** Proposed Amended Rule 1403 will enhance implementation, improve rule enforceability, update provisions, notifications, exemptions, and align provisions with the applicable U.S. EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) and other state and local requirements as necessary. *Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics

** Potentially significant hearing*

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2025 To-Be-Determined *(Continued)*

2025	Title and Description	Type of Rulemaking
1404	**Hexavalent Chromium Emissions from Cooling Towers** Amendments may be needed to provide additional clarifications regarding use of process water that is associated with sources that have the potential to contain chromium in cooling towers and address VOC emissions. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / AQMP
1411	**Recovery or Recycling of Refrigerants from Motor Vehicle Air Conditioners** Proposed Amended Rule 1411 seeks amendments to coincide with Section 609 of the Clean Air Act. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics
1415 1415.1	**Reduction of Refrigerant Emissions from Stationary Air Conditioning Systems, and Reduction of Refrigerant Emissions from Stationary Refrigeration Systems** Proposed Amended Rules 1415 and 1415.1 will align requirements with the proposed CARB Refrigerant Management Program and U.S. EPA's Significant New Alternatives Policy Rule provisions relative to prohibitions on specific hydrofluorocarbons. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	Other
1420	**Emissions Standard for Lead** Proposed Amended Rule 1420 will update requirements to address arsenic emissions to close a regulatory gap between Rule 1420 and Rule 1407 - Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Ferrous Metal Melting Operations. Other provisions may be needed to address storage and handling requirements, and revise closure requirements. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics
1420.1	**Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities** Proposed Amendments are needed to update applicable test methods and provide clarifications regarding submittal of a source-test protocol. Additional amendments may be needed to address monitoring and post closure requirements. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics

* *Potentially significant hearing*

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2025 To-Be-Determined *(Continued)*

2025	Title and Description	Type of Rulemaking
1420.3	**Emissions Standards for Lead from Firing Ranges** Proposed Rule 1420.3 will establish requirements to address lead emissions from firing ranges. *Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1450*	**Control of Methylene Chloride Emissions** Proposed Rule 1450 will reduce methylene chloride emissions from furniture stripping and establish monitoring, reporting, and recordkeeping requirements. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics
1455	**Control of Hexavalent Chromium Emissions from Torch Cutting and Welding** Proposed Rule 1455 will establish requirements to reduce hexavalent chromium emissions from torch cutting and welding of chromium alloys. *Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / AB 617 CERP
1466	**Control of Particulate Emissions from Soils with Toxic Air Contaminants** Amendments may be needed for residential cleanup projects. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics
1466.1	**Control of Particulate Emissions from Demolition of Buildings** Proposed Rule 1466.1 will establish requirements to minimize PM emissions during the demolition of buildings that housed equipment and processes with metal toxic air contaminants and pollution control equipment. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics
1470	**Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines** Proposed Amended Rule 1470 seeks to reduce NOx emissions from stationary internal combustion engines (ICEs) by replacing older ICEs with alternative cleaner technology. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP / Toxics
1470.1	**Emissions from Emergency Standby Diesel-Fueled Engines** Proposed Rule 1470.1 seeks to reduce NOx emissions from emergency standby internal combustion engines (ICEs) by replacing older ICEs and requiring the use of commercially available lower emission fuels, such as renewable diesel. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP / Toxics

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2025 To-Be-Determined *(Continued)*

2025	Title and Description	Type of Rulemaking
1472	**Requirements for Facilities with Multiple Stationary Emergency Standby Diesel-Fueled Internal Combustion Engines** Proposed Amended Rule 1472 will remove provisions that are no longer applicable, update and streamline provisions to reflect the latest OEHHA Health Risk Assessment Guidelines and assess the need for Compliance Plans. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics
1480.1	**Ambient Monitoring and Sampling of Gaseous Toxic Air Contaminants** Proposed Rule 1480.1 will establish requirements to conduct monitoring and sampling for those facilities identified as significant high-risk level. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics
1901	**General Conformity** Proposed Amended Rule 1901 will establish a new General Conformity determination process for applicable projects receiving federal funding or approval. *TBD; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP
Regulation XX	**RECLAIM - Requirements for Oxides of Sulfur (SOx) Emissions** Amendments to Regulation XX rules to address SOx requirements at RECLAIM facilities if there is consideration to transition SOx RECLAIM to command-and-control regulatory structure. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	RECLAIM / Other
Regulation XXIII*+	**Facility-Based Mobile Sources** Proposed rules within Regulation XXIII would reduce emissions from indirect sources and the mobile sources attracted to these facilities. *Elaine Shen 909.396.2715; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP / AB 617 CERP

* *Potentially significant hearing*

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2025 To-Be-Determined *(Continued)*

2025	Title and Description	Type of Rulemaking
Regulation II, III, IV, V, VII, VIII, XI, XIV, XIX, XXIII, XXIV, XXX and XXXV	Various rule amendments may be needed to meet the requirements of state and federal laws; implement OEHHA's latest risk assessment guidance; incorporate changes from OEHHA to new or revised toxic air contaminants or their risk values; address variance issues, emission limits, technology-forcing emission limits, and conflicts with other agency requirements; abate substantial endangerment to public health; apply additional reductions to meet SIP short-term measure commitments; address issues raised by U.S. EPA or CARB for the SIP or for a rule that was submitted into the SIP; and address compliance issues raised by the Hearing Board. In addition, administrative changes could be necessary for Hearing Board procedures, filings, petitions, noticing, etc. Amendments to existing rules may be needed to address use of materials that contain chemicals of concern. The associated rule development or amendments include, but are not limited to, South Coast AQMD existing, or new rules to implement measures in the 2012, 2016 or 2022 AQMP. This includes measures in the 2016 AQMP to reduce toxic air contaminants or reduce exposure to air toxics from stationary, mobile, and area sources. Rule adoption or amendments may include updates to provide consistency with CARB Statewide Air Toxic Control Measures, U.S. EPA's National Emission Standards for Hazardous Air Pollutants, or to address the lead National Ambient Air Quality Standard. Rule adoption or amendments may be needed to implement AB 617 including but not limited to BARCT rules, Community Emission Reduction Plans prepared pursuant to AB 617, or new or amended rules to abate a public health issue identified through emissions testing or ambient monitoring.	Other / AQMP/ Toxics / AB 617 BARCT / AB 617 CERP

* *Potentially significant hearing*

[+] *Reduce criteria air contaminants and assist toward attainment of ambient air quality standards*

[#] *Part of the transition of RECLAIM to a command-and-control regulatory structure*

TENTATIVE 2026 CALENDAR

Month 2nd Quarter	Title and Description	Type of Rulemaking
1136	**Wood Products Coatings** Proposed Amended Rule 1136 will seek to phase out two toxic compounds, pCBtF and tBAc, and consider interim VOC limits for certain coatings that are being reformulated as well as other amendments to improve clarity. *Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics / Other
1420.2	**Emission Standards for Lead from Metal Melting Facilities** Proposed Amended Rule 1420.2 will update requirements to address arsenic emissions to close a regulatory gap between Rule 1420 and Rule 1407 - Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Ferrous Metal Melting Operations. Additional amendments may be needed to address monitoring and post closure requirements. *Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics
1426.1	**Hexavalent Chromium Emissions from Metal Finishing Operations** Proposed Rule 1426.1 will reduce hexavalent chromium emissions from heated chromium tanks used at facilities with metal finishing operations that are not subject to Rule 1469. *Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716*	Toxics
1435*	**Control of Toxic Air Contaminant Emissions from Metal Heating Operations** Proposed Rule 1435 will establish requirements to reduce point source and fugitive toxic air contaminants including hexavalent chromium emissions from heat treating processes. Proposed Rule 1435 will also include monitoring, reporting, and recordkeeping requirements. *Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP / AB 617 CERP
Regulation XIII*#	**New Source Review** Proposed Amended Regulation XIII will revise New Source Review provisions to address facilities that are transitioning from RECLAIM to a command-and-control regulatory structure and to reconcile Regulation XIII with 2002 NSR Reform. Additional rules under Regulation XIII may be needed to address offsets and other provisions under Regulation XIII. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP

* *Potentially significant hearing*

+ *Reduce criteria air contaminants and assist toward attainment of ambient air quality standards*

\# *Part of the transition of RECLAIM to a command-and-control regulatory structure*

TENTATIVE 2026 CALENDAR *(Continued)*

Month **2nd Quarter** (Continued)	Title and Description	Type of Rulemaking
Regulation XX*#	**RECLAIM** Proposed Amended Regulation XX will address the transition of NOx RECLAIM facilities to a command-and-control regulatory structure. *Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716*	AQMP

* *Potentially significant hearing*

+ *Reduce criteria air contaminants and assist toward attainment of ambient air quality standards*

Part of the transition of RECLAIM to a command-and-control regulatory structure

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 20

REPORT: Status Report on Major Ongoing and Upcoming Projects for Information Management

SYNOPSIS: Information Management is responsible for data systems management services in support of all South Coast AQMD operations. This action is to provide the monthly status report on major automation contracts and planned projects.

COMMITTEE: Administrative, May 9, 2025, Reviewed

RECOMMENDED ACTION:
Receive and file.

Wayne Nastri
Executive Officer

RMM:XC:DD:HL:dc

Background
Information Management (IM) provides a wide range of information systems and services in support of all South Coast AQMD operations. IM's primary goal is to provide automated tools and systems to implement rules and regulations, and to improve internal efficiencies. The annual Budget and Board-approved amendments to the Budget specify projects planned during the fiscal year to develop, acquire, enhance, or maintain mission-critical information systems.

Summary of Report
The attached report identifies the major projects/contracts or purchases that are ongoing or expected to be initiated within the next six months. Information provided for each project includes a brief project description and the schedule associated with known major milestones (issue RFP/RFQ, execute contract, etc.).

Attachment
Information Management Status Report on Major Ongoing and Upcoming Projects During the Next Six Months

ATTACHMENT
June 6, 2025 Board Meeting
Status Report on Ongoing and Upcoming Projects for
Information Management

South Coast AQMD Mobile Application Phase 6	
Brief description:	The Phase 6 enhancement of the South Coast AQMD mobile app focuses on introducing the Open Burn Program and Check Before You Burn (CBYB) feature layers, enhancing user access to detailed environmental data and preparing the map component for future expansions.
Estimated project cost	$54,785
Overall project status	In Progress
Percentage complete	85%
LAST 30 days	• Working on Going Live
NEXT 30 days	• Post-Production Support
Original estimated go-live date	12/20/24
Current estimated go-live date	6/10/25
Go-live date	N/A
Notes	Schedule extended to accommodate adjustments related to dependent software.

Agenda Tracking System	
Brief description:	Develop new Agenda Tracking System for submittal, review, and approval of Governing Board meeting agenda items
Estimated project cost	$250,000
Overall project status	In Progress
Percentage complete	90%
LAST 30 days	• User Acceptance Testing and Training
NEXT 30 days	• Conduct Parallel Validation Testing
Original estimated go-live date	11/15/24
Current estimated go-live date	7/11/25
Go-live date	N/A
Notes	

ATTACHMENT
June 6, 2025 Board Meeting
Status Report on Ongoing and Upcoming Projects for
Information Management

Online Application Filing	
Brief description:	Enhanced Web application to automate filing of permit applications, Rule 222 equipment and registration for IC engines; implement electronic permit folder
Estimated project cost	$525,000
Overall project status	In Progress
Percentage complete	90%
LAST 30 days	• User Acceptance Testing of Phase 1 of the project (first ten 400-E-XX forms) • User Acceptance Testing of next set of Rule 222 forms
NEXT 30 days	• User Acceptance Testing of Phase 1 of the project (first ten 400-E-XX forms • User Acceptance Testing of next set of Rule 222 forms
Original estimated go-live date	1/17/25
Current estimated go-live date	6/27/25
Go-live date	N/A
Notes	IM Development Complete.

Permit Workflow Automation – Phase 1	
Brief description:	Automate application acceptance and engineering evaluation processes into paperless workflows. This phase includes an electronic workflow that encompasses major functions of the Permit Application process
Estimated project cost	$250,000
Overall project status	In Progress
Percentage complete	50%
LAST 30 days	• System Development in Progress
NEXT 30 days	• System Development in Progress
Original estimated go-live date	3/14/25
Current estimated go-live date	10/17/25
Go-live date	N/A
Notes	

ATTACHMENT
June 6, 2025 Board Meeting
Status Report on Ongoing and Upcoming Projects for
Information Management

Invest Clean	
Brief description:	Develop a paperless, user-friendly web-based Grant Management System to streamline the application submittal, approval, inspection, contracting, and invoicing process.
Estimated project cost	$250,000
Overall project status	In Progress
Percentage complete	20%
LAST 30 days	• Requirements Gathering
NEXT 30 days	• System Development in Progress
Original estimated go-live date	10/10/25
Current estimated go-live date	10/10/25
Go-live date	N/A
Notes	

Compliance System	
Brief description:	Develop a new Compliance System to help streamline the compliance business process. The new system will provide full integration of incident management, inspection process, field operations and operations dashboard
Estimated project cost	$450,000
Overall project status	In Progress
Percentage complete	65%
LAST 30 days	• System Development in Progress
NEXT 30 days	• System Development in Progress
Original estimated go-live date	2/28/25
Current estimated go-live date	10/17/25
Go-live date	N/A
Notes	

ATTACHMENT
June 6, 2025 Board Meeting
Status Report on Ongoing and Upcoming Projects for
Information Management

Carl Moyer Program GMS Phase III	
Brief description:	Develop Contracting, Invoicing, and Annual Reporting modules for Carl Moyer Program web application. This system will include integration with internal South Coast AQMD systems.
Estimated project cost	$200,000
Overall project status	In Progress
Percentage complete	70%
LAST 30 days	• System Development in Progress
NEXT 30 days	• System Development in Progress
Original estimated go-live date	4/10/25
Current estimated go-live date	7/8/25
Go-live date	N/A
Notes	

AirNet Upgrade	
Brief description:	Upgrade AirNet (Intranet) to the latest version of SharePoint. This project will involve migrating existing content, custom web parts, and other components, while delivering a modern and refreshed design.
Estimated project cost	$180,000
Overall project status	In Progress
Percentage complete	75%
LAST 30 days	• System Development in progress
NEXT 30 days	• System Development in progress
Original estimated go-live date	4/25/25
Current estimated go-live date	6/27/25
Go-live date	N/A
Notes	

ATTACHMENT
June 6, 2025 Board Meeting
Status Report on Ongoing and Upcoming Projects for
Information Management

Air Quality Data Platform Phase 3	
Brief description:	Integrate individual data systems into a cloud-based platform for efficient data management and the creation of interactive visualizations and dashboards for web access.
Estimated project cost	$386,800
Overall project status	In Progress
Percentage complete	10%
LAST 30 days	• System Development in progress
NEXT 30 days	• System Development in progress
Original estimated go-live date	4/22/26
Current estimated go-live date	4/22/26
Go-live date	N/A
Notes	Project is on schedule.

Title V Modernization	
Brief description:	Expedite and expand Title V data gathering and reporting to ICIS-Air by reusing EPA's VES service and use Shared CROMERR Services (SCS) to enable a CROMERR compliant e-submittal portal.
Estimated project cost	$75,700
Overall project status	In Progress
Percentage complete	10%
LAST 30 days	• System Development in progress
NEXT 30 days	• System Development in progress
Original estimated go-live date	8/4/26
Current estimated go-live date	8/4/26
Go-live date	N/A
Notes	Project is on schedule.

ATTACHMENT
June 6, 2025 Board Meeting
Status Report on Ongoing and Upcoming Projects for
Information Management

IDF Network Switch Refresh Phase 5	
Brief description:	Upgrade Discontinued Closet Network Switches to keep network infrastructure maintainable and secure. This project will allow district staff members to continue to access the internet and other networked devices and servers.
Estimated project cost	$100,000
Overall project status	In Progress
Percentage complete	100%
LAST 30 days	• Design and Planning • Implementation
NEXT 30 days	• Testing and Verification
Original estimated go-live date	5/9/25
Current estimated go-live date	5/4/25
Go-live date	5/4/25
Notes	

ATTACHMENT
June 6, 2025 Board Meeting
Status Report on Ongoing and Upcoming Projects for
Information Management

Projects that have been completed within the last 12 months are shown below	
COMPLETED PROJECTS	
PROJECT	DATE COMPLETED
South Coast AQMD Telephone Directory	March 28, 2025
Website Upgrade	March 24, 2025
Forms Approval Workflow	March 11, 2025
Position Management	March 4, 2025
Rideshare Matching Application	February 26, 2025
Wildfire Monitoring	February 21, 2025
School Bus GMS	February 5, 2025
West KM	January 24, 2025
Rule 1109.1 - B-Cap Reporting	January 16, 2025
AB2766 for reporting year 2024	December 31, 2024
Annual Emissions Reporting for reporting year 2024	December 31, 2024
Warehouse Indirect Source Rule Online Reporting Portal Phase 4	November 21, 2024
Rideshare Survey Enhancement	October 18, 2024
Source Test Tracking System (STTS)	September 20, 2024
IT Service Management	September 17, 2024
Rule 1180 System Enhancements	August 16, 2024
Rule 1415 System Enhancements	August 9, 2024
AQ-SPEC Cloud Platform Phase 2	July 10, 2024

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BOARD MEETING DATE: June 6, 2025 AGENDA NO. 21

REPORT: Administrative Committee

SYNOPSIS: The Administrative Committee held a hybrid meeting on Friday, May 9, 2025. The following is a summary of the meeting.

RECOMMENDED ACTION:
Receive and file.

Vanessa Delgado, Chair
Administrative Committee

SN:cb

Committee Members

Present: Chair Vanessa Delgado, Committee Chair
Vice Chair Michael Cacciotti
Mayor Pro Tem Larry McCallon

Absent: Supervisor V. Manuel Perez

Call to Order

Chair Vanessa Delgado called the meeting to order at 10:00 a.m.

For additional details of the Administrative Committee Meeting, please refer to the Webcast.

DISCUSSION ITEMS:

1. **Board Members' Concerns:** No Board Member concerns to report.

2. **Chair's Report of Approved Travel:** No travel was reported.

3. **Report of Approved Out-of-Country Travel:** No out-of-country travel was reported.

4. **Review June 6, 2025 Governing Board Agenda:** Nothing was reported.

5. **Approval of Compensation for Board Member Assistant(s)/Consultant(s):** This item was moved to Action Items as approval from the Administrative Committee is needed. For additional information, please refer to the Webcast at 2:57.

6. **Update on South Coast AQMD's Internal Engagement Activities:** Anissa (Cessa) Heard-Johnson, Deputy Executive Officer, Community Engagement and Air Programs, provided an update on agency efforts, seasonal events, cultural displays, Statewide Working Group, and discussed Ami Zota for Fabulous Female Friday.

   Vice Chair Cacciotti inquired about how South Coast AQMD is working to increase the AB 617 program into other areas of the Basin. Dr. Heard-Johnson explained that staff is working with CARB and is implementing Blueprint 2.0 to work with consistently nominated communities. Executive Officer Wayne Nastri added that the financial situation of the State makes it difficult and there has been a lot of discussion between the renewal of the funding of AB 617 that we are working hard to maintain. For additional information, please refer to the Webcast at 3:42.

7. **Status Report on Major Ongoing and Upcoming Projects for Information Management:** Ron Moskowitz, Chief Information Officer, reported on the status of various projects. For additional information, please refer to the Webcast at 12:46.

8. **South Coast AQMD's FY 2024-25 Third Quarter Ended March 31, 2025 Budget vs. Actual (Unaudited):** Sujata Jain, Chief Financial Officer, provided a presentation on the Budget versus Actual Results for the Third Quarter which ended on March 31, 2025 and provided the Budget Summary for Fiscal Year 2024-25. For additional information, please refer to the Webcast at 14:10.

ACTION ITEMS:

5. **Approval of Compensation for Board Member Assistant(s)/Consultant(s):** There was one modification proposal for the compensation of Board Consultant for Councilmember Brenda Olmos: Marisela Santana. The contract modification will be effective from April 1, 2025 through June 30, 2025. For additional information, please refer to the Webcast at 2:57.

   Moved by McCallon; seconded by Cacciotti, unanimously approved.

Ayes:	Cacciotti, Delgado, McCallon
Noes:	None
Absent:	Perez

9. **Recognize Revenue in FY 2024-25, FY 2025-26 and/or FY 2026-27 into the General Budget, Appropriate Funds in FY 2024-25, FY 2025-26 and/or FY 2026-27, Execute and/or Amend Contracts, and Issue Solicitations and Purchase Orders for Continued AB 617 Implementation:** Ms. Jain reported that this action is for appropriation for the remainder of FY 2024-25, FY 2025-26 and if needed FY 2026-27 for services and supplies and capital for the AB 617 program. The amount of funds to be appropriated and the programs and projects are provided in the Board Letter. For additional information, please refer to the Webcast at 19:39.

   Moved by Cacciotti; seconded by McCallon, unanimously approved.

Ayes:	Cacciotti, Delgado, McCallon
Noes:	None
Absent:	Perez

10. **Recognize Revenue, Appropriate and Transfer Funds, Issue Solicitation and Purchase Order for One Vehicle:** Dr. Jason Low, Deputy Executive Officer, Monitoring & Analysis, reported that this action is to recognize $480,000 and appropriate to the Monitoring & Analysis budget and transfer $350,000 between Major Objects to realign the expenditures and issue a solicitation and purchase order for one vehicle.

    Vice Chair Cacciotti inquired if the vehicle was electric. Dr. Low stated that staff is looking at a plug-in electric hybrid vehicle. For additional information, please refer to the Webcast at 21:20.

    Moved by McCallon; seconded by Cacciotti, unanimously approved.

Ayes:	Cacciotti, Delgado, McCallon
Noes:	None
Absent:	Perez

11. **Recognize Revenue, Appropriate Funds, and Issue Purchase Order for Air Monitoring Equipment:** Dr. Low reported that this action is to recognize revenue and appropriate around $97,000 into the Monitoring & Analysis budget and issue a sole source purchase contract for air monitoring equipment. For additional information, please refer to the Webcast at 23:17.

    Moved by McCallon; seconded by Cacciotti, unanimously approved.

Ayes:	Cacciotti, Delgado, McCallon
Noes:	None
Absent:	Perez

12. **Recognize Revenue, Appropriate Funds, and Issue Sole Source Purchase Orders for Air Monitoring Equipment:** Dr. Low reported that this item is to recognize around $300,000 and appropriate it into the Monitoring & Analysis budget and also issue a sole source purchase order for air monitoring equipment. For additional information, please refer to the Webcast at 23:37.

    Moved by McCallon; seconded by Cacciotti, unanimously approved.

Ayes:	Cacciotti, Delgado, McCallon
Noes:	None
Absent:	Perez

13. **Recognize Revenue and Appropriate Funds for U.S. EPA Pass Through Grants to Develop Low-Cost Sensor Device for Measuring VOCs and Reference Method for Validating Open-Path Remote Sensing Systems and Issue Purchase Order for Laboratory Equipment:** Dr. Low reported that this item is to recognize revenue of almost $200,000 from Virginia Tech and $185,000 from UCLA and appropriate about $80,000 and $30,000 respectively into the Monitoring & Analysis budgets (for administrative costs) and issue a purchase order for laboratory equipment. For additional information, please refer to the Webcast at 23:57.

    Moved by McCallon; seconded by Cacciotti, unanimously approved.

Ayes:	Cacciotti, Delgado, McCallon
Noes:	None
Absent:	Perez

14. **Amend Contract for Security Guard Services at Diamond Bar Headquarters:** John Olvera, Deputy Executive Officer, Administrative & Human Resources, reported that this item is to extend a contract with our current security guard services provider, GSSI, for two more years effective July 1, 2025. The funds have been requested for FY 2025-27 and FY 2026-27. For additional information, please refer to the Webcast at 25:24.

    Moved by McCallon; seconded by Cacciotti, unanimously approved.

Ayes:	Cacciotti, Delgado, McCallon
Noes:	None
Absent:	Perez

15. **Appropriate Funds from the General Fund Undesignated (Unassigned) Fund Balance to Cover Unbudgeted Salary and Overtime Costs:** Susan Nakamura, Chief Operating Officer, reported that this item is to transfer $2.65 million from the 2024-25 General Fund Undesignated balance to Salaries and Benefits. This is primarily for staff that has been addressing the large scale incidents such as wildfire in the Eaton Canyon and Palisades, as well as Chiquita Canyon Landfill and some other incidents. Funds are also needed for overtime for permitting staff. $2.3 million is associated with overtime and the balance is associated with staff salaries. For additional information, please refer to the Webcast at 26:43.

    Moved by Cacciotti; seconded by McCallon, unanimously approved.

Ayes:	Cacciotti, Delgado, McCallon
Noes:	None
Absent:	Perez

16. **Appoint Regular and Alternate Public and Medical Members to South Coast AQMD Hearing Board for July 1, 2025 to June 30, 2028 Term:** Faye Thomas, Clerk of the Board, reported that the current terms for the two Hearing Board public members and medical member, as well as their Alternates is expiring on June 30, 2025 and intervews will be conducted for these appointments. Ms. Thomas explained that during the recruitment process two applications for the medical member and 42 applications for the public member positions were received. Ms. Thomas summarized the candidate recommendations from the Hearing Board Advisory Committee.

    The Administrative Committee interviewed eight public member candidates: Micah Ali (incumbent regular), Suzanne Bilodeau, Robert Copeland (incumbent alternate), Stephen Dunwoody, Adrienne Konigar-Macklin, Steven Samaniego (incumbent alternate), Frank Tavakoli and Cynthia Verdugo-Peralta (incumbent regular).

    The Administrative Committee interviewed two medical member candidates: Jerry P. Abraham (incumbent regular) and Sharon Williams (incumbent alternate)

    After interviewing the candidates and discussion amongst Administrative Committee members, Vice Chair Cacciotti recommended the reappointment of the current public Hearing Board Members and Alternates: Micah Ali and Cynthia Verdugo-Peralta (incumbent regulars) and Robert Copeland and Steven Samaniego (incumbent alternates) and the reappointment of the current medical Hearing Board Members and Alternates: Jerry Abraham (incumbent regular) and Sharon Williams (incumbent alternate).

    Ranji George provided public comment for this item to support Cynthia Peralta to the Hearing Board.

For additional information, please refer to the Webcast at 28:05.

Moved by Cacciotti; seconded by McCallon, unanimously approved.

Ayes:	Cacciotti, Delgado, McCallon
Noes:	None
Absent:	Perez

WRITTEN REPORTS:

17. **Young Leaders Advisory Council Minutes for the August 17, 2022 Meeting:** The report was acknowledged and received.

18. **Young Leaders Advisory Council Minutes for the November 17, 2022 Meeting:** The report was acknowledged and received.

19. **Young Leaders Advisory Council Minutes for the February 15, 2023 Meeting:** The report was acknowledged and received.

20. **Young Leaders Advisory Council Minutes for the May 17, 2023 Meeting:** The report was acknowledged and received.

21. **Young Leaders Advisory Council Minutes for the February 21, 2024 Meeting:** The report was acknowledged and received.

22. **Young Leaders Advisory Council Minutes for the May 15, 2024 Meeting:** The report was acknowledged and received.

23. **Young Leaders Advisory Council Minutes for the August 21, 2024 Meeting:** The report was acknowledged and received.

24. **Young Leaders Advisory Council Minutes for the November 20, 2024 Meeting:** The report was acknowledged and received.

Mayor Pro Tem McCallon inquired why the February 2025 meetings of the YLAC meeting are not available and why the minutes are so late. Dr. Heard-Johnson indicated that they are under review and are being completed and the delay was due to quorum issues. For additional information, please refer to the Webcast at 1:39:24.

OTHER MATTERS:

25. **Other Business:** There was no other business to report.

26. **Public Comment:** Ranji George provided public comment regarding solar, hydrogen for energy, climate change and implementing zero emission technologies.

    Peter Whittingham provided public comment regarding the Proposed Amended Rules 1111 and 1121 and challenges regarding the length of time available for public comments at Stationary Source Committee for these rules.

    Harvey Eder provided public comment regarding solar energy and tariffs.

    For additional information, please refer to the Webcast at 1:40:25.

27. **Next Meeting Date:** The next regular Administrative Committee meeting is scheduled for Friday, June 13, 2025 at 10:00 a.m.

Adjournment

The meeting was adjourned at 11:45 a.m.

South Coast
Air Quality Management District
South Coast AQMD 21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

YOUNG LEADERS ADVISORY COUNCIL
WEDNESDAY, AUGUST 17, 2022
MEETING MINUTES

Members Present:
Roxana Barrera
José Trinidad Castañeda III
Isis Frausto-Vicencio
Ana Gonzales
Larysha Green
Cassie Nguyen
Nithya Palani
Paije Rush
Jack Symington
Priya Vedula
Janielle Vidal
Mikayla Winfery

Members Absent:
Monica Cantoran
Kyla Kelly
Maya Prasad
Michael Rodriguez
Lizbeth Sierra

South Coast AQMD Staff:
Derrick Alatorre, Chair, DEO, Public Advisor, Legislative, Public Affairs & Media
Lisa Tanaka O'Malley, Assistant Deputy Executive Officer, Legislative, Public Affairs & Media
Nicholas Sanchez, Assistant Chief Deputy Counsel, Legal
Brittany Gallivan, AQ Specialist, Planning, Rule Development and Area Sources
Patricia Kwon, Technology Demonstration Manager (WOC), Technology Advancement
Kristina Voorhees, Senior Administrative Assistant, Legislative, Public Affairs & Media

Call To Order
Mr. Derrick Alatorre called the meeting to order at 12:30 p.m.

Ms. Kristina Voorhees took the roll call.

Agenda Item #1: Approval of May 26, 2022 Minutes
Mr. Derrick Alatorre called for the approval of the May 26, 2022 meeting minutes.

Mr. Jose Trinidad Castañeda moved to approve; seconded by Mikayla Winfery.
Ayes: Barrera, Castañeda, Frausto-Vicencio, Gonzalez, Green, Nguyen, Palani, Rush, Symington, Vedula, Winfery
Noes: None
Abstain: None
Absent: Cantoran, Kelly, Prasad, Rodriguez, Sierra

Agenda Item #2: Draft 2022 Air Quality Management Plan Overview

Ms. Brittany Gallivan presented an update on the Draft 2022 Air Quality Management Plan (2022 AQMP).

Ms. Ana Gonzales asked how South Coast AQMD is working with EPA to improve the Clean Air Act. Mr. Alatorre stated that to open the Clean Air Act to modification would mean facing serious lobbying against tightening regulation. Ms. Lisa Tanaka O'Malley stated South Coast AQMD has been involved in many legislative efforts to continue strengthening the goals and implementation of the Clean Air Act.

Ms. Gonzales asked how the AQMP might overlap with the CARB Scoping Plan in order to achieve target emission reductions. Ms. Gallivan stated the South Coast AQMD works with CARB in developing both the AQMP and the Scoping Plan.

Mr. Jose Trinidad Castañeda requested more future updates on implementation of hydrogen fuel cell technology. Ms. Tanaka O'Malley stated the upcoming Agenda Item #3 would include updates on fuel cell implementation in drayage trucks, and future updates would continue to be shared.

Agenda Item #3: Zero Emission Drayage Truck Projects
Ms. Patricia Kwon provided an update on Zero Emission (ZE) Drayage Truck Projects.

Mr. Trinidad Castañeda asked about the challenges facing the permitting processes for ZE Truck programs and whether there were any legislative efforts at the state efforts to push greater implementation. Mr. Alatorre stated any decisions regarding the South Coast AQMD's position on legislation is up to the Governing Board, but many opportunities were open to pursue.
Ms. Kwon listed many efforts and partners helping to better communicate program updates and availability to target demographics.

Ms. Roxana Barrera asked about funding opportunities for small businesses. Ms. Kwon stated that incentive opportunities were available for small fleets and small businesses.

Mr. Jack Symington invited members to contact him if interested in being part of the workforce development aspect of the project.

Ms. Gonzales asked if a round table could be hosted to help outreach to local business owners and dispel misconceptions and provide information on projects.

ACTION ITEM: Staff to look into details to arrange potential outreach session.

Agenda Item #4: Member Updates
Ms. Gonzales invited members to attend an equity listening session on transportation issues in August.

Mr. Trinidad Castañeda offered his farewell to the group and thanked members for their dedication to the committee's goals and objectives.

Agenda Item #5: Public Comment
No public comment.

Agenda Item #6: Next Meeting Date
The next regular YLAC meeting is scheduled for Wednesday, November 16, 2022 at 12:30 p.m.

Adjournment
Mr. Alatorre adjourned the meeting at 1:40 p.m.

South Coast
Air Quality Management District
South Coast AQMD
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

YOUNG LEADERS ADVISORY COUNCIL
THURSDAY, NOVEMBER 17, 2022
MEETING MINUTES

Members Present:
Roxana Barrera
Larysha Green
Kyla Kelly
Cassie Nguyen
Nithya Palani
Michael Rodriguez
Priya Vedula

Members Absent:
Monica Cantoran
Isis Frausto-Vicencio
Ana Gonzales
Maya Prasad
Paije Rush
Lizbeth Sierra
Jack Symington
Janielle Vidal
Mikayla Winfery

South Coast AQMD Staff:
Derrick Alatorre, Chair, Deputy Executive Officer, Public Advisor, Legislative, Public Affairs & Media
Nicholas Sanchez, Assistant Chief District Counsel, Legal
Sam Cao, Program Supervisor, Science & Technology Advancement
Lane Garcia, Program Supervisor/ Planning
Aisha Reyes, Senior Administrative Assistant , Legislative, Public Affairs & Media

Call To Order
Ms. Aisha Reyes called the meeting to order at 12:36 p.m. and took the roll call.

Agenda Item #1: Approval of August 17, 2022 Minutes
The August 17, 2022 meeting minutes will be taken to February 15, 2023. Quorum was not met.

Agenda Item #2: Approval of 2023 Goals and Objectives
The 2023 Goals and Objectives will be taken to February 15, 2023. Quorum was not met.

Agenda Item #3: Clean Fuels Program Draft 2023 Plan Update
Mr. Sam Cao presented on the Clean Fuels Plan Update which is submitted every year with Clean Fuels Annual Report as required by legislation.

There was no public comment.

Agenda Item #4: AB 2766 Motor Vehicle Subvention Fund
Mr. Lane Garcia presented how the AB 2766 Subvention Fund works and provided recent descriptions of projects implemented by local jurisdiction.

Mr. Moses Huerta, of the City of Paramount, inquired about the best way for the city to apply for the program and asked if the subvention funds can be used alongside Metro 710 freeway project funding. Mr. Garcia suggested to have a separate followup meeting to discuss Mr. Huerta's comments in more detail regarding the Metro project. Mr. Derrick Alatorre added on the legislative side, South Coast AQMD is seeking an increase in the AB 2766 subvention funds.

Agenda Item #5: Present 2023 Meeting Dates
Ms. Reyes provided the quarterly meeting dates for 2023.

Ms. Roxanna Barrera asked if the meetings would be in person. Mr. Nicholas Sanchez responded that he anticipated in person meetings would begin in March 2023. Mr. Alatorre added they would be held in a hybrid format.

Agenda Item #6: Member Update/Other Business
There were no comments from the members.

Agenda Item #7: Public Comment
There were no comments from the public.

Agenda Item #8: Next Meeting Date
The next regular YLAC meeting is scheduled for Wednesday, February 15, 2023 at 12:30 p.m.

Adjournment
Ms. Reyes adjourned the meeting at 1:19 p.m.

South Coast
Air Quality Management District
South Coast AQMD
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

YOUNG LEADERS ADVISORY COUNCIL
WEDNESDAY, FEBRUARY 15, 2023
MEETING MINUTES

Members Present:
Ana Gonzalez
Kyla Kelly
Cassie Nguyen
Michael Rodriguez
Jack Symington
Priya Vedula

Members Absent:
Roxana Barrera
Monica Cantoran
Isis Frausto-Vicencio
Larysha Green
Nithya Palani
Maya Prasad
Paije Rush
Lizbeth Sierra
Janielle Vidal
Mikayla Winfery

South Coast AQMD Staff:
Phillip Crabbe, Chair, Senior Public Affairs Manager, Legislative, Public Affairs & Media
Daphne Hsu, Principal Deputy District Counsel, Legal
Yuh Jiun Tan, Program Supervisor, Technology Advancement Office
Aisha Reyes, Senior Administrative Assistant, Legislative, Public Affairs & Media
Brandee Keith, Sr. Public Affairs Specialist, Legislative, Public Affairs, and Media

Call To Order

Mr. Phillip Crabbe, Senior Public Affairs Manager, Legislative, Public Affairs and Media, called the meeting to order at 12:30 p.m. Roll call was taken.

Agenda Item #1: Approval of August 17, 2022 Minutes
In absence of a quorum, the approval of the August 17, 2022, meeting minutes was continued to the next meeting.

Agenda Item #2: Approval of November 17, 2022 Minutes
In absence of a quorum, the approval of the November 17, 2022, meeting minutes was continued to the next meeting.

Agenda Item #3: Adoption of YLAC Goals and Objectives for 2023
In absence of a quorum, the adoption of the 2023 Goals and Objectives was continued to the next meeting.

Agenda Item #4: Commercial Electric Lawn and Garden Program
Ms. Yuh Jiun Tan, Program Supervisor, Technology Advancement Office, presented on the South Coast AQMD Commercial Electric Lawn and Garden Program.

Ms. Kyla Kelly asked how awareness was communicated to constituents. Staff provides information about incentive programs conducts outreach in public meetings and public events such as AB 617 Community Steering Committees and Carl Moyer workshops.

Agenda Item #5: Legislative Updates Related to Air Quality
Mr. Crabbe provided an update on 2023 South Coast AQMD-sponsored state legislative concepts.

There were no questions nor public comment.

Agenda Item #6: Member Updates
Ms. Ana Gonzalez announced the Rising Voices Environmental Justice Summit on June 5-7 at the Ontario Convention Center. She also announced commencement for the Environmental Justice Community Ambassador program on February 25.

Agenda Item #7: Public Comment
There was no public comment.

Agenda Item #8: Next Meeting Date
The next regular YLAC meeting is scheduled for Wednesday, May 17, 2023, at 12:30 p.m.

Adjournment
Mr. Crabbe adjourned the meeting at 1:00 p.m.

South Coast
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YOUNG LEADERS ADVISORY COUNCIL
WEDNESDAY, MAY 17, 2023
MEETING MINUTES

Members Present:
Roxana Barrera
Kyla Kelly
Michael Rodriguez
Priya Vedula
Mikayla Winfery

Members Absent:
Monica Cantoran
Isis Frausto-Vicencio
Larysha Green
Nithya Palani
Maya Prasad
Paije Rush
Lizbeth Sierra
Jack Symington
Janielle Vidal

South Coast AQMD Staff:
Derrick Alatorre, Chair, Deputy Executive Officer, Legislative, Public Affairs & Media
Susan Nakamura, Chief Operating Officer, Executive Office
Nicholas Sanchez, Assistant Chief Deputy Counsel, Legal
Maria Corralejo, Administrative Assistant I, Legislative, Public Affairs, and Media
Anissa Cessa Heard-Johnson, Deputy Executive Officer, Diversity, Equity and Inclusion and Community Air Programs
Cassandra Johnson, Senior Public Affairs Specialist, Diversity, Equity and Inclusion and Community Air Programs
Victor Juan, Program Supervisor, Technology Advancement Office
Ron Moskowitz, Chief Information Officer, Information Management
Aisha Reyes, Senior Administrative Assistant, Legislative, Public Affairs & Media

Call To Order
Mr. Derrick Alatorre called the meeting to order at 12:30 p.m., and Ms. Aisha Reyes took the roll call.

Agenda Item #1: Approval of February 15, 2023 Minutes
In absence of a quorum, the approval of the February 15, 2023 meeting minutes was continued to the next meeting.

Agenda Item #2: Approval of August 17, 2022 Minutes
In absence of a quorum, the approval of the August 17, 2022 meeting minutes was continued to the next meeting.

Agenda Item #3: Approval of November 17, 2022 Minutes
In absence of a quorum, the approval of the November 17, 2022 meeting minutes was continued to the next meeting.

Agenda Item #4: Adoption of YLAC Goals and Objectives for 2023
In absence of a quorum, the adoption of the 2023 Goals and Objectives was continued to the next meeting.

Agenda Item #5: South Coast AQMD's Replace Your Ride Program
Mr. Victor Juan presented on the South Coast AQMD Replace Your Ride Program.

There were no questions or public comment.

Agenda Item #6: South Coast AQMD's Mobile Application Updated Features
Mr. Ron Moskowitz delivered an update regarding South Coast AQMD's Mobile application.

Moses Huerta asked how often the status updates on a mobile complaint. He also inquired about Facility Information Detail (F.I.N.D.) and how often the facilities are updated.

Mr. Moskowitz responded that status updates on complaints depend on when inspectors receive the information, but assured Mr. Huerta updates occur instantaneously as the calls are received by the South Coast AQMD. Mr. Moskowitz then explained there is a direct connection from our website to the mobile phone application regarding complaints. Mr. Huerta provided a facility ID number and will receive further information offline.

Agenda Item #7: Member Updates/Other Business
Mr. Derrick Alatorre informed the advisory council members that the Young Leaders Advisory Council will be turned over to Diversity, Equity, and Inclusion and Community Air Programs Division. Mr. Alatorre advised this will take place by the next quarterly meeting.

Dr. Anissa Heard-Johnson introduced herself to the advisory group.

There was no questions or public comment.

Agenda Item #8: Public Comment
There was no public comment.

Agenda Item #9: Next Meeting Date
The next regular YLAC meeting is scheduled for Wednesday, August 16, 2023 at 12:30 p.m.

Adjournment
Ms. Aisha Reyes adjourned the meeting at 1:08 p.m.

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Air Quality Management District
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YOUNG LEADERS ADVISORY COUNCIL
WEDNESDAY, FEBRUARY 21, 2024
MEETING MINUTES

Members Present:
Gabriela Ballesteros
Emanuel De Jesús Cruz
Mai Nguyen Do
Aditi Gajurel
Matthew Patara Hui
Yifan Li
Vanessa Melesio
Michael Lyle Schumer
Hayato Joshua Shigeta
Linh Tran
Celina Vargas
Andres Coronel
Ryan Drover
Norah Kyassa
Ciara Christina Thrower
Roxana Marina Barrera
Yolanda Aguilar Candelario
Angel Delgado Lira
Joshua Scheel
Marc Anthony Flores

Members Absent:
Helen Yajaira Estrada

South Coast AQMD Staff:
Dr. Anissa Heard-Johnson, Deputy Executive Officer, Diversity Equity and Inclusion with Community Air Programs

Susan Nakamura, Chief Operating Officer, Executive Office
Nicholas Sanchez, Assistant Chief Deputy Counsel, Legal
Josephine Lee, Senior Deputy Counsel, Legal
Sheri Hanizavareh, Principal Deputy Counsel, Legal
Cassandra Johnson, Senior Public Affairs Specialist, Diversity, Equity and Inclusion and Community Air Programs
Francis Fernando, Senior Public Affairs Specialist, Diversity, Equity and Inclusion and Community Air Programs
Carolina Vargas, Staff Specialist, Diversity, Equity and Inclusion and Community Air Programs
Paola Servas, Senior Office Assistant, Diversity, Equity and Inclusion and Community Air Programs
Heather Pomeroy, Senior Administrative Assistant, Diversity, Equity and Inclusion and Community Air Programs

Call To Order
Dr. Heard-Johnson called the meeting to order at 12:30 p.m.

Roll Call

Agenda Item #1: Welcome and Introductions
Dr. Heard-Johnson discussed the importance of the YLAC's role and encouraged members to engage during the meeting. For additional details, please refer to the webcast here at minute 2:49.

Agenda Item #2: Introductions of YLAC Members
YLAC members introduced themselves and highlighted their interests and the communities they represent. For additional details, please refer to the webcast here at minute 7:00.

Agenda Item #3: Overview of South Coast AQMD
Ms. Nakamura provided an overview of the agency and encouraged members to apply for the Governing Board summer internship program. Dr. Heard-Johnson emphasized the agency's commitment to Diversity, Equity, and Inclusion, and the importance of intersectionality in addressing environmental justice. For additional details, please refer to the webcast here at minute 16:15.

Agenda Item #4: Overview of The Brown Act and Meeting Procedure
Ms. Hanizavareh gave a presentation on the Brown Act. For additional details, please refer to the webcast here at minute 19:37.

Agenda Item #5: Review of Previous Goals and Minutes for 2023

Dr. Heard-Johnson summarized past meeting activities and emphasized the need for more dialogue and interaction within the council. For additional details, please refer to the webcast here at minute 50:48.

Agenda Item #6: Resources Provided by the South Coast AQMD

Ms. Johnson provided resources, including books on Diversity, Equity and Inclusion and South Coast AQMD's website. Members shared their outlook towards YLAC's future. For additional details, please refer to the webcast here at minute 54:34.

Agenda Item #7: YLAC Member Community Issues and Concerns

- Gabriela Ballesteros raised concerns about air quality near schools and the need for more green spaces.
- Emanuel De Jesús Cruz, highlighted the impact of greenspaces and why they're important to the community.
- Mai Nguyen Do discussed the importance of accessible public transportation and its role in reducing pollution.
- Aditi Gajurel mentioned the need for more community engagement and awareness programs on air quality.
- Matthew Patara Hui focused on the importance of youth involvement in environmental issues and decision-making processes.
- Yifan Li emphasized the need for real-time air quality monitoring and transparent reporting.
- Vanessa Melesio discussed health impacts of poor air quality and the need for better healthcare resources.
- Michael Lyle Schumer brought up the issue of environmental justice and the disproportionate impact on low-income communities.
- Hayato Joshua Shigeta discussed the potential of electric transportation in reducing emissions.
- Linh Tran highlighted the importance of multilingual outreach to ensure all community members are informed.
- Celina Vargas stressed the need for collaboration with schools to educate students about environmental issues.
- Andres Coronel discussed the role of renewable energy in combating air pollution.
- Ryan Drover emphasized the need for stricter enforcement of existing air quality regulations.
- Norah Kyassa mentioned the importance of involving local businesses in sustainability efforts.

- Ciara Christina Thrower focused on the need for better waste management practices to improve air quality.
- Roxana Marina Barrera raised concerns about the impact of industrial activities on residential areas.
- Yolanda Aguilar Candelario discussed the need for more research on the health impacts of air pollution.
- Angel Delgado Lira highlighted the importance of green infrastructure in urban planning.
- Joshua Scheel emphasized the need for policies supporting clean energy transitions.
- Helen Yajaira Estrada discussed the impact of climate change on air quality and the need for proactive measures.
- Marc Anthony Flores mentioned the role of technology in monitoring and improving air quality.

Agenda Item #8: Development of YLAC GOALS and Objectives for 2024
Members expressed their goals for the YLAC, focusing on electric transportation, public engagement, and influencing decision-making processes at the Board level. The draft goals will be presented at the next meeting in May, with a survey to gather further input from members. For additional details, please refer to the webcast here at hour 1:25:05.

Agenda Item #9: Other Business
Discussion on the use of gender-neutral honorifics in meeting documentation. Members emphasized the need for practical engagement and representation in South Coast AQMD activities and decisions. The importance of inclusive communication strategies, both in-person and remote, was highlighted to accommodate diverse member needs.

Agenda Item #9: Public Comment
There was no public comment.

Agenda Item #9: Next Meeting Date
The next regular YLAC meeting is scheduled for Wednesday, May 15, 2024, at 12:30 p.m.

Adjournment
The meeting was adjourned the meeting at 2:13 p.m.

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YOUNG LEADERS ADVISORY COUNCIL
WEDNESDAY, MAY 15, 2024
MEETING MINUTES

Members Present:
Gabriela Ballesteros
Emanuel De Jesús Cruz
Mai Nguyen Do
Aditi Gajurel
Yifan Li
Vanessa Melesio
Linh Tran
Andres Coronel
Norah Kyassa
Ciara Christina Thrower
Roxana Marina Barrera
Joshua Scheel
Ryan Drover

Members Absent:
Helen Yajaira Estrada
Hayato Joshua Shigeta
Matthew Patara Hui1
Siomara Nieto
Angel Delgado Lira
Marc Anthony Flores
Celina Vargas
Michael Lyle Schumer

South Coast AQMD Staff:

Dr. Anissa Heard-Johnson, Deputy Executive Officer, Diversity Equity and Inclusion with Community Air Programs
Josephine Lee, Senior Deputy Counsel, Legal
Arlene Farol Saria, Public Affairs Manager, Diversity, Equity and Inclusion and Community Air Programs
Daniel Wong, Senior Public Affairs Specialist, Diversity, Equity and Inclusion and Community Air Programs
Gina Triviso, Senior Public Affairs Specialist, Diversity, Equity and Inclusion and Community Air Programs
Cassandra Johnson, Senior Public Affairs Specialist, Diversity, Equity and Inclusion and Community Air Programs
Carolina Vargas, Staff Specialist, Diversity, Equity and Inclusion and Community Air Programs
Paola Servas, Senior Office Assistant, Diversity, Equity and Inclusion and Community Air Programs
Mary Dona Paras, Administrative Assistant I, Diversity, Equity and Inclusion and Community Air Programs
Heather Pomeroy, Senior Administrative Assistant, Diversity, Equity and Inclusion and Community Air Programs

Call To Order

Dr. Heard-Johnson called the meeting to order at 12:30 p.m.

Roll Call

Agenda Item #1: Welcome and Introductions

Dr. Anissa Heard-Johnson, Deputy Executive Officer, welcomed members and thanked them for attending both on-site and remotely. She emphasized the importance of being in space together and introduced herself. For additional details, please refer to the webcast here at minute 4:35

Agenda Item #2: Survey Results of Potential Agenda Topics

Dr. Heard-Johnson shared the survey results that will frame future meetings of the YLAC. The survey helps in aligning YLAC's activities with the mission of the South Coast AQMD to keep the air clean. Key topics included air quality monitoring, community engagement, environmental justice, and youth involvement.

Agenda Item #3: Video-Segregated by Design

The video Segregated by Design was shown. The video can be viewed in the webcast here.

Agenda Item #4: Discussion – Segregated by Design

Vanessa Melesio highlighted the current manifestations of systemic inequities in their community, including inadequate public services and infrastructure. Andres Coronel discussed the impact of wealth gaps and insufficient amenities in parks, emphasizing the need for equitable resource distribution. Gabriela Ballesteros stressed the need for diverse perspectives in planning and creating accessible programs, advocating for inclusive policy-making.

Agenda Item #5: Community Spotlight

Dr. Heard-Johnson opened the floor to YLAC members to elevate issues or events within their community.

- Andres Coronel saw a LinkedIn post about the residential air filtration initiative and wanted to know more about outreach because it hasn't been seen in their community level in the Eastern Coachella Valley.
- Vanessa Melesio wanted to recognize Goldman Environmental Prize winner, Andrea Vidaurre. This is a prominent figure finally being recognized.
- Gabriela Ballesteros asked if the agency could highlight community events would be helpful because people look for things to do and it supports our communities.
- Vanessa Melesio mentioned there would be a creative outlet at the Inland Empire Solstice theater. The leader of the event has a son with asthma so environmental justice issues are often highlighted at these events.

Agenda Item #6: South Coast AQMD Staff Presentation of AB 6174 Overview with Q&A

Ms. Farol Saria gave an overview of the AB 617 Program for YLAC Members. Vanessa Melesio wanted to know if the AB 617 team was internal or external from the South Coast AQMD. Ms. Farol Saria responded there is an internal South Coast AQMD team. YLAC members made a series of suggestions such as use of social media, hand-outs, and targeting locations the community frequents such as laundromats, mailers, and working with partner organizations. Ms. Farol Saria thanked the YLAC members for their input and staff will look further into their suggestions.

Agenda Item #7: Meeting Expectations

Dr. Heard-Johnson asked what expectations the membership had for meetings. Gabriela Ballesteros said this meeting should be a safe space where members can be brave enough to share their thoughts. Vanessa Melesio said they would like to hear about community resource sharing.

Agenda Item #8: Upcoming Engagement Opportunities

Dr. Heard-Johnson invited YLAC members to the All-CSC event taking place on Saturday, August 24, 2024. The event is still in the planning stages and said that more information will be shared with YLAC members at the next meeting. This is an opportunity for all the community members to come together to talk.

Agenda Item #9: Other Business

Ms. Farol Saria told YLAC membership she had resource materials available for members to take if they wished and advised downloading the South Coast AQMD app.

Agenda Item #9: Public Comment

Moses Huerta, member of the public, said he works on Environmental Justice monitoring programs under the U.S. EPA and CARB on engagement issues. Mr. Huerta wanted to congratulate the YLAC Members for participating in this endeavor and wants to encourage members to take what they learn and share with family and friends.

Agenda Item #9: Next Meeting Date

The next regular YLAC meeting is scheduled for Wednesday, August 21, 2024, at 12:30 p.m.

Adjournment

The meeting was adjourned the meeting at 2:24 p.m.

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YOUNG LEADERS ADVISORY COUNCIL
WEDNESDAY, AUGUST 21, 2024
MEETING MINUTES

Members Present:
Gabriela Ballesteros
Andres Coronel
Emanuel De Jesús Cruz
Mai Nguyen Do
Ryan Drover
Matthew Patara Hui
Yifan Li
Angel Delgado Lira
Vanessa Melesio
Linh Tran
Ciara Christina Thrower
Joshua Scheel

Members Absent:
Roxana Marina Barrera
Yolanda Aguilar Candelario
Marc Anthony Flores
Norah Kyassa
Siomara Nieto
Celina Vargas

South Coast AQMD Staff:
Dr. Anissa Heard-Johnson, Deputy Executive Officer, Diversity Equity and Inclusion with Community Air Programs
Alicia Lizarraga, Senior Public Affairs Manager
Josephine Lee, Senior Deputy Counsel, Legal
Tom Gross, Board Member Consultant to Mayor Lock Dawson
Stevenn Boddeker, Air Quality Specialist, Monitoring and Analysis Division

Cassandra Johnson, Senior Public Affairs Specialist, Diversity, Equity and Inclusion and Community Air Programs
Carolina Vargas, Staff Assistant, Diversity, Equity and Inclusion and Community Air Programs
Heather Pomeroy, Senior Administrative Assistant, Diversity, Equity and Inclusion and Community Air Programs
Paola Servas, Senior Office Assistant, Diversity, Equity and Inclusion and Community Air Programs

Call To Order
Dr. Heard-Johnson called the meeting to order at 12:30 p.m.

Roll Call

Agenda Item #1: Welcome and Introductions
Motions to approve the February 21, 2024, and the May, 15, 2024 meeting minutes. Motions were passed by all members present. For additional information, please refer to the webcast beginning 11:01.

Agenda Item #2: Community Spotlight
Dr. Heard-Johnson asked the YLAC members if they had any spotlight issues or events in their communities that they wanted to share. Joshua Scheel, Vanessa Melesio, Gabriela Ballesteros, and Mai Nguyen Do spoke about issues in their communities. For additional information please refer to the webcast beginning at 13:13.

Agenda Item #3: Pollution Reduction Grant (CPRG) Comprehensive Climate Action Plan (CCAP) for the Los Angeles – Long Beach – Anaheim Metropolitan Statistical Area
Ryan Wolf, Manager of Sustainable and Resilient Development with Southern California Association of Governments gave a presentation on the Climate Pollution Reduction Grant (CPRG) Comprehensive Climate Action Plan (CCAP) for the Los Angeles – Long Beach – Anaheim Metropolitan Statistical Area. Ciara Christina Thrower, Andres Coronel, Ryan Drover, Emanuel De Jesús Cruz, and Mai Nguyen Do responded to Mr. Wolf's presentation with insights from their own communities and personal experiences. Mr. Wolf responded to their questions, concerns, and feedback. For additional information please refer to the webcast beginning at 27:40.

Agenda Item #4: South Coast AQMD Staff Presentation of Mobile Air Monitoring Platform with Q&A

A demonstration of the Mobile Air Monitoring Platform was given by Mr. Stevenn Boddeker. The group moved outside to view the physical presentation. Joshua Scheel, Vanessa Melesio, Emanuel De Jesús Cruz asked questions related to the demonstration. Mr. Boddeker addressed each comment and question. For additional information please refer to the webcast at 49:46.

Agenda Item #5: Recruitment for the Upcoming Year

Dr. Heard-Johnson spoke on the YLAC recruitment efforts for the 2025 year. Current members are encouraged to re-apply via the QR code that was listed on the flyer with the agenda. For additional information please refer to the webcast at 01:29:28.

Agenda Item #6: Upcoming Engagement Opportunities

Dr. Heard-Johnson informed YLAC of the upcoming all CSC event that is going to be held at South Coast AQMD Headquarters on Saturday, August 24th, 2024. She also informed the group that about the monthly EPA Region 9 meetings that occurs the first Tuesday of every month from 5:30PM - 7:00 PM. If anyone is interested in attending they my access the Zoom Link. Alicia Lizarraga, Senior Public Affairs Manager, let the YLAC membership know about South Coast AQMD's upcoming Environmental Justice conference. The event will take place on Thursday, October 24th, 2024.

Agenda Item #7: Public Comment

There was no public comment.

Agenda Item #9: Next Meeting Date

The next regular YLAC meeting is scheduled for Wednesday, November 20, 2024, at 12:30 p.m.

Adjournment

The meeting was adjourned the meeting at 2:18 p.m.

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YOUNG LEADERS ADVISORY COUNCIL
WEDNESDAY, NOVEMBER 20, 2024
MEETING MINUTES

Members Present:
Gabriela Ballesteros
Emanuel De Jesús Cruz
Mai Nguyen Do
Matthew Patara Hui
Yifan Li
Vanessa Melesio
Linh Tran
Tai Nguyen
Roxana Marina Barrera
Angel Delgado Lira
Joshua Scheel

Members Absent:
Celina Vargas
Andres Coronel
Ryan Dover
Norah Kyassa
Ciara Christina Thrower
Yolanda Aguilar Candelario
Marc Flores

South Coast AQMD Staff:
Walter Shen, Director, Diversity Equity and Inclusion with Community Air Programs
Josephine Lee, Senior Deputy Counsel, Legal
Tom Gross, Board Member Consultant to Mayor Lock Dawson
Cassandra Johnson, Senior Public Affairs Specialist, Diversity, Equity and Inclusion and Community Air Programs
Carolina Vargas, Staff Assistant, Diversity, Equity and Inclusion and Community Air Programs

Heather Pomeroy, Senior Administrative Assistant, Diversity, Equity and Inclusion and Community Air Programs
Paola Servas, Senior Office Assistant, Diversity, Equity and Inclusion and Community Air Programs

Call To Order
Walter Shen called the meeting to order at 12:30 p.m.

Roll Call

Agenda Item #1: Welcome and Agenda Overview
Mr. Shen welcomed the meeting attendees to the meeting. For additional information, please refer to the webcast beginning 4:36.

Agenda Item #2: Review and Approve Minutes
Mr. Shen asked for a motion to approve the August 20, 2024 meeting minutes. Motion passed by all members present. For additional information, please refer to the webcast beginning 11:55.
Motion to approve minutes made by Mr. Shen; seconded by Gabriella Ballesteros; approved.
Ayes: Gabriela Ballesteros
Emanuel De Jesús Cruz
Mai Nguyen Do
Matthew Patara Hui
Yifan Li
Vanessa Melesio
Linh Tran
Tai Nguyen
Roxana Marina Barrera
Angel Delgado Lira
Joshua Scheel
Noes: None
Absent: Celina Vargas
Andres Coronel
Ryan Dover
Norah Kyassa
Ciara Christina Thrower
Yolanda Aguilar Candelario
Marc Flores

Agenda Item #4: Community Spotlight

Mr. Shen asked YLAC members if they had any spotlight issues or events in their communities to share. Tai Nguyen, Vanessa Melesio, and Roxanna Barrera spoke about issues in their communities. For additional information please refer to the webcast beginning at 13:10.

Agenda Item #3: Q & A with Executive Officer, Wayne Nastri

Wayne Nastri spoke on his experience and work on environmental justice issues. He encouraged members to strive for excellence in their lives and communities. Joshua Scheel commented on plans for remote sensing technology. For additional information please refer to the webcast beginning at 17:30.

Agenda Item #5: Annual Report

Mr. Shen went over the first three quarters of the annual report for YLAC members and asked for feedback or comments. Vanessa Melesio commented she would like to see specific example cited, Emanuel De Jesús Cruz commented that he liked work with schools and educational organizations was being supported and viewed as a priority, Gabriela Ballesteros liked seeing the goals for the next year, and Matthew Patara Hui liked seeing the growth of the council and future plans stated. For additional information please refer to the webcast at 44:35.

Agenda Item #6: Community Based Organization Spotlight – Legacy LA

Members from Legacy LA gave a presentation to YLAC Members on their organization. Roxanna Barrera asked if Legacy LA would like to work with the Community Based Organization she supports. Vanessa Melesio asked how big Legacy LA's team was. Joshua Scheel commented on their connections to local organizations of higher education. Legacy LA answered member questions and provided their contact information. For additional information please refer to the webcast at 53:55.

Agenda Item #7: Goals and Requests for 2025 Committee

Mr. Shen asked YLAC members about goals and requests for the 2025 YLAC year. Joshua Scheel, Roxanna Barrera, and Tai Nguyen commented on proposed Goals for the 2025 year. For additional information please refer to the webcast at 01:20:29.

Agenda Item #8: Upcoming Engagement Opportunities

Mr. Shen highlighted an event YLAC members might be interested in. There is a monthly U.S. EPA Region 9 meeting that occurs the first Tuesday of every month from 5:30PM - 7:00 PM. Members could register HERE. For additional information please refer to the webcast at 01:30:17.

Agenda Item #9: Public Comment

Harvey Eder made his public comments. For additional information please refer to the webcast at 01:30:52.

Agenda Item #10: Next Meeting Date

The next regular YLAC meeting is scheduled for Wednesday, February 19, 2025, at 12:30 p.m.

Adjournment

The meeting was adjourned the meeting at 2:08 p.m.

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 22

REPORT: Legislative Committee

SYNOPSIS: The Legislative Committee held a hybrid meeting on Friday, May 9, 2025. The following is a summary of the meeting.

Agenda Item	**Recommendation/Action**
AB 471 (Hart) – County air pollution control districts: board members: compensation.	Support
AB 1305 (Arambula) – Air pollution control and air quality management districts; permit information: internet website.	Oppose
SB 526 (Menjivar) – South Coast Air Quality Management District: air quality.	Work with author

Receive and file this report and approve agenda items as specified in this letter.

Michael A. Cacciotti, Committee Chair
Legislative Committee

LTO:PFC:DPG:EV:MC:mc

Committee Members

Present: Vice Chair Michael A. Cacciotti, Committee Chair
Supervisor Curt Hagman
Mayor Patricia Lock Dawson
Vice Mayor Brenda Olmos

Absent: Councilmember Nithya Raman
Supervisor V. Manuel Perez

Call to Order

Committee Chair Michael Cacciotti called the meeting to order at 9:00 a.m.

ACTION/DISCUSSION ITEMS:

1. **Update on South Coast AQMD Sponsored State Legislation**
   Lisa Tanaka, Deputy Executive Officer, Legislative, Public Affairs & Media, provided an update on South Coast AQMD sponsored state legislation:

   - AB 1338 (Solache) would implement clean-up amendments to AB 2851 (Bonta, 2024) regarding fenceline monitoring at metal-shredding facilities. The bill passed the Assembly Appropriations Committee on April 8 and is headed to the Assembly floor.

   - AB 907 (Chen) with Assemblymember Solache as principal co-author, would provide CARB board members representing air districts with the same level of compensation as other voting board members. The bill passed out of the Assembly Natural Resources Committee on April 7 and has been referred to the Assembly Appropriations Committee suspense file and will be heard on May 23.

   - AB 1106 (Rodriguez) with Senator Ben Allen as a principal co-author, would update the existing CARB Air Incident Response Program by creating regional Air Quality Incident Response Centers to be located in, and operated by, local air districts, including South Coast AQMD. The bill passed unanimously out of the Assembly Natural Resources Committee on April 30. It has been referred to the Assembly Appropriations suspense file and will be heard on May 23.

   For additional information, please refer to the Webcast beginning at 4:19.

   There was no public comment.

2. **Recommended Position on State Bills**
   Denise Peralta Gailey, Public Affairs Manager, Legislative, Public Affairs & Media, presented AB 471 (Hart): County air pollution control districts: board members: compensation. The bill would establish reimbursement and per diem standards for board members representing single county air districts, with specified limits.

   Staff recommended a SUPPORT position on AB 471.

   For additional information, please refer to the Webcast beginning at 7:10.

   Erika Valle, Legislative Analyst, Legislative, Public Affairs & Media, presented AB 1305 (Arambula): Air pollution control and air quality management districts: permit information: internet website. The bill would require air districts to publicly post an online map showing all permitted facilities that require or required the use of emission reduction credits (ERCs). The map must also include specific details about active permits for equipment or processes that may release or control air

pollutants. The bill introduces significant challenges, including substantial costs, redundancy and an excessive administrative burden.

Staff recommended an OPPOSE position on AB 1305.

For additional information, please refer to the Webcast beginning at 8:32.

Mr. Crabbe, Senior Public Affairs Manager, Legislative, Public Affairs, and Media presented SB 526 (Menjivar): South Coast Air Quality Management District: air quality. The bill would, by January 1, 2027, require South Coast AQMD to modify Rule 1157 regarding emissions reductions from aggregate recycling facilities. The bill would require the following changes to Rule 1157:

- Facilities would be required to maintain fencing around the property line that is at least 6 inches taller than the tallest open storage pile.
- Fenceline monitoring for Particulate matter 10 (PM10) would be required for all facilities.
- If PM10 emissions reach the limit set by South Coast AQMD, the facilities would need to stop all operations, notify the agency and the public and take steps to control the dust emissions.
- The bill was also recently amended to require that facilities display signage for the public on how to file air quality complaints to South Coast AQMD.

For additional information, please refer to the Webcast beginning at 11:02.

Staff recommended a WORK WITH AUTHOR position on SB 526 to:

1) Ensure the Board is aware of this effort;

2) Continue to engage in discussions with the bill's author to determine if there is a positive path forward, including a possible non-legislative solution; and,

3) Provide flexibility as possible amendments are in development.

Moved by: Supervisor Hagman, Seconded by: Vice Mayor Olmos.
Ayes: Cacciotti, Dawson, Hagman, Olmos
Noes: None
Absent: Perez, Raman

For additional information, please refer to the Webcast beginning 11:01.

DISCUSSION ITEMS:

3. **Update and Discussion on Federal Legislative Issues**
   South Coast AQMD's federal legislative consultants (Kadesh & Associates, Carmen Group, and Cassidy & Associates) provided written reports on key Washington, D.C. issues.

   Ben Miller, Kadesh & Associates, provided an update on the House of Representatives approval of resolutions to revoke three California Clean Air Act Waivers (Advanced Clean Cars, Advanced Clean Trucks, Omnibus Low NOx) under the guise of the Congressional Review Act (CRA). The Senate Parliamentarian has ruled that California's Clean Air Act Waivers are not rules, and therefore not subject to the CRA. Senate Leadership is currently considering whether to overrule the Senate Parliamentarian's ruling and bring the waivers for a vote. For additional information, please refer to the Webcast beginning at 25:56.

   Gary Hoitsma, Carmen Group, reported on the release of the President's "skinny" budget which provides a glimpse of recommended funding levels for fiscal year 2026. The skinny budget recommends zeroing out funding for programs like the Diesel Emissions Reduction Act and cutting funding to categorical grants such as Section 103/105 which fund critical activities like air monitoring. The President's full budget is expected in mid- to late-May. For additional information, please refer to the Webcast beginning at 28:44.

   Jed Dearborn, Cassidy & Associates, provided an update on the Budget Reconciliation process in Congress which is expected to include a number of actions to enact pieces of President's Executive Orders to repeal large portions of the Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act. For additional information, please refer to the Webcast beginning at 32:19.

4. **Update and Discussion on State Legislative Issues**
   South Coast AQMD's state legislative consultants (Buckley Government Affairs, LLC, Joe A. Gonsalves & Son, and Resolute) provided written reports on key issues in Sacramento.

   Paul Gonsalves, Joe A. Gonsalves & Son, reported that Governor Newsom led a media briefing following the release of CARB's California Climate Investments Report. They announced that California's cap-and-trade program has raised nearly $33 billion to fund climate solutions throughout the state. For additional information, please refer to the Webcast beginning at 36:22.

   David Quintana, Resolute, reported that the Governor's May Budget Revise will be released on May 14. For additional information, please refer to the Webcast beginning at 39:06.

Ross Buckley, Buckley Government Affairs, LLC, reported the appointment of the City of Riverside Mayor Patricia Lock Dawson to the CARB Board as the South Coast AQMD Representative. For additional information, please refer to the Webcast beginning at 39:43.

There was no public comment.

OTHER MATTERS:

5. **Other Business**
   There was no other business to report.

6. **Public Comment Period**
   There was no public comment.

7. **Next Meeting Date**
   The next regular Legislative Committee meeting is scheduled for Friday, June 13, 2025, 2025 at 9:00 a.m.

Adjournment
The meeting was adjourned at 9:39 a.m.

Attachments
1. Attendance Record
2. Recommend Position on State Bills
3. Update on Federal Legislative Issues – Written Reports
4. Update on State Legislative Issues – Written Reports

ATTACHMENT 1

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
LEGISLATIVE COMMITTEE MEETING
ATTENDANCE RECORD – MAY 9, 2025

Council Member Michael Cacciotti ..... South Coast AQMD Board Member
Supervisor Curt Hagman ..... South Coast AQMD Board Member
Mayor Patricia Lock Dawson ..... South Coast AQMD Board Member
Supervisor Brenda Olmos ..... South Coast AQMD Board Member

Guillermo Gonzalez ..... Board Consultant (Perez)
Katherine Kolcheva ..... Board Consultant (Hagman)
Debra Mendelsohn ..... Board Consultant (McCallon)
Diane Nguyen ..... Board Consultant (Nguyen)
Marisela Santana ..... Board Consultant (Olmos)
Ben Wong ..... Board Consultant (Cacciotti)

Ross Buckley ..... Buckley Government Affairs, LLC
Gary Hoitsma ..... Carmen Group, Inc.
Jed Dearborn ..... Cassidy & Associates
Paul Gonsalves ..... Joe A. Gonsalves & Son
Ben Miller ..... Kadesh & Associates
David Quintana ..... Resolute

Alan Abbs ..... Public Member
Harvey Eder ..... Public Member
L. Fernandez ..... Public Member
Grace Garner ..... Public Member
Chuck Hahn ..... Public Member
Moses Huerta ..... Public Member
Sam Kang ..... Public Member
Kristin Kolpitcke ..... Public Member
Jacqueline Moore ..... Public Member
Fortino Morales II ..... Public Member
Bill Quin ..... Public Member
Peter Whittingham ..... Public Member

Jason Aspell ..... South Coast AQMD Staff
Barbara Baird ..... South Coast AQMD Staff
Cathy Bartels ..... South Coast AQMD Staff
Cindy Bustillos ..... South Coast AQMD Staff
Lara Brown ..... South Coast AQMD Staff
Matthew Ceja ..... South Coast AQMD Staff
Maria Corralejo ..... South Coast AQMD Staff
Philip Crabbe ..... South Coast AQMD Staff
Scott Gallegos ..... South Coast AQMD Staff
Denise Gailey ..... South Coast AQMD Staff
Bayron Gilchrist ..... South Coast AQMD Staff
De Groeneveld ..... South Coast AQMD Staff
Alex Han ..... South Coast AQMD Staff
Sheri Hanizavareh ..... South Coast AQMD Staff
Anissa Cessa Heard-Johnson ..... South Coast AQMD Staff

Aaron Katzenstein ..... South Coast AQMD Staff
Brandy Keith ..... South Coast AQMD Staff
Angela Kim ..... South Coast AQMD Staff
Howard Lee ..... South Coast AQMD Staff
Alicia Lizarraga ..... South Coast AQMD Staff
Brisa Lopez ..... South Coast AQMD Staff
Jason Low ..... South Coast AQMD Staff
Terrence Mann ..... South Coast AQMD Staff
Ian McMillan ..... South Coast AQMD Staff
Ron Moskowitz ..... South Coast AQMD Staff
Susan Nakamura ..... South Coast AQMD Staff
Robert Paud ..... South Coast AQMD Staff
Sarah Rees ..... South Coast AQMD Staff
Lisa Tanaka ..... South Coast AQMD Staff
Erika Valle ..... South Coast AQMD Staff
Elizabeth Vega ..... South Coast AQMD Staff
Mei Wang ..... South Coast AQMD Staff
Victor Yip ..... South Coast AQMD Staff

ATTACHMENT 2A

South Coast Air Quality Management District
Legislative Analysis Summary – AB 471 (Hart)
Version: Introduced - 2/6/2025
Analyst: EV

AB 471 (Hart)

County air pollution control districts: board members: compensation.

Summary: This bill allows members of county air district boards to be reimbursed for expenses incurred while performing duties. The bill also requires board members to be compensated for attending board or committee meetings, or doing official district work. The bill sets daily and annual amount limits.

Background: Current law allows counties that are not in a specific air district to create their own air pollution control districts. In some cases, the district's board must include at least one mayor or city council members, and at least one county supervisor.

Status: 4/10/25: Read third time. Passed Assembly. In Senate. Read first time. To Senate Rules for assignment.

Specific Provisions: Specifically, this bill would:

1) Allow county district board members to be reimbursed for necessary and actual expenses while doing board work.
2) If the county district board adopts a resolution at a regular meeting, each board member will be paid up to $200 per day for attending board and committee meetings, or any official district business (with board approval).
    a. The total compensation cannot exceed $7,200 per year per member.
3) Let the board increase the pay listed above at a public meeting, but only by:
    a. Up to 5 percent per year since the last increase, or
    b. Starting January 1, 2026, up to 10 percent per year based on the inflation rate as determined by the California Consumer Price Index.
4) The board cannot allow automatic future pay increases.
5) Apply only to county district boards that (1) one or more members who are mayors, city council members, or both, and (2) one or more members who are county supervisors.

Impacts on South Coast AQMD's Mission, Operations or Initiatives: This bill is similar to South Coast AQMD's sponsored bill AB 2522 (W. Carillo, 2024), which was signed into law and increased the per diem compensation limits for board members of the Bay Area, Sacramento, San Diego, South Coast, and unified air districts. AB2522 doubled daily compensation from $100 per day to $200 per day and increased corresponding monthly and annual limits. AB 471 supports the same goals of improving air quality and protecting public health statewide.

While AB 471 doesn't directly impact South Coast AQMD, it supports sound public policy to equitably compensate members of certain air district boards for their time and effort in performing duties. The bill provides reasonable and equitable pay, with adjustments for

inflation, so board members aren't financially burdened and can focus on their duties, leading to more effective governance and better long-term air quality planning.

Recommended Position: SUPPORT

SUPPORT
California Air Pollution Control Officers Association
Eastern Kern Air Pollution Control District
Northern Sonoma County Air Pollution Control District
Placer County Air Pollution Control District
San Luis Obispo County Air Pollution Control District
Santa Barbara County Air Pollution Control District
Ventura County Air Pollution Control Board

OPPOSITION
N/A

ATTACHMENT 2B

CALIFORNIA LEGISLATURE—2025–26 REGULAR SESSION

ASSEMBLY BILL No. 471

Introduced by Assembly Member Hart

February 6, 2025

An act to add Section 40100.5.5 to the Health and Safety Code, relating to air pollution.

LEGISLATIVE COUNSEL'S DIGEST

AB 471, as introduced, Hart. County air pollution control districts: board members: compensation.

Existing law provides for the creation of a county air pollution control district in every county not included within other specified districts. Existing law requires, under certain circumstances, the membership of the governing board of each county air pollution control district to include one or more members who are mayors, city council members, or both, and one or more members who are county supervisors.

This bill, which would apply only to a county district board subject to this membership requirement, would provide that a member of the board is entitled to reimbursement for actual and necessary expenses incurred in the performance of board duties. The bill would require, upon adoption of a resolution by the county district board, each member of the board to receive compensation, subject to specified daily and annual limits, for attending meetings of the board or any committee of the board or while engaged in the official business of the county district, as specified.

Vote: majority. Appropriation: no. Fiscal committee: no. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. Section 40100.5.5 is added to the Health and Safety Code, to read:

40100.5.5. (a) Each member of a county district board shall be entitled to reimbursement for actual and necessary expenses incurred in the performance of board duties.

(b) (1) In addition to the reimbursement for expenses provided pursuant to subdivision (a), upon adoption of a resolution by a county district board at an open regular meeting, each member of the county district board shall receive compensation of up to two hundred dollars ($200) per day attending meetings of the county district board or any committee of the county district board, or, upon authorization of the county district board, while engaged in the official business of the county district, but that compensation shall not exceed seven thousand two hundred dollars ($7,200) per board member in any one year.

(2) The compensation of each member of the county district board may be increased beyond the amounts provided in paragraph (1) by the county district board at an open regular meeting, but the amount of the increase shall not exceed the greater of either of the following:

(A) An amount equal to 5 percent for each calendar year from the operative date of the last adjustment of the compensation.

(B) Beginning January 1, 2026, an amount not to exceed 10 percent for each calendar year that is equal to the annual change in inflation as determined by the California Consumer Price Index for the area where the district board is located.

(3) The county district board shall not provide for automatic future increases in compensation for its members.

(c) The reimbursement for expenses and compensation provided for in this section only applies to members of a county district board whose membership is determined pursuant to Section 40100.5.

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ATTACHMENT 2C

South Coast Air Quality Management District
Legislative Analysis Summary – AB 1305 (Arambula)
Version: As Amended - 4/23/2025
Analyst: EV/PC

AB 1305 (Arambula)

Air pollution control and air quality management districts: permit information: internet website.

Summary: This bill would require air districts to publicly post an online map showing all permitted facilities that require or required the use of emission reduction credits (ERCs). The map must also include specific details about active permits for equipment or processes that may release or control air pollutants.

Background: Currently, the law gives air districts the authority to manage air pollution from all non-vehicles sources. Air districts are required to create and enforce rules to meet state and federal air quality standards within their jurisdiction. Existing law also requires each air district board to track ERCs, which can be used to offset certain future emission increases.

Status: 4/24/25: Re-referred to Assembly Appropriations Committee. Hearing: 4/30/25 – Assembly Appropriations Committee.

Specific Provisions: Specifically, this bill would:

Require air districts to display on maps on their websites showing active permits related to equipment or processes that may release or control air pollutants. This bill would only apply for active permits that require or required the use of one or more ERCs. The map should include, but is not limited to:

a) Site address and permitholder contact information.
b) Business and parent company names
c) Description of permitted equipment/process
d) List of ERCs used (type and quantity)
e) Any best available control technology (BACT), best available retrofit control technology (BARCT), or other emissions control measures required by the permit.

Impacts on South Coast AQMD's Mission, Operations or Initiatives: AB 1305 introduces significant challenges, including substantial costs, redundancy and an excessive administrative burden. Mandating air districts to use their already limited resources on the development and implementation of a new complex tool takes critical resources away from efforts to improve air quality and protect public health. In some cases AB 1305 would require duplicative information. South Coast AQMD already has a comprehensive public tool called Facility INformation Detail or FIND, which allows users to seamlessly access critical public information on regulated facilities.

Not only would this bill difficult to implement, but South Coast AQMD and air districts would have differing requirements based on their respective attainment statuses. Additional issues specific to South Coast AQMD are:

- Permitholder contact information is not on FIND, and would require significant resources to collect hard-to-find- data (like contact information for old permits or names of parent companies) for the 25,000 facilities in the region and maintain updated information into the future.

- Permitted process or equipment descriptions are on FIND However, some process are potentially confidential business information and gathering this information for 66,000 active permits would require significant resources.

- ERCs and emissions data are tracked separately for CARB and U.S. EPA as part of other requirements and presented twice a year to South Coast AQMD's Board. Additionally, each air district tracks ERCs based on individual circumstances. While ERC's are only a potential to emit a contaminant, a facility's actual emissions are more important and are already provided in FIND.

  It will be difficult to isolate specific pollution controls (i.e. BACT, BARCT, etc)., from complex permit documents. For South Coast AQMD, NOx sources over 4 tons per year are included in the RECLAIM program. These sources were put in RECLAIM over 30 years ago and getting historic ERC data would be impossible. Under RECLAIM, there are no ERCs.

Recommended Position: OPPOSE

SUPPORT
350 Humboldt
A Voice for Choice
California League of Conservation Voters - Environmental Voters
Central California Environmental Justice Network
Leadership Counsel Action, a Project of Tides Advocacy
Public Health Advocates

OPPOSITION
African-American Farmers League
Agricultural Council of California
Agricultural Energy Consumers Association
Almond Alliance of California
American Chemistry Council
Building Owners and Managers Association of California

California Advanced Biofuels Alliance
California Air Pollution Control Officers Association
California Association of Winegrape Growers
California Business Properties Association
California Chamber of Commerce
California Cotton Growers and Ginners Associations
California Fresh Fruit Association
California Grain and Feed Association
California League of Food Producers
California Manufacturers and Technology Association
California Poultry Federation
California Retailers Association
California Special Districts Association
California Walnut Commission
California Warehouse Association
Milk Producers Council
NAIOP of California
Nisei Farmers League
Pacific Coast Rendering Association
Pacific Egg and Poultry Association
San Joaquin Valley Air Pollution Control District
Western Growers Association
Western Plant Health Association
Western States Petroleum Association
Western Tree Nut Association

ATTACHMENT 2D

AMENDED IN ASSEMBLY APRIL 23, 2025

CALIFORNIA LEGISLATURE—2025–26 REGULAR SESSION

ASSEMBLY BILL **No. 1305**

Introduced by Assembly Member Arambula

February 21, 2025

An act to add Section 40714 to the Health and Safety Code, relating to air pollution.

LEGISLATIVE COUNSEL'S DIGEST

AB 1305, as amended, Arambula. Air pollution control and air quality management districts: permit information: internet website.

Existing law designates air pollution control districts and air quality management districts as having the primary responsibility for the control of air pollution from all sources other than vehicular sources, and, subject to the powers and duties of the State Air Resources Board, requires that air districts adopt and enforce rules and regulations to achieve and maintain the state and federal ambient air quality standards in all areas affected by emission sources under their jurisdiction.

Existing law requires the board of each air district to establish by regulation a system by which all reductions in the emission of air contaminants that are to be used to offset certain future increases in the emission of air contaminants be banked as credits prior to use to offset future increases in emissions, except as specified.

~~Existing law establishes the Office of Data and Innovation within the Government Operations Agency for the purpose of delivering better government services to the people of California through technology and service innovation, data, and design.~~

This bill would require each air district, for all active permits required for equipment or processes that may release or control air pollutants

and that require or required the use of one or more emission reduction credits, ~~to use a template developed by the Office of Data and Innovation~~ to make publicly available on its internet website a map of permitted facilities containing specified information regarding those permits. ~~The bill would require the Office of Data and Innovation to consult with local community groups when determining how best to design the template so that air district permit information is presented in a specified manner.~~ By adding to the duties of ~~these~~ *air* districts, ~~this~~ *the* bill would impose a state-mandated local program.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: yes.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares all of the following:

(a) Poor air quality is intimately linked with negative health impacts, including respiratory illness and premature deaths, with recent studies estimating air pollution as the cause of over 100,000 premature deaths in the United States in 2011. However, the distribution of premature deaths is not equal.

(b) Rural communities, farmworker communities, disadvantaged communities, tribal nations, young people, and those living at or below the poverty level often live adjacent to transportation corridors or commercial and industrial facilities with highly localized and severe pollution levels and are at the highest risk of adverse health outcomes.

(c) The United States Environmental Protection Agency is responsible for establishing national ambient air quality standards for a number of criteria pollutants, including oxides of nitrogen (NO_x), volatile organic compounds (VOCs), carbon monoxide (CO), oxides of sulfur (SO_x), and particulate matter below 10 microns (PM10).

(d) To ensure that emission sources minimize impacts on air quality, air pollution control and air quality management districts

are generally required to establish emissions control technology guidelines called Best Available Control Technology (BACT) and Best Available Retrofit Control Technology (BARCT) in their districts.

(e) When required as a condition of obtaining a permit to pollute, operators of emission sources agree to implement BACT and BARCT at their facilities.

(f) However, there is currently no publicly verifiable mechanism to ensure that, once a permit has been issued, an operator of an emission source is implementing BACT and BARCT per the requirements of its permit.

(g) Furthermore, because of limited resources, it is impossible for air pollution control and air quality management districts to monitor every permitholder for compliance with ongoing permit requirements.

(h) It is essential that communities are empowered to ensure that polluters are meeting the conditions of their permits by having access to the BACT and BARCT permit requirements that emission source permitholders have committed to upholding.

SEC. 2. Section 40714 is added to the Health and Safety Code, to read:

~~40714. (a) (1) For the purposes described in subdivision (b), and to ensure that the public is able to access information in a standardized manner across all district internet websites, the Office of Data and Innovation shall develop an internet website template to present the information to be included on an internet website pursuant to subdivision (b).~~

~~(2) The Office of Data and Innovation shall consult with local community groups when determining how best to design the internet website template so that district permit information is presented in a manner that does all of the following:~~

~~(A) Simplifies, and displays visually, complex data wherever possible and empowers communities to assess and manage local health and safety risk.~~

~~(B) Reveals patterns and trends and makes data easily and publicly accessible to third parties for analyzing those patterns and trends.~~

~~(C) Enables the use of data-driven decisionmaking.~~

~~(D) Maximizes accessibility.~~

~~(E) Makes real-time monitoring possible.~~

~~(F) Provides tools for predictive analysis and makes data easily and publicly accessible to third parties for that analysis.~~

~~(G) Enhances storytelling.~~

~~(b) For all~~

40714. For all active permits required for equipment or processes that may release or control air pollutants and that require or required the use of one or more emission reduction credits, each district shall ~~use the template developed pursuant to subdivision (a) to~~ make publicly available on its internet website a map of permitted facilities containing information regarding those permits that includes, but is not limited to, all of the following information:

~~(1)~~

(a) Site address.

~~(2)~~

(b) Permitholder contact information.

~~(3)~~

(c) Name of the permitted business and the names of all parent organizations.

~~(4)~~

(d) The scope or description of the permitted process or equipment.

~~(5)~~

(e) A list of all credits used in conjunction with the identified permit, including the type and quantity of emissions allowed under the permit.

~~(6)~~

(f) Any best available control technology, best available retrofit control technology, or other emissions control measures identified as a requirement of the permit.

SEC. 3. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because a local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act, within the meaning of Section 17556 of the Government Code.

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ATTACHMENT 2E

South Coast Air Quality Management District
Legislative Analysis Summary – SB 526 (Menjivar)
Version: As Introduced – 2/20/25
Analyst: PC

SB 526 (Menjivar)
South Coast Air Quality Management District: air quality.

Summary: This bill would require South Coast AQMD to revise Rule 1157: Particulate Matter 10 (PM10) Emission Reductions from Aggregate and Related Operations by January 1, 2027 as follows:

1) Facilities would be required to maintain fencing around the entire property line that is at least 6 inches taller than the tallest open storage pile;
2) Open storage piles of aggregate may not be higher than eight feet high if facilities are located within 500 feet of sensitive receptors (e.g. a residence, school, park, or hospital);
3) Fenceline monitoring for PM10 would be required for all facilities; and,
4) If PM10 emissions reach the limit set by South Coast AQMD, the facilities will stop all operations, notify the agency and the public and take steps to control the dust.

SB 526 (Menjivar) has pending committee amendments from the Senate Environmental Quality Committee hearing on April 23, 2025 which are not yet in print. The amendments are anticipated to require facilities to display how to file air quality complaints with South Coast AQMD.

Background: South Coast AQMD adopted the Final 2021 PM10 Maintenance Plan for the South Coast Air Basin, which includes Rule 1157: PM10 Emission Reductions from Aggregate and Related Operations. Rule 1157 establishes performance standards and specifies operational PM10 controls for aggregate and cement operations to minimize particulate emissions.

Aggregate recycling facilities receive construction debris and process it for reuse in future construction. The recycling process typically involves the storage of large amounts of aggregate construction material in piles at the recycling facility, as well as crushing and sorting that can lead to the release of PM10. Where aggregate recycling facilities are located in residential communities, these PM emissions can escape into nearby neighborhoods, negatively impacting public health; reducing visibility; and dirtying streets, cars, and homes. Scientific research demonstrates a link between adverse health effects such as high asthma rates and PM10 exposures. There are approximately 329 aggregate and aggregate related facilities in South Coast AQMD's jurisdiction.

The author argues that Rule 1157 is outdated since it has been approximately 18 years ago on September 8, 2006.

Status: 4/23/25: Passed Senate Environmental Quality Committee with amendments. Re-referred to Senate Appropriations Committee.

Specific Provisions: This bill would require South Coast AQMD to revise Rule 1157 for facilities involved in aggregate recycling and related operations to include the following requirements:

1) By January 1, 2027:
    a. Install fencing around the entire property that is at least 6 inches taller than the tallest open storage pile;
    b. Limit open storage piles to eight feet high if facilities are located within 500 feet of sensitive receptors (e.g. residences, schools, parks, hospitals);
    c. Develop, operate and maintain a fence-line monitoring system to track PM10 emissions, in accordance with South Coast AQMD guidance;
    d. If PM10 emissions exceed South Coast AQMD limits, facilities must stop all operations immediately, notify the agency and the public, and implement dust mitigations measure as directed by South Coast AQMD.
2) Define sensitive receptors to include residences, schools, parks, or hospitals, and similar facilities.
3) By July 1, 2027, facilities within 500 feet of a sensitive receptor and with a history of exceeding PM10 thresholds, must:
    a. Fully enclose open storage piles; and
    b. Undergo monthly inspections by South Coast AQMD until PM10 emissions remain below threshold limits for 3 consecutive months.

Impacts on South Coast AQMD's Mission, Operations or Initiatives: SB 526 was developed by Senator Menjivar to address Sun Valley community member complaints regarding dust from neighboring aggregate recycling facilities. South Coast AQMD received few complaints from community members over the last several years and our outreach staff are now engaging to educate residents on how to file complaints through 1-800-CUT-SMOG, the App, and online. Staff have conducted outreach to the Sun Valley and Sun Valley Tujunga Neighborhood Councils, school Administrators and teachers, residents, local elected officials and other government offices, community organizations and centers, libraries, and other locations where community members frequent. Outreach is being conducted in Spanish and English.

Air quality regulations and control measures should be based on science, practice, and in-depth knowledge of the permitting, and compliance and enforcement process. South Coast AQMD has reached out to Senator Menjivar and her staff to discuss amendments for SB 526 that would help to address issues related to aggregate recycling facilities and they are receptive to recommendations.

Rule 1157 already meets or exceeds some requirements in SB 526, such as:

- A facility/operation cannot have open piles of materials over eight feet tall if they are within 300 feet of off-site homes or other occupied buildings; and,

- If a facility within 500 meters of an off-site homes, occupied buildings or a sensitive receptor, gets three fugitive dust notices within a year, it must submit a plan within 30 days to address the issue and implement controls as soon as possible to prevent it from happening again.

South Coast AQMD is working with Senator Menjivar and her staff to improve SB 526 based on science, air quality regulatory expertise, and compliance and enforcement. Staff recommend a "Work with Author" position to ensure the Board is aware of this effort and to provide flexibility as the amendments are in development and the outcome is not yet known.

Recommended Position: WORK WITH AUTHOR

Support:
Center for Environmental Health
Cleanearth4kids.org
Climate Reality Project, San Francisco Bay Area Chapter
Climate Reality Project, San Diego Chapter
Climate Reality Project, Los Angeles Chapter
Climate Reality Project, Orange County Chapter
Climate Reality Project, San Fernando Valley Chapter
Coalition for Clean Air
Sierra Club
Union of Concerned Scientists

Opposition:
Building Owners and Managers Association of California
California Asphalt Pavement Association
California Business Properties Association
California Chamber of Commerce
California Construction and Industrial Materials Association (CAL CIMA)
California Manufacturers and Technology Association
California Retailers Association
Industrial Environmental Association
California-Nevada Conference of Operating Engineers
NAIOP of California
State Building and Construction Trades Council of California

ATTACHMENT 2F

AMENDED IN SENATE APRIL 29, 2025

SENATE BILL **No. 526**

Introduced by Senator Menjivar
(Coauthor: Senator Gonzalez)

February 20, 2025

An act to add Section 40458.7 to the Health and Safety Code, relating to air pollution.

LEGISLATIVE COUNSEL'S DIGEST

SB 526, as amended, Menjivar. South Coast Air Quality Management District: air quality.

Existing law provides for the creation of the South Coast Air Quality Management District (south coast district) in those portions of the Counties of Los Angeles, Orange, Riverside, and San Bernardino included within the area of the South Coast Air Basin, as specified. Existing law provides that the south coast district is governed by a board consisting of 13 members and requires the district to adopt rules and regulations to carry out the south coast district air quality management plan that are not in conflict with state and federal laws and rules and regulations. The south coast district has adopted the Final 2021 PM10 Maintenance Plan for the South Coast Air Basin, which includes specified air quality attainment rules, including Rule 1157 (PM10 Emission Reductions from Aggregate and Related Operations) (Rule 1157). Rule 1157 establishes performance standards and specifies operational PM10 controls for aggregate and cement operations in order to minimize particulate emissions.

This bill would require the south coast district board to update Rule 1157 to improve air quality and increase data collection. The bill would require the owner or operator of a covered facility, as defined, on or

before January 1, 2027, to take specified actions, including maintaining fencing around the entire property fenceline that is a specified height and maintaining open storage piles no taller than 8 feet high, as provided, if the covered facility is within 500 feet of a sensitive receptor. The bill would define a sensitive receptor to mean a residence, school, park, or hospital, among other, similar facilities. The bill would require, on and after July 1, 2027, (1) the owner or operator of a covered facility with a demonstrated history of PM10 emissions at or above the threshold limit set by the south coast district and whose property line is within 500 feet of a sensitive receptor to fully enclose the existing open storage piles and (2) the south coast district to inspect the covered facility monthly until PM10 emissions remain below threshold limits for 3 consecutive months. By imposing additional duties on a local entity, the bill would impose a state-mandated local program.

This bill would make legislative findings and declarations as to the necessity of a special statute for the south coast district.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that with regard to certain mandates no reimbursement is required by this act for a specified reason.

With regard to any other mandates, this bill would provide that, if the Commission on State Mandates determines that the bill contains costs so mandated by the state, reimbursement for those costs shall be made pursuant to the statutory provisions noted above.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: yes.

The people of the State of California do enact as follows:

SECTION 1. Section 40458.7 is added to the Health and Safety Code, to read:

40458.7. (a) For the purposes of this section, the following definitions apply

(1) "Covered ~~facility:~~ *facility"* means permanent and temporary aggregate operations.

(2) "Fence-line monitoring system" means equipment that measures and records air pollutant concentrations at or adjacent to a ~~permanent and temporary aggregate operation~~ *covered facility*

that can provide continuous direct reading near real time ambient monitoring of PM10 concentrations.

(3) "Sensitive receptors" means one or more of the following:

(A) A residence, including, but not limited to, a private home, apartment condominium unit, group home, dormitory unit, or retirement home.

(B) A school, including, but not limited to, a preschool, prekindergarten, or school maintaining kindergarten or any grades 1 to 12, inclusive.

(C) A daycare facility, including, but not limited to, in-home daycare.

(D) Publicly owned parks, playgrounds, and recreational areas or facilities primarily used by children.

(E) Nursing homes, long-term care facilities, hospices, convalescent facilities, or similar live-in housing.

(F) A hospital, as defined in Section 128700.

(b) Notwithstanding any other law, the south coast district board shall update Rule 1157 PM10 Emission Reductions from Aggregate and Related Operations to improve air quality and increase data collection. The updated rule shall include, but not limited to, the following:

(1) (A) On or before January 1, 2027, the owner or operator of a covered facility shall do the following:

(i) Maintain fencing around the entire property fenceline that is at least 6 inches taller than the height of the tallest open storage pile.

(ii) Maintain open storage piles no taller than 8 feet high throughout the entire property if the property line of the covered facility is within 500 feet of a sensitive receptor.

(iii) Develop, install, operate, and maintain a fence-line monitoring system in accordance with guidance developed by the south coast district.

(iv) Cease all activities and implement dust mitigation measures if PM10 emissions reach the threshold limit in accordance with guidance developed by the south coast district.

(v) Display prominent signage visible to the general public on the perimeter of the property line in accordance with guidance developed by the south coast district informing the public of the south coast district's Rule 1157, discharges that would be in

violation of the rule, and information about the south coast district's complaint submission processes.

(B) ~~–~~If the threshold limit has been met or exceeded for PM10 emissions, the owner or operator of a covered facility shall inform the south coast district in accordance with guidance developed by the south coast district.

(C) If the threshold limit has been met or exceeded for PM10 emissions, the owner or operator of a covered facility shall provide public notice in accordance with guidance developed by the south coast district.

(2) On and after July 1, 2027, the following shall apply to a covered facility with a demonstrated history of PM10 emissions at or above the threshold limit set by the south coast district and whose property line is within 500 feet of a sensitive receptor:

(A) The owner or operator of the covered facility shall fully enclose the existing open storage piles.

(B) The south coast district shall inspect the covered facility monthly until PM10 emissions remain below threshold limits for three consecutive months.

SEC. 2. The Legislature finds and declares that a special statute is necessary and that a general statute cannot be made applicable within the meaning of Section 16 of Article IV of the California Constitution because of the unique air quality concerns in the South Coast Air Basin.

~~SEC. 2.~~

SEC. 3. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because a local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act, within the meaning of Section 17556 of the Government Code.

However, if the Commission on State Mandates determines that this act contains other costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code.

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ATTACHMENT 3A

KADESH & ASSOCIATES

South Coast AQMD Report for the May 2025
Legislative Meeting covering April 2025
Kadesh & Associates

Both Chambers of Congress spent most of the month of April in their home states, after approving a budget resolution in the early part of the month. The budget resolution (H.Con.Res. 14) was approved on a party-line vote in the Senate, and by a slim margin in the House (216 Republicans voted in favor; two Republicans voted with all Democrats in opposition), and it unlocks the fast-track reconciliation process for President Trump's agenda by issuing spending and taxing instructions to both House and Senate committees. In an unusual development, however, instead of reaching consensus target numbers in this part of the process, the budget resolution advances separate House and Senate instructions. This postponed time-consuming and divisive intra-party negotiations between the House and Senate, but these issues will need to be addressed in the coming months.

Two of the primary differences in the House and Senate language:

- Tax law extension – The House has proposed to extend the 2017 tax cuts for 8 years at a cost of $4.5 trillion; the Senate wants a permanent extension of that tax law. Given the potentially insurmountable budget cost of a permanent extension, Senate leadership is planning to change the underlying budget baseline, deeming the cost of the tax cut extension to be $0. This decision will lead to a parliamentary fight; if successful, it will "free up" budget space for another $1.5 trillion in tax cuts (e.g. the President's proposal of no tax on tips).
- Spending cuts – The House wants a floor of $1.5 trillion in budget cuts; the Senate calls for $4 billion in cuts. House conservatives held out on approving the Senate budget resolution text until they received leadership promises of pursuing the higher spending cut numbers in the final bill.

House committees are already scheduling reconciliation markups for the week of April 28, so we will begin to see specific legislative text soon. Specifically, we expect Judiciary, Homeland Security, and Armed Services Committees to mark up their portions of the bill that week. Notably, each of these committees are charged with increasing spending on defense and border security. Other committees – with more complicated tasks – have not scheduled their markups. This will continue to play out all summer and will be very contentious, with several Inflation Reduction Act programs in the crosshairs. In addition, the reconciliation bill will likely carry a debt ceiling increase; we will likely hear from the Treasury Department soon with an estimate of the last date (the "X Date") for Congress to act on the debt limit.

<u>Other Congressional Priorities</u>

In late April we expect the House to begin consideration of Congressional Review Act resolutions to reverse the EPA's approval of California's Clean Air Act waivers issued under President Biden. Both the Government Accountability office and the Senate Parliamentarian have indicated that the Congressional Review Act process does not apply to the California waivers, so we are in uncharted waters as the House forges ahead.

The President's FY26 budget request may be released around the week of May 20. Prior to that, there may be a "skinny" budget that would allow FY26 appropriations hearings to begin in earnest. In addition to a reduction in discretionary spending from FY25 levels, we are also expecting a "recissions" package to accompany the President's budget, which could formalize budget cuts across agencies. This will be an ongoing and contentious process.

The House Transportation & Infrastructure Committee has been soliciting stakeholder input in the surface transportation reauthorization process. While the Bipartisan Infrastructure Law does not expire until the end of next year, Chairman Graves – who is in his last term as chair – has been aggressive in soliciting input and support for finishing a bill during this Congress. It is unclear if he has leadership's support for this effort and the early attempts at stakeholder investment are likely an effort to develop support for a robust bill.

Kadesh & Associates Activity Summary-

-Worked with South Coast AQMD and the congressional delegation on funding implications of Executive Orders and agency directives, as well as resolution of FY25 appropriations.

Contacts: Contacts included staff and Members throughout the CA delegation, Senate offices, and members of key committees.

ATTACHMENT 3B

Carmen Group
INCORPORATED

To: South Coast AQMD Legislative Committee

From: Carmen Group

Date: April 22, 2025

Re: Federal Update -- Executive Branch

Reconciliation: In April, both the House and Senate adopted identical Budget Resolutions on narrow party line votes setting the stage for Congress to consider the budget reconciliation bill this summer. The reconciliation bill will extend the 2017 Trump tax cuts, provide additional funding to the border and the military, raise the debt limit, and cut $1.5 trillion of federal programs and services over a 10-year period. Each Committee now has final instructions to craft their portion of the reconciliation bill. Committee hearings and markups expected to begin the first week of May.

Appropriations: While the President has yet to release his FY 26 Budget request to Congress, both the House and Senate Appropriations Committees have started their work on their FY 26 appropriations bills by releasing guidance to Congressional Members on Congressionally Directed Spending requests (earmarks). The President's budget is expected to be released in May and will be followed by congressional hearings with Department and Agency leadership.

Trump Executive Actions

Here are quick summaries of several relevant executive actions issued in April:

Permitting: Directed federal agencies to use technology to expedite environmental reviews and permits to speed completion of federal infrastructure projects. Directed the establishment of a "Permitting Innovation Center" at CEQ for all NEPA and other federal environmental reviews. Directed heads of CEQ, NEDC and other agencies to issue a "Permitting Technology Action Plan" with a roadmap/timeline for agency permitting.

Deregulation: Directed the expedited repeal of all "facially unlawful" existing regulations deemed to be in violation of recent Supreme Court decisions (such as the Loper Bright Chevron decision) delineating separation of powers between the executive and legislative branches.

Standards for Hazardous Air Pollutants: Exempted coal power plants from stricter emissions standards under the amended Mercury and Air Toxics Standards (MATS).

State "Overreach": Directed the Attorney General to identify and challenge state and local laws and regulations addressing such issues as "climate change," "ESG," "GHG," "environmental justice," or "carbon penalties/taxes".

Environmental Protection Agency

EPA Moves to Ensure States Not Punished by Foreign Air Pollution: In April, the EPA announced it is rescinding an agency directive (Guidance on the Preparation of Clean Air Act Section 179B Demonstrations for Nonattainment Areas Affected by International Transport of Emissions) that made it unnecessarily difficult for states to demonstrate foreign air pollution is harming Americans within their borders. The EPA said it intends to work with state and local air agencies to help grant states regulatory relief under CAA Section 179B.

EPA Questions Private Entity Launching Sulfur Dioxide into the Air: In April, the EPA submitted a demand for information from a start-up company called "Make Sunsets" which is launching balloons filled with sulfur dioxide (SO2) into the atmosphere that they say is an effort to geoengineer the planet and generate "cooling" credits to sell. The EPA Administrator noted that SO2 is a regulated criteria pollutant and that the EPA has an obligation investigate this issue to ensure clean air for all Americans.

Department of Energy

DOE Seeks Comments on Conservation Standards for Products and Equipment: In April, the Department of Energy (DOE) issued a Request for Information (RFI) seeking public input on improving the process to develop energy conservation standards and test procedures for consumer products commercial and industrial equipment. The Department says it seeks to ensure that regulatory rulemakings for light bulbs, gas stoves, water heaters, and a host of other vital products are improved and consistent with prioritizing choice and affordability for the American consumer.

Department of Transportation

DOT Rescinds Biden Greenhouse Gas Rule: In April, the Department of Transportation rescinded the Biden-rea Greenhouse Gas Performance Measure rule that required state transportation departments to measure and establish declining targets for carbon dioxide emissions on federally-funded highways.

DOT Ends Biden Grant for Texas High-Speed-Rail Project: In April, DOT terminated a $63.9 million Biden-era Federal Railroad Administration grant awarded to Amtrak for the Dallas-Houston high-speed-rail project.

Outreach: During April, Carmen Group was in touch with Senate committee staff on issues including California waivers, federal budget, appropriations and reconciliation.

ATTACHMENT 3C

CASSIDY | ASSOCIATES

To: South Coast Air Quality Management District
From: Cassidy & Associates
Date: April 22, 2025
Re: April Report

HOUSE/SENATE

Congress

The House and Senate are on a two-week recess and will return to session on April 28. Before leaving town, the House narrowly passed a budget resolution, a compromise between the House and Senate versions, with two Republicans joining Democrats to vote against the measure. The resolution passed after tense negotiations between Speaker Johnson and hardline conservatives who wanted to see more spending cuts. Johnson committed to including $1.5 trillion in cuts in the final package. The adopted resolution aims to raise the debt limit, extend the 2017 Trump tax cuts, appropriate additional border funding, and enact energy policy changes. When Congress returns, Committees will take up the next step in the reconciliation process.

On April 9, the Senate Environment and Public Works Committee advanced two nominations for the Environmental Protection Agency: Jessica Kramer as the Assistant Administrator for Water and Sean Donahue as General Counsel. Donahue was criticized for his lack of experience during the Committee hearing but was ultimately favorably reported.

EPA

The Environmental Protection Agency (EPA) has reportedly ordered the elimination of the Greenhouse Gas Reporting Program (GGRP) that requires thousands of power plants, oil refineries, cement factories and other large industrial facilities to publicly report their

greenhouse gas emissions. Currently, about 8,000 industrial plants are required to annually report their emissions of carbon dioxide, methane, and nitrous oxide. Under the new plan, only certain oil and gas facilities will still be required to report their annual emissions. Environmental non-profit organizations and industry leaders argued that cutting the GGRP aligns with the Trump Administration's broader plan to eliminate climate change studies, research, and discussion. Read more here.

On April 8, EPA Administrator Lee Zeldin released a statement in response to President Trump's Executive Order that intends to reinvigorate the American coal industry. In the statement, Zeldin reaffirmed the agency's commitment to empowering different forms of domestic energy to drive down costs, increase domestic energy supply, and improve grid security while protecting human health and the environment. Zeldin stated that President Trump's executive orders will lower the cost of living and promote national security while providing an abundance of energy for emerging technology such as AI data centers and to meet increased needs from the resurgence of American manufacturing. Read more here.

On April 1, the EPA announced plans to consolidate its Washington, D.C. office space, eliminating 323,000 square feet. The changes are expected to save $18 million in annual lease costs. EPA will release the space to the General Services Administration (GSA) by the end of the fiscal year and utilize the savings to improve the infrastructure of its other buildings. Administrator Zeldin stated that the changes will still allow enough space for staff to return to in-person work while improving the work environment. Read more here.

On March 18, the EPA announced that Josh F.W. Cook has been appointed as EPA's Region 9 Administrator, covering California. Before joining the EPA, Cook was an Advisor to the Tribal Council of the Mooretown Rancheria of Concow Maidu Indians. He has also served as Chief of Staff to the Minority Caucus in the California Legislature. His previous environmental service includes appointments to the U.S. Department of Agriculture and Department of Interior Resource Advisory Councils and tenure as a City Planning Commissioner. He is a veteran of the California State Guard and an associate professor at the University of Southern California. Read more here.

Cassidy and Associates support in April:

- Updated AQMD staff on proposed EPA program cuts.
- Provided background on April 8 and 9 Executive Orders impacting energy and environmental regulations.
- Provided guidance on FY 26 appropriation language re: alternative fuels research related to locomotives.

- Continued conversations on permitting reform efforts in Congress and the Administration.
- Worked with SCAQMD staff to strategize on future DC outreach and plan for DC visits.
- Advised SCAQMD throughout appropriations cycle to identify and pursue funding opportunities.
- Participated in weekly strategy sessions with SCAQMD staff.

IMPORTANT LEGISLATIVE DATES

September 30, 2025: Deadline to fund the federal government.

September 30, 2025: The Farm Bill, an omnibus package of legislation that supports US agriculture and food industries, expired in 2023. The bill is reauthorized on a five-year cycle.

December 31, 2025: National Defense Authorization Act, which authorizes and funds specialized Department of Defense (DoD) programs and sets the DoD's policy agenda each year.

ATTACHMENT 4A

Joe A. Gonsalves & Son
Anthony D. Gonsalves
Jason A. Gonsalves
Paul A. Gonsalves
PROFESSIONAL LEGISLATIVE REPRESENTATION
925 L ST. · SUITE 250 · SACRAMENTO, CA 95814-3766
916 441-0597 · FAX 916 441-5061
Email: gonsalves@gonsalvi.com

TO: South Coast Air Quality Management District

FROM: Anthony, Jason & Paul Gonsalves

SUBJECT: Legislative Update – April 2025

DATE: Tuesday, April 22, 2025

The month of April is when Sacramento gets into full swing. Although the Legislature took a weeklong break for Spring Recess, once they returned, policy committee's started to hear the almost 2500 new bills introduced this year. The Legislature has until May 9th to get all bills out of policy committee and until June 9th to pass bills out of their house of origin. Simultaneously, budget negotiations are continuing between the Assembly, Senate and the Administration with the Governor set to release his May Revise by May 10th and the Legislature to adopt a full budget by June 15th.

The following will provide you with updates of interest to South Coast AQMD:

63RD ASSEMBLY DISTRICT SPECIAL ELECTION

On April 1, Assemblymember Bill Essayli announced he was resigning his seat in the 63rd Assembly District, which covers the Riverside area. Assemblymember Essayli was appointed as the U.S. Attorney for the Central District of California.

Assemblymember Essayli's departure will trigger a special election this year. Governor Newsom had 14 days after the vacancy to call a special election, which is set for August 26, 2025. The race will start with a special primary, followed by a special general election if no candidate gets a majority of the vote.

The day after he stepped down, Assemblymember Essayli endorsed Lake Elsinore Councilmember Natasha Johnson to succeed him.

CAP-AND-TRADE

On April 15, Governor Newsom, alongside Senate President pro Tempore Mike McGuire and Assembly Speaker Robert Rivas, announced plans to pursue an extension of California's cap-and-trade program during this legislative year. The program is currently set to expire in 2030. Extending it now, as highlighted in the Governor's proposed budget,

would provide market stability, draw continued investment, and solidify California's path toward achieving its 2045 carbon neutrality goal. The program's renewal gains urgency as federal climate support faces uncertainty, particularly in light of opposition from the Trump Administration.

Over the past decade, the cap-and-trade program has driven $28 billion in climate-focused investments across California and reduced emissions equivalent to removing 80% of the state's vehicles from the road. Simultaneously, California has demonstrated that environmental action and economic growth can coexist, cutting emissions by 20% since 2000 while growing its GDP by 78%. Specifics of the proposed extension are expected to be released in the coming weeks.

ELECTRIC BIKE VOUCHERS

On April 10, The CARB announced they are reopening the California E-Bike Incentive Project application window, offering up to $2,000 for income-eligible residents to purchase a new electric bike (e-bike). The first round in December 2024 saw overwhelming demand, with nearly 100,000 people queuing online and all 1,500 applications reserved in under an hour. This strong interest underscores the growing need for affordable zero-emission transportation alternatives across the state.

CARB Executive Officer, Dr. Steven Cliff, emphasized that the surge in demand highlights both the appeal and importance of e-bikes in achieving the state's climate and transportation equity goals. In this new round, CARB will distribute $2 million in funding—enough for approximately 1,000 randomly selected applicants—to ensure fair access. Those interested must meet income requirements and join a virtual waiting room between 5 p.m. and 6 p.m. on April 29 to be placed in a randomized queue.

To ensure equity and accessibility, CARB is continuing its partnership with over 20 community-based organizations. These groups will help underserved and low-income applicants navigate the application process, especially those who face challenges like limited internet access or digital literacy. This outreach is essential to support communities that are often left out of new transportation programs and technologies.

Once selected, participants can redeem their e-bike voucher at participating retailers. The California Legislature funds this initiative to make clean, low-cost transportation more accessible and to help reduce greenhouse gas emissions by encouraging people to replace short car trips with e-bike travel. Developed through a broad public engagement process, the program aligns with CARB's mission to ensure a just transition to a zero-emissions future, particularly for California's most vulnerable populations.

2025 LEGISLATIVE DEADLINES

May 2: Last day for policy committees to hear and report to fiscal committees' fiscal bills introduced in their house

May 9: Last day for policy committees to hear and report to the Floor nonfiscal bills introduced in their house

May 16: Last day for policy committees to meet prior to June 9

May 23: Last day for fiscal committees to hear and report to the Floor bills introduced in their house. Last day for fiscal committees to meet prior to June 9

June 2-6: Floor Session only. No committee may meet for any purpose except Rules Committee, bills referred pursuant to A.R. 77.2, and Conference Committees

June 6: Last day for each house to pass bills introduced in that house

June 9: Committee meetings may resume

June 15: Budget bill must be passed by midnight

July 18: Last day for policy committees to hear and report bills

Aug. 29: Last day for fiscal committees to hear and report bills to the Floor

Sept. 2-12: Floor session only. No committees may meet for any purpose, except Rules Committee, bills referred pursuant to Assembly Rule 77.2, and Conference Committees

Sept. 5: Last day to amend on the Floor

Sept. 12: Last day for each house to pass bills. Interim Recess begins upon adjournment

ATTACHMENT 4B

RESOLUTE

South Coast Air Quality Management District

Legislative and Regulatory Update -April 2025

- **Important Upcoming Dates**

  May 14, 2025 – Last Day for Governor to Submit May Revision to the Proposed Budget Act
  May 22, 2025- Appropriations Suspense Hearing

- **RESOLUTE Actions on Behalf of South Coast AQMD.** RESOLUTE partners David Quintana, and Alfredo Arredondo continued their representation of South Coast AQMD before the State's Legislative and the Executive branch. Selected highlights of our recent advocacy include:

  - Provided ongoing updates as the policy committees have been hearing bills.
  - Followed up on bills for the 2025 legislative session, including for South Coast AQMD sponsored legislation.
  - Arranged meetings with key legislators on behalf of South Coast AQMD.

- **AB 907 (Chen).** Assemblymember Philip Chen has introduced AB 906, sponsored legislation for South Coast AQMD dealing with the inequity of pay for air district board members appointed to serve on the CA Air Resources Board.

  AB 907 was heard in Assembly Natural Resources Committee on April 7 and Passed.
  Ayes: 14
  Noes: 0
  Abstained: 0

  Subsequently, the bill was placed on the Assembly Appropriations Suspense File.

- **AB 1106 (Rodriguez).** Assemblymember Michelle Rodriguez has introduced AB 1106 which is sponsored legislation for South Coast AQMD to establish Office of Emergency Management centers to support response to crisis impacting air quality and public health in Southern, Central and Northern California. The OEMs would provide technical and communications infrastructure to support emergency response including, but not limited to, air monitoring, data collection and analysis, publishing data, integration into Unified Command and/or Joint Information Center, and other related activities. The bill would provide funding to plan, construct, and equip OEMs as well as on-going administrative funding to support readiness and implementation during crisis.

  AB 1106 will be heard in the Assembly Natural Resources Committee on April 28.

ATTACHMENT 4C

South Coast AQMD, Legislative Committee Report
Buckley Government Affairs LLC
May 9, 2025

Legislative Session Update

The Legislature adjourned for Spring Recess on April 10th and reconvened on April 21st. While the break offered a brief pause in formal legislative activity, significant work continued behind the scenes. Legislators, staff, and stakeholders used this time to negotiate and refine bill language in preparation for the next phase of the legislative process. This recess fell between two particularly demanding periods in Sacramento, with committee hearings often extending late into the evening. These extended sessions were driven by the fast-approaching May 2nd deadline to move fiscal bills to their respective Appropriations Committees.

On April 15th, Governor Newsom, Senate President pro Tempore Mike McGuire, and Assembly Speaker Robert Rivas announced their intent to pursue an extension of California's cap-and-trade program during the current legislative session. The program, which is set to expire in 2030, requires legislative action to continue beyond that date.

The announcement follows recent criticism from the Trump Administration targeting California's climate policies. Since its inception, the cap-and-trade program has generated $28 billion in investments statewide over the past decade and has reduced carbon emissions equivalent to removing 80% of the state's vehicles from the road.

Budget Update

On April 14th, the Governor signed AB 100, the early action budget bill that the Legislature passed prior to their recess. Key provisions of the bill include the appropriation of $2.8 billion to cover additional Medi-Cal program costs, the allocation of $181 million in Proposition 4 wildfire prevention and forest resilience bond funds to various Conservancies statewide and provided additional funding for the Clean Cars 4 All Program.

Preliminary General Fund agency cash receipts were $144 million, or 0.9 percent, below the Governor's Budget forecast in March, and $4.4 billion, or 3.3 percent, above the fiscal year-to-date forecast. The fiscal year-to-date overage was the result of higher receipts from personal income tax, which is partially offset by lower-than-expected corporation tax (down $235 million) and sales tax receipts (down $326 million).

Election Update

On April 1st, Assemblymember Bill Essayli resigned from the Legislature following his appointment as United States Attorney for the Central District of California. In response, Governor Newsom issued a proclamation on April 14th calling a special election to fill the vacancy in Assembly District 63, scheduled for August 26, 2025.

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 23

REPORT: Stationary Source Committee

SYNOPSIS: The Stationary Source Committee held a hybrid meeting on Friday, May 16, 2025. The following is a summary of the meeting.

RECOMMENDED ACTION:
Receive and file.

Larry McCallon,
Committee Chair
Stationary Source Committee

JA:reh

Committee Members

Present**:** Mayor Pro Tem Larry McCallon, Committee Chair
Supervisor Holly J. Mitchell, Committee Vice Chair
Vice Chair Michael A. Cacciotti
Supervisor Curt Hagman
Board Member Veronica Padilla-Campos

Absent**:** Chair Vanessa Delgado

Call to Order

Committee Chair McCallon called the meeting to order at 9:00 a.m.

For additional information of the Stationary Source Committee Meeting, please refer to the Webcast.

Roll Call

INFORMATIONAL ITEMS:

1. **Update on Proposed Amended Rule 462 – Organic Liquid Loading**
   Michael Morris, Planning and Rules Manager, Planning, Rule Development and Implementation, presented an overview of Proposed Amended Rule 462. For additional details please refer to the Webcast beginning at 00:03:10.

   Vice Chair Cacciotti asked about the emissions inventory and noted that the emissions would be cut in half. Mr. Morris stated that the emission inventory was approximately 0.5 tons per day but added that some facilities already meet the new proposed emission control requirement reducing actual emission reductions. Mr. Morris explained that Proposed Amended Rule 462 will be submitted into the State Implementation Plan so the region will get credit for the emission reductions.

   Supervisor Hagman commented about more investment in technology for traffic synchronization and if there will be a monitoring center for that data or conversations with local governments to integrate their systems on a larger scale. Executive Officer Nastri noted work with UC Riverside and suggested a follow-up at a future technology committee meeting.

   For additional details please refer to the Webcast beginning at 00:06:46.

   There was no public comment.

2. **Update on Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters**
   Heather Farr, Planning and Rules Manager, Planning, Rule Development and Implementation, provided an overview of Proposed Amended Rules 1111 and 1121. For additional details, please refer to the Webcast beginning at 00:12:05.

   Committee Chair McCallon inquired if the proposed rules apply to apartment complexes and noted that at least one manufacturer suggested current local sales to be 15 percent for zero- and 85 percent for NOx-emitting units. Staff responded that depending on the unit size, individual units in apartment complexes may be subject to proposed rules and the first sales target is around what is being achieved statewide. Committee Chair McCallon asked for clarification on the "over the target" fee, installation costs, and amount of expected installations each year, and expressed support to conduct the Public Hearing in June.

   Supervisor Mitchell inquired if it is typical to have a severability provision in a rule and emphasized the beneficial health impacts of the proposed rules. Barbara Baird, Chief Deputy Counsel, responded that adding a severability provision is not a legal

obligation but helps protect the integrity of the rule in case of a lawsuit. Supervisor Mitchell expressed support to conduct the Public Hearing in June.

Vice Chair Cacciotti inquired if the proposed rules apply to schools and asked staff to work closely with local organizations such as the Clean Power Alliance and local cities to coordinate incentive funding. Vice Chair Cacciotti also asked about the commenters' claim that heat pump upgrades would cost $47,000 per household as well as the monetized health benefit from the proposal. Ms. Farr responded that the proposed rules may apply to a small school if operating a residential-sized unit and staff is continuing to coordinate with other local utility agencies on incentives for heat pumps. Michael Krause, Assistant Deputy Executive Officer, Planning, Rule Development and Implementation explained that the high upgrade cost being cited is based on one cost data point that is an outlier where the installation was difficult and does not reflect typical installation costs. Extreme cost situations is one of the reasons staff revised the proposed rule concept to allow for the sale of NOx-emitting units. Dr. Sarah Rees, Deputy Executive Officer, Planning, Rule Development and Implementation also explained that our agency regulates ambient air pollution, and the estimated monetized health benefit is about 25 billion dollars for these rules.

For additional details please refer to the Webcast beginning at 00:31:10

The following commenters supported the proposed rules. Commenters suggested zero-emission technologies are feasible, higher mitigation fees would strengthen the rules, implementing an alternative compliance option including tracking sales and determining fees are manageable for manufacturers, requested no further delay, emphasized the importance of emission reductions for public health, and the necessity to fund the Go Zero Incentive Programs to assist in transitioning to zero-NOx emission units.

Chris Chavez, Coalition for Clean Air
Fernando Gaytan, Earthjustice
Michael Rochmes, US Green Building Council
David Martinez, Climate Action Campaign
Ayn Craciun, Climate Action Campaign
Jed Holtzman, RMI
Tony Sirna, Evergreen Action
Cynthia Herrera, Green and Healthy Homes Initiative
Jennifer Cardenas, Sierra Club

Jessilyn Davis, representing SoCal Gas, voiced opposition to the proposed 30 percent zero-NOx emission sales target for 2027, claiming the sales of electric appliances are currently at 15 percent, consumers will pay more, and the State Implementation Plan credit will not be received, so should just allow gas appliances.

Michael Corbett at Bradford White suggested having a flat mitigation fee instead of a tiered fee structure.

For additional details please refer to the Webcast beginning at 00:39:17.

WRITTEN REPORTS:

3. **Monthly Permitting Enhancement Program (PEP) Update**
   Committee Chair McCallon appreciated staff's work on making the PEP report easier and clearer to understand. For additional details please refer to the Webcast beginning at 01:06:20.

4. **Monthly Update of Staff's Work with U.S. EPA and CARB on New Source Review Issues for the Transition of RECLAIM Facilities to a Command-and-Control Regulatory Program**
   The report was acknowledged by the committee.

5. **Notice of Violation Penalty Summary**
   The report was acknowledged by the committee.

OTHER MATTERS:

6. **Other Business**
   There was no other business to report.

7. **Public Comment Period**
   There were no public comments to report.

8. **Next Meeting Date**
   The next Stationary Source Committee meeting is scheduled for Friday, June 20, 2025.

Adjournment

The meeting was adjourned at 10:05 a.m.

Attachments

1. Attendance Record
2. Monthly Permitting Enhancement Program (PEP) Update
3. Monthly Update of Staff's Work with U.S. EPA and CARB on New Source Review Issues for the Transition of RECLAIM Facilities to a Command-and-Control Regulatory Program
4. Notice of Violation Penalty Summary

ATTACHMENT 1

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
STATIONARY SOURCE COMMITTEE
Attendance – May 16, 2025

Councilmember Cacciotti	South Coast AQMD Board Member
Supervisor Curt Hagman	South Coast AQMD Board Member
Mayor Pro Tem Larry McCallon	South Coast AQMD Board Member
Supervisor Holly J. Mitchell	South Coast AQMD Board Member
Board Member Veronica Padilla-Campos	South Coast AQMD Board Member
Laura Muraida	Board Consultant (Mitchell)
Jennifer Cardenas	Sierra Club
Chris Chavez	Coalition for Clean Air
Michael Corbett	Bradford White Corporation
Ayn Craciun	Climate Action Campaign
Jessilyn Davis	SoCal Gas
Fernando Gaytan	Earthjustice
Cynthia Herrera	Green and Healthy Homes Initiative
Jed Holtzman	RMI
David Martinez	Climate Action Campaign
Michael Rochmes	US Green Building Council
Tony Sirna	Evergreen Action
Jason Aspell	South Coast AQMD staff
Barbara Baird	South Coast AQMD staff
Cindy Bustillos	South Coast AQMD staff
Roula El Hajal	South Coast AQMD staff
Heather Farr	South Coast AQMD staff
Scott Gallegos	South Coast AQMD staff
Bayron Gilchrist	South Coast AQMD staff
De Groeneveld	South Coast AQMD staff
Sheri Hanizavareh	South Coast AQMD staff
Anissa (Cessa) Heard-Johnson	South Coast AQMD staff
Aaron Katzenstein	South Coast AQMD staff
Angela Kim	South Coast AQMD staff
Michael Krause	South Coast AQMD staff
Howard Lee	South Coast AQMD staff
Jason Low	South Coast AQMD staff
Terrence Mann	South Coast AQMD staff
Ian MacMillan	South Coast AQMD staff
Michael Morris	South Coast AQMD staff
Ron Moskowitz	South Coast AQMD staff
Ghislain Muberwa	South Coast AQMD staff
Susan Nakamura	South Coast AQMD staff
Wayne Nastri	South Coast AQMD staff

ATTACHMENT 1

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
STATIONARY SOURCE COMMITTEE
Attendance – May 16, 2025

Sarah Rees ..... South Coast AQMD staff
Alberto Silva .....South Coast AQMD staff
Lisa Tanaka .....South Coast AQMD staff
Jillian Wong .....South Coast AQMD staff

Monthly Permitting Enhancement Program (PEP) Update
South Coast AQMD
Stationary Source Committee – May 16, 2025

Background

At the February 2, 2024 Board meeting, the Board directed staff to provide monthly updates to the Stationary Source Committee to report progress made under the Permitting Enhancement Program (PEP). The Chair's PEP initiative was developed to enhance the permitting program and improve permitting inventory and timelines. This report provides a summary of the pending permit application inventory, monthly production, and other PEP related activities.

Summary

Pending Permit Application Inventory

The permitting process consists of a constant stream of incoming applications and outgoing application issuances, rejections, and denials. The remainder of the applications are considered the pending application inventory. The inventory consists of applications that are being prescreened prior to being accepted, workable applications, and non-workable applications. Non-workable means that staff are unable to proceed with processing an application because it is awaiting actions to address various regulatory requirements or deficiencies. As an example, after staff issues a Permit to Construct to a facility, staff must wait for the facility to construct and test the equipment prior to issuing a final Permit to Operate. Once a final Permit to Operate is issued, the permit application is removed from the pending application inventory. Other examples include facilities that may be in violation of rules and cannot be permitted until a facility achieves compliance, staff awaiting additional information from facilities, or facilities that have not completed the CEQA process for their project. During the life of an application, it may switch several times between being workable and non-workable as actions are taken by facilities and staff. Attachment 1 contains more detailed descriptions of the categories of non-workable permit applications. Figure 1 below provides monthly snapshots of the pending application inventory from this month and last month.

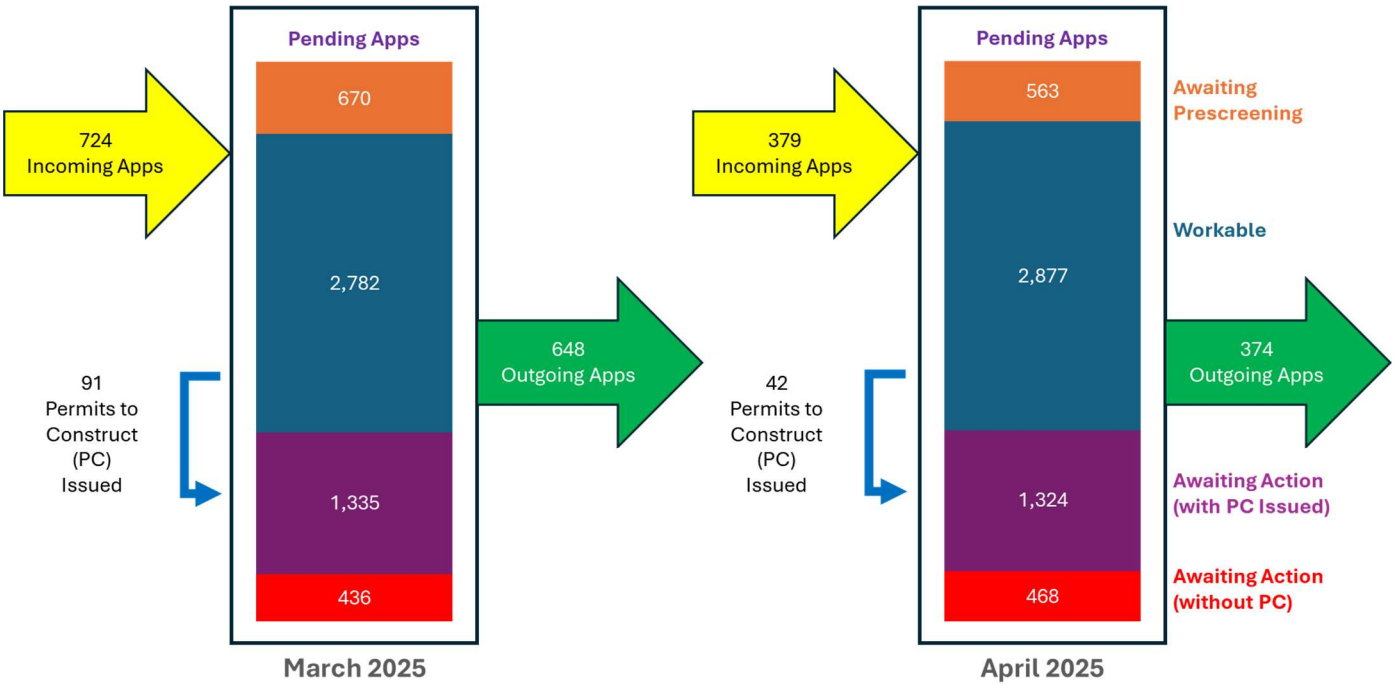

Figure 1: Application Processing Workflow – March and April 2025

Table 1 below lists the categories included in Awaiting Action (Non-Workable) for the last month. Please note that Table 1 provides a snapshot of data and applications may change status several times before final action. Multiple categories may apply to a single application, so the category totals in Table 1 may exceed the number of applications in Figure 1.

Table 1: Awaiting Action (Non-Workable) Application Category Summary

Awaiting Action (Non-Workable) Categories*	Without PC Issued			With PC Issued		
	Feb 2025	Mar 2025	Apr 2025	Feb 2025	Mar 2025	Apr 2025
Additional Information from Facility	282	235	284	23	26	24
CEQA Completion	29	29	30	-	-	-
Completion of Construction	1	-	-	1,162	1,192	1,190
Facility Compliance Resolution	22	28	20	-	-	-
Facility Draft Permit Review	63	43	29	-	-	-
Fee Payment Resolution	4	3	2	-	-	-
Other Agency Review	73	40	44	3	3	4
Other Facility Action	-	-	3	1	1	1
Other South Coast AQMD Review	-	-	-	-	-	-
Public Notice Completion	21	34	56	-	-	-
Source Test Completion	22	26	22	115	113	105

*Please see Attachment 1 for more information on these categories.

Not reflected in Figure 1 are an additional 63 applications processed through the online permitting system, which did not impact the permit application inventory. Staff has automated the permitting process for certain equipment allowing staff to focus their efforts on other permit applications. These 63 permit completions are reflected in Figure 2 below.

Since outgoing applications (green arrow) plus permits to construct issued (blue arrow) were lower than prescreened applications plus incoming applications (yellow arrow) this month, the number of workable applications in the inventory increased. When applications are accepted through the pre-screening process, they typically become workable applications. For April, due to the calendar layout, only four weeks of data are captured, which results in lower incoming and outgoing monthly numbers. For more detailed information the past Monthly PEP Updates may be accessed in Attachment 2.

The inventory of Awaiting Action applications has steadily increased. Most of the Awaiting Action applications have a Completion of Construction status. From March 2024 to April 2025, staff issued many Permits to Construct, thereby increasing the Completion of Construction status from 770 to 1,190, including 42 Permits to Construct issued in March. Staff must wait for construction of the equipment to be completed prior to moving forward on these applications.

The rate of incoming applications is unpredictable and is dependent on business demands and the economic climate, as well as South Coast AQMD rule requirements. Maintaining the average production rate of outgoing applications greater than average rate of incoming applications is key to reducing the pending application inventory until a manageable working inventory is established. Typically, a spike in incoming applications occurs in June each year due to the permit application fee increases on July 1. This typically results in a temporary swell in the inventory as more time is needed to address the surge of permit applications.

Maintaining a low vacancy rate with trained and experienced permitting staff is the biggest factor in maintaining high production and reducing the pending application inventory. In addition, data and analysis showed that addressing vacancies at the Senior and Supervising AQ Engineers was vital since these positions are the review and approval stages of the permitting process.

Production

Prior to staff retirements, permit production levels in 2020 were typically above 500 completions per month. Prior to PEP implementation, high vacancy rates resulted in decreased permit completions. Lower production rates nearing 400 completions per month occurred as the vacancy rate peaked. As the vacancies have been reduced and staff have been trained, production has increased. Figure 2 below shows a rolling 12-month average of application completions and the monthly production for the last six months. For most of the last year, increased monthly production levels (orange circles) are raising the rolling 12-month production averages (black line) in the chart below as compared to the period before PEP. The rolling 12-month average includes the monthly totals from the last year to visualize the trend over time, as production in individual months often fluctuates (in addition to fluctuations in incoming application submittals). The current rolling 12-month average production rate is 499

completions per month. A higher rolling 12-month average will indicate sustained higher production levels. These higher production levels will begin to reduce the pending application inventory and improve permit processing times. A new fiscal year (FY) goal was set to increase production by 500 completions as compared to 2023. This equates to a soft target of 489 completions per month. The red line in Figure 2 shows this new fiscal year goal. Staff will continue to balance production to meet the FY goal as well as address aged applications awaiting Permits to Construct.

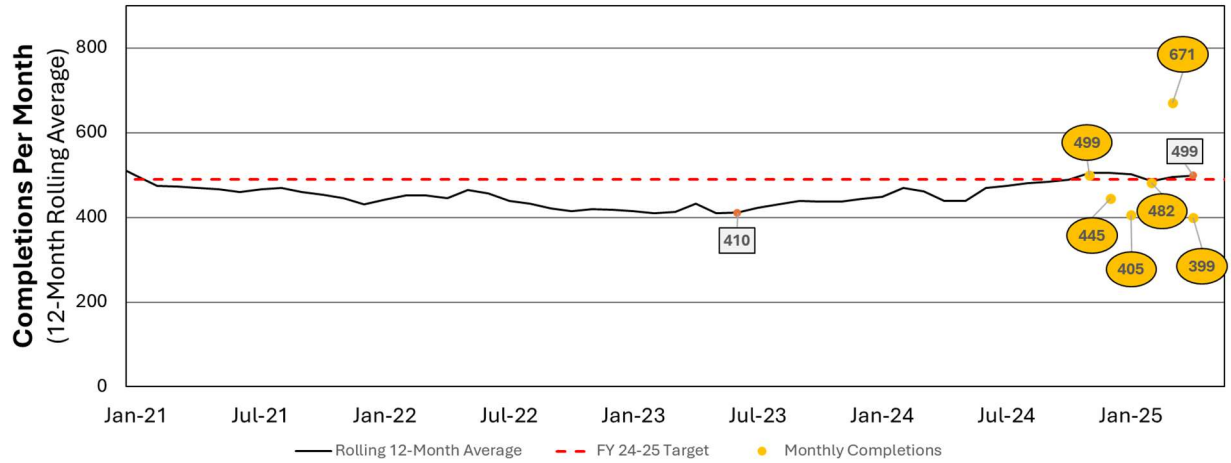

Figure 2: Application Completions - Rolling 12-Month Average and Recent Six Months

Production began to increase in the second half of 2023 as substantial promotions and hiring occurred. New engineering staff were trained and production increased over several months. As staff become more experienced in their duties, they can process more complex projects and become more efficient. Average production is stabilizing at the new increased levels.

Engineering & Permitting (E&P) Vacancy Rate

The current E&P vacancy rate is 13.4%. The minimum target vacancy rate for PEP is 10%. When PEP was first announced, the E&P vacancy rate was greater than 20%. Multiple E&P staff retired in March, which increased the vacancy rate. These retirements were anticipated, and a recruitment of engineers was timed to coincide with the retirements and is nearing completion. New engineers are expected to onboard in 2Q 2025 to reduce the vacancy rate.

Key Activities

- Staff hosted a Permitting Working Group meeting with an open discussion to discuss the Certified Permitting Professional (CPP) program and potential enhancements under PEP.
- Interviews for the Air Quality Engineer recruitment continued in April.

Upcoming Meetings:

- A Permit Streamlining Task Force meeting is tentatively scheduled for July 2025.
- The Best Available Control Technology (BACT) Scientific Review Committee meeting is targeted for early June.
- Staff met the FY 2024-2025 goal of conducting at least six public meetings. Staff will continue this goal for next FY.

Attachment 1

Explanation of Non-Workable Application Statuses

Workable applications are those applications where staff have the required information to process the permit application.

Non-workable applications are those applications where the application process has been paused while staff are awaiting the resolution of one or more related tasks or where the permit cannot be issued.

Description of Non-Workable/Awaiting Action Terms

Additional Information from Facility
During permit processing staff may need additional information from a facility that was not included in the original permit application package or a change of scope of the proposed project. Additional information may include items regarding materials used in the equipment (such as toxics), equipment information, or other items to perform emission calculations or determine compliance for the proposal in the application.

CEQA Completion
Prior to issuing permits, CEQA requirements are required to be evaluated and completed. South Coast AQMD can either be the Lead Agency that certifies or approves the CEQA document or the Responsible Agency that consults with the Lead Agency (typically a land use agency) on the CEQA document.

Completion of Construction
After a Permit to Construct is issued, the permit application file remains in the pending application inventory. Staff must wait for the facility to complete construction prior to completing other compliance determination steps before the permitting process can continue. Typically, a Permit to Construct is valid for one year, but it may be extended for various reasons if the facility demonstrates they are making increments of progress. For some large projects, construction may take years while the permit application remains in the pending application inventory.

Facility Compliance Resolution
Prior to issuing permits the affected facility must demonstrate compliance with all rules and regulations [Rule 1303(b)(4)]. Prior to the issuance of a Permit to Construct, all major stationary sources that are owned or operated by, controlled by, or under common control in the State of California are subject to emission limitations must demonstrate that they are in compliance or on a schedule for compliance with all applicable emission limitations and standards under the Clean Air Act. [Rule 1303(b)(2)(5)].

Facility Draft Permit Review
If a facility requests to review their draft permit, staff provides the facility a review period prior to proceeding with issuance. During the review period, staff do not perform any additional evaluation until feedback from the facility is received. Some projects include several permits or large facility permit documents which may take a substantial time to review.

Fee Payment Resolution

Prior to issuing permits, all fees must be remitted, including any outstanding fees from associated facility activities including, but not limited to, annual operating and emission fees, modeling or source testing fees, and permit reinstatement fees.

Other Agency Review

The Title V permitting program requires a 45-day review of proposed permitting actions by U.S. EPA prior to many permitting actions. During the review period, staff are unable to proceed with permit issuance. If U.S. EPA has comments or requests additional information, the review stage may add weeks or months to the process before staff can proceed with the project.

For Electricity Generating Facilities (Power Plants), CEC may provide a review of proposed permits prior to issuance.

Other Facility Action

Prior to issuing a permit, a facility may need to take action to address deficiencies or take steps to meet regulatory requirements. This may include acquiring Emission Reduction Credits after staff notifies a facility the project requires emissions to be offset, performing an analysis for Best Available Control Technology requirements, or conducting air dispersion modeling.

Other South Coast AQMD Review

Prior to proceeding with a permit evaluation, permit engineering staff may require assistance and support from other South Coast AQMD departments. For example, IM support for electronic processing due to unique or long-term project considerations or to complete concurrent review of separate phases or integrated processes for multi-phase projects is routinely needed.

Public Notice Completion

There are several South Coast AQMD requirements that may require public noticing and a public participation process prior to permit issuance. Rule 212 and Regulation XXX both detail public noticing thresholds and requirements which include equipment located near schools, high-emitting equipment, equipment above certain health risk thresholds, or significant projects or permit renewals in the Title V program. The public notice period is typically 30 days, and staff are required to respond to all public comments in writing prior to proceeding with the permitting process. Other delays in the public notice process may include delays in distribution of the notice by the facility, incomplete distribution which may require restarting the 30-day period, or requests for extension from the public.

Source Test Completion

Many rules require source testing prior to permit issuance. Source testing is the measurement of actual emissions from a source that may be used to determine compliance with emission limits, or measurements of toxic emissions may be used to perform a health risk assessment. Lab analysis of an air sample is often required as part of the process. The testing is performed by third party contractors who prepare a source test protocol to detail the testing program, and a source test report with the results of the testing and equipment operation. Both the protocol and report need to be reviewed and approved by South Coast AQMD staff.

Attachment 2

Links to Previous Monthly PEP Updates

2024

April 19, 2024 – First Monthly PEP Update

May 17, 2024

June 21, 2024

July 2024 – No Stationary Source Committee meeting

August 16, 2024

September 20, 2024 - canceled

October 18, 2024

November 15, 2024

December 20, 2024

2025

January 24, 2025

February 21, 2025

March 21, 2025

April 18, 2025

May 2025 Update on Work with U.S. EPA and California Air Resources Board on New Source Review Issues for the RECLAIM Transition

At the October 5, 2018, Board meeting, the Board directed staff to provide the Stationary Source Committee with a monthly update of staff's work with U.S. EPA regarding resolving NSR issues for the transition of facilities from RECLAIM to a command-and-control regulatory structure. Key activities with U.S. EPA and CARB since the last report are summarized below.

- RECLAIM/NSR Working Group meeting is not planned for May
- The RECLAIM/NSR Working Group will be reconvened when there is information to report

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

General Counsel's Office

Settlement Penalty Report (04/01/2025 - 04/30/2025)

Total Penalties

Civil Settlement: $175,564.00

Hearing Board Settlement: $438,883.91

MSPAP Settlement: $246,570.50

Total Cash Settlements: $861,018.41

Total SEP Value: $0.00

Fiscal Year through 04/30/2025 Cash Total: $7,866,285.67

Fiscal Year through 04/30/2025 SEP Value Only Total: $0.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
Civil						
800016	BAKER COMMODITIES INC	415, 2004, 3002	04/03/2025	DH	P63824, P65291, P65293, P67318, P67319, P67321, P72855, P72866, P72871, P72872	$15,000.00
202571	DREAM GIRL	2305	04/01/2025	JL	O15130	$15,000.00
202361	EGREEN TRANSPORTATION	2305	04/22/2025	JL	O15171	$1,500.00
139808	INLAND EMPIRE REGIONAL COMPOSTING AUTHORITY	1133, 1133.2, 3002	04/01/2025	ND	P70146	$22,971.00
201747	KEECO	2305	04/22/2025	JL	O15095, SRV2022-00049, SRV2022-00050	$28,000.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
102159	RANCHO SAN JOAQUIN GOLF COURSE	403, 461	04/22/2025	KCM	P69936, P75307, P76407, P76409, P76412, P76414, P76418, P77611, P77803, P77804, P77805, P77808, P77809, P77817, P77819, P77820, P77831, P77832, P77833, P77834, P77835, P77836, P78555, P78557, P78558, P78559, P78560, P78562, P78563, P78564, P78565, P78568, P78570, P78571, P78572, P78573, P78574, P78575, P78576, P78578, P78579, P78582, P78583	$60,000.00
198315	ROYAL WHITE CEMENT INC	201, 203, 403	04/01/2025	JL	P76258, P76281	$16,700.00
202627	RSC CONSTRUCTION INC	1403	04/01/2025	EC	P75770	$1,209.00
98296	SOUTH COAST OIL CORPORATION	203, 463, 1148.1, 1173	04/01/2025	SH	P74398, P80704, P80706, P80707	$9,000.00
115184	TILDEN-COIL CONSTRUCTOR INC	1403, 40 CFR 61.145	04/25/2025	DH	P80311	$1,500.00
178695	VIRAMONTES EXPRESS	403	04/17/2025	CL	P73920	$4,684.00
Total Civil Settlements: $175,564.00						
Hearing Board						
140373	AMERESCO CHIQUITA ENERGY LLC	203, 431.1, 3002	04/10/2025	KER	6143-4	$2,600.00
119219	CHIQUITA CANYON LLC	431.1, 3002	04/22/2025	KER/MR	6177-4	$435,283.91
146536	WALNUT CREEK ENERGY LLC	203, 2004, 3002	04/01/2025	KCM	6230-6	$1,000.00
Total Hearing Board Settlements: $438,883.91						
MSPAP						
203394	6TH ST	2305	04/25/2025	CM	O15245	$5,000.00
145406	7-ELEVEN (#33459)	461, H&S 41960.2	04/01/2025	VB	P80207	$1,437.00
197672	7-ELEVEN (#43183)	461, H&S 41960.2	04/15/2025	VB	P80572	$4,313.00
139282	7TH & VALLEY JOINT VENTURE (DBA "SHELL GAS STATION")	203, 461	04/15/2025	SW	P80218	$12,490.00
200565	AGUA CONSTRUCTION LLC	403	04/04/2025	VB	P79258	$1,813.00
200565	AGUA CONSTRUCTION LLC	403	04/04/2025	VB	P79263	$1,693.00
21321	AIRCRAFT X-RAY LABS INC	1469	04/08/2025	CL	P79956	$1,891.00
129216	ALLEN INDUSTRIAL & MACHINE	203, 1469	04/18/2025	CL	P75873	$3,706.00
155224	AMERICAN ROYAL PETROLEUM INC	203, 461	04/08/2025	SW	P80230	$4,396.00
100318	ANAHEIM ARENA MANAGEMENT	203	04/04/2025	VB	P80283	$1,049.00
100542	AUTRY NATIONAL CENTER	1146.1	04/01/2025	CL	P75468	$6,045.00
119940	BUILDING MATERIALS MANUFACTURING CORP	3002	04/25/2025	CL	P77954	$2,747.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
195686	CALTROL INC	203	04/01/2025	SW	P75337	$1,009.00
153992	CANYON POWER PLANT	2009, 3002	04/01/2025	CL	P79467	$4,435.00
104307	CHANDLER AGGREGATES INC	1157	04/25/2025	CL	P75889	$1,715.00
27601	CHEVRON	203, 461	04/25/2025	SW	P79611	$8,472.00
142435	CLAREMONT CITY	461	04/18/2025	VB	P78472	$2,689.00
181377	COACHELLA VALLEY WATER DISTRICT	403, 403.1	04/11/2025	VB	P68352, P74285	$2,098.00
200350	CORODATA	2305	04/04/2025	CM	O15276	$5,000.00
170202	CPT 6TH & CLEVELAND LLC	203	04/25/2025	SW	P78473	$996.00
167770	DATE PALM PETROLEUM INC (DBA "ARCO AMPM (#8321))	461, H&S 41960.2	04/25/2025	CM	P73530	$1,049.00
98554	DECORE PLATING	203, 1469	04/08/2025	VB	P74788, P74789, P74798, P79516	$19,344.00
139111	DEL AMO MILLS LIMITED PARTNERSHIP	203	04/25/2025	VB	P78308	$3,513.00
181985	DINO STATION	461	04/01/2025	CM	P73529	$2,098.00
140059	EL MONTE AUTO SPA & RESORT	203	04/25/2025	SW	P80216	$847.00
194209	ESS SERVICE STATION	461, H&S 41960.2	04/15/2025	CM	P73521	$1,009.00
39245	EXXONMOBIL	203, 461, H&S 41960.2	04/01/2025	SW	P80217	$3,868.00
111357	G & M OIL CO LLC (#57)	203	04/15/2025	CM	P80220	$1,049.00
126408	G & M OIL CO LLC (#97)	461, H&S 41960.2	04/15/2025	CM	P73543	$1,049.00
203546	G&M OIL COMPANY (#222)	201, 203	04/15/2025	CM	P79396	$2,098.00
200167	GRAND CHANNEL INC	2305	04/01/2025	CM	O15273	$3,562.00
129571	HAWK II ENVIRONMENTAL CORP	461, H&S 41960.2	04/18/2025	VB	P80223	$2,674.00
158146	HERMETIC SEAL CORP/AMETEK	203, 222	04/25/2025	CM	P74893	$3,147.00
196133	HONOR RANCHO WAYSIDE CANYON HOLDINGS	2004	04/08/2025	CL	P79670	$5,245.00
201743	IFS (RYDER)	2305	04/01/2025	CM	O15127	$7,200.00
201891	KC EXCLUSIVE INC (DBA "ZENANA")	2305	04/08/2025	VB	O15143	$3,800.00
114998	KIM'S ARCO AM/PM	203, 461	04/18/2025	VB	P80232	$2,747.00
201487	LECANGS LLC	2305	04/11/2025	VB	O15263	$11,000.00
178103	MARINE TERMINAL CORPORATION	203, 461.1	04/25/2025	CL	P76278	$6,054.00
118986	MAYWOOD SHELL	461, H&S 41960.2	04/08/2025	SW	P73538	$2,055.00
113241	MD CHEVRON (DUCM INC)	461	04/08/2025	VB	P79634	$3,447.00
162110	MEYMARIAN BROTHERS INC (DBA "MIRACLE MILE")	461, H&S 41960.2	04/01/2025	SW	P74687	$1,550.00
95451	MOBIL DLR (GLENDALE MOBIL SERVICE)	461, H&S 41960.2	04/01/2025	VB	P79091	$1,400.00
150554	MONTECITO MEMORIAL PARK	461	04/11/2025	VB	P74659, P79717	$1,209.00
193554	N & N OIL INC	203, 461	04/15/2025	SW	P68816	$2,727.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
112931	NATIONAL READY MIXED CONCRETE COMPANY	403	04/11/2025	VB	P75466	$2,875.00
192371	OAK VALLEY EXPRESS LLC	461	04/15/2025	VB	P80958	$3,027.00
33572	ORANGE UNIFIED SCHOOL DIST	461	04/04/2025	CM	P80278	$863.00
140600	PACIFIC MARITIME SERVICES LLC	462	04/08/2025	CL	P76288	$1,813.00
202158	PIONEER TECHNOLOGY INC	2305	04/04/2025	VB	O15230	$11,000.00
191746	PRECISION WORKS INC	1403	04/15/2025	CM	P80818	$15,135.00
172840	R & R DEMO & GRADING CORPORATION	1403	04/25/2025	CM	P78132	$1,009.00
162863	REDONDO BEACH 76	203	04/01/2025	VB	P80639	$1,009.00
177835	ROCKET (#0280)	461, H&S 41960.2	04/01/2025	SW	P74686	$1,800.00
198352	ROM INVESTMENTS	1403, 40 CFR 61.145	04/11/2025	VB	P79757	$1,816.00
202781	SAI FUEL INC	461, H&S 41960.2	04/04/2025	VB	P73522	$1,286.00
84043	SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT	461	04/01/2025	SW	P79722	$4,436.00
171436	SPECIALTY SPRAY SERVICE INC	203	04/15/2025	CM	P78462	$2,724.00
146879	SSA TERMINALS LLC	462	04/08/2025	CL	P76287	$1,813.00
205576	TAN CONSTRUCTION INC	1403	04/25/2025	VB	P78639	$2,269.00
113952	TMB OIL CO INC (#2)	461, H&S 41960.2	04/11/2025	VB	P79618	$1,588.00
184258	TOP WRENCH	109, 1151	04/01/2025	VB	P74486	$1,513.00
79193	UNITED PARCEL SERVICE	461	04/08/2025	SW	P80282	$1,996.00
118622	VERNON FUEL DISTRIBUTING INC	461, H&S 41960.2	04/01/2025	CM	P74690	$3,027.00
82395	VONS (#2384)	461, H&S 41960.2	04/08/2025	VB	P73523	$1,513.50
146343	WALMART (#1832)	201	04/25/2025	CM	P80576	$1,049.00
183120	WOLVERINE DISTRIBUTION CENTER PH1	2305	04/11/2025	VB	O15253	$11,000.00
81068	YUCAIPA VALLEY WATER DISTRICT	461	04/18/2025	CL	P79337	$5,274.00

Total MSPAP Settlements: $246,570.50

SOUTH COAST AQMD'S RULES AND REGULATIONS INDEX
FOR APRIL 2025 PENALTY REPORT

REGULATION I - GENERAL PROVISIONS

Rule 109	Recordkeeping for Volatile Organic Compound Emissions

REGULATION II - PERMITS

Rule 201	Permit to Construct
Rule 203	Permit to Operate
Rule 222	Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II

REGULATION IV - PROHIBITIONS

Rule 403	Fugitive Dust
Rule 403.1	Wind Entrainment of Fugitive Dust
Rule 415	Odors from Rendering Facilities
Rule 431.1	Sulfur Content of Gaseous Fuels
Rule 461	Gasoline Transfer and Dispensing
Rule 461.1	Gasoline Transfer and Dispensing for Mobile Fueling Operations
Rule 462	Organic Liquid Loading
Rule 463	Storage of Organic Liquids

REGULATION XI - SOURCE SPECIFIC STANDARDS

Rule 1133	Composting and Related Operations – General Administrative Requirements
Rule 1133.2	Emission Reductions from Co-Composting Operations
Rule 1146.1	Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters
Rule 1148.1	Oil and Gas Production Wells
Rule 1151	Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations
Rule 1157	PM10 Emission Reductions from Aggregate and Related Operations
Rule 1173	Fugitive Emissions of Volatile Organic Compounds

REGULATION XIV - TOXICS

Rule 1403	Asbestos Emissions from Demolition/Renovation Activities
Rule 1421	Control of Perchloroethylene Emissions from Dry Cleaning Operations
Rule 1469	Hexavalent Chromium Emissions from Chrome Plating and Chromic Acid Anodizing Operations

SOUTH COAST AQMD'S RULES AND REGULATIONS INDEX
FOR APRIL 2025 PENALTY REPORT

REGULATION XX - REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)

Rule 2004	Requirements
Rule 2009	Compliance Plan for Power Producing Facilities

REGULATION XXIII - FACILITY BASED MOBILE SOURCE MEASURES

Rule 2305	Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (Waire) Program

REGULATION XXX - TITLE V PERMITS

Rule 3002	Requirements

CODE OF FEDERAL REGULATIONS

40 CFR 61.145	Standards for Demolition and Renovation

CALIFORNIA HEALTH AND SAFETY CODE

H&S § 41960.2	Gasoline Vapor Recovery
H&S § 42402	Violation of Emission Limitations – Civil Penalty

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BOARD MEETING DATE: June 6, 2025 AGENDA NO. 24

REPORT: Technology Committee

SYNOPSIS: The Technology Committee held a hybrid meeting on Friday, May 16, 2025. The following is a summary of the meeting.

RECOMMENDED ACTION:
Receive and file.

Carlos Rodriguez, Chair
Technology Committee

AK:kr

Committee Members

Present: Supervisor Curt Hagman
Mayor Pro Tem Larry McCallon
Supervisor Janet Nguyen
Board Member Veronica Padilla-Campos
Mayor Pro Tem Carlos Rodriguez, Committee Chair

Absent: Mayor Patricia Lock Dawson

Call to Order

Committee Chair Carlos Rodriguez called the meeting to order at 10:33 p.m.

For additional details of the Technology Committee Meeting, please refer to the Webcast.

Roll Call

ACTION ITEMS:

1. **Issue RFP for Battery Electric Switcher Locomotives for CPRG INVEST CLEAN Program**

   Alyssa Yan, Program Supervisor, Technology Advancement Office, presented on the INVEST CLEAN Program and its four measures. This action is to issue and, if necessary, re-issue an RFP to solicit project proposals for the Battery Electric

Switcher Locomotive measure under INVEST CLEAN. A total of up to $190,800,000 will be available for the Battery Electric Switcher Locomotive RFP. For additional details, please refer to the Webcast beginning at 4:48.

Supervisor Nguyen inquired about any bids or incentives that may be allocated for Orange County due to rails and if there are exclusions. Executive Officer Wayne Nastri responded that the program targets rail manufacturers. For additional details, please refer to the Webcast beginning at 9:12.

Supervisor Hagman inquired about funding hydrogen fuel cell locomotives like Redland Pasture Rails. Aaron Katzenstein, Deputy Executive Officer, Technology Advancement Office, responded that staff excluded hydrogen fuel cell technologies to limit competition with the state's DOE hydrogen program. For additional details, please refer to the Webcast beginning at 10:17.

Board Member Padilla-Campos requested clarification on the definition of a switcher locomotive. Dr. Katzenstein clarified that switcher locomotives operate within and between railyards and are smaller than the line-haul locomotives that travel outside of the Basin. For additional details, please refer to the Webcast beginning at 11:07.

Harvey Eder, Public Solar Power Coalition, expressed that there should be more focus on solar and thermal technologies. For additional details, please refer to the Webcast beginning at 13:18.

Moved by McCallon; seconded by Hagman; unanimously approved.

Ayes:	Hagman, McCallon, Nguyen, Padilla-Campos, Rodriguez
Noes:	None
Abstain:	None
Absent:	Lock Dawson

2. **Adopt Resolution and Accept Terms and Conditions, Recognize Revenue, Execute Agreements to Deploy Battery Electric Trucks and Chargers, and Demonstrate a Fast-Charging Capable Truck, Transfer Funds, and Reimburse General Fund**

Fan Xu, Program Supervisor, Technology Advancement Office, presented on the Strategic Pathways for Extended Electric Drayage (SPEED) project to deploy Volvo Class 8 battery electric trucks and truck chargers in Southern California, develop and demonstrate a high-power charging-capable truck, collect truck and charger operational data, and develop and implement a workforce training program for battery electric trucks and charging equipment under CARB's and CEC's joint Advanced Technology Demonstration and Pilot Projects program. Also, on May 3,

2024, the Governing Board recognized funding for a project to electrify Balboa Island Ferries and install supporting charging infrastructure under ATDPP. For additional details, please refer to the Webcast beginning at 15:41.

Mayor Pro Tem McCallon commented that he does not have a financial interest but is required to identify for the record that he is the Chair of the Mobile Source Air Pollution Reduction Committee, which is involved in this item.

Supervisor Hagman commented that he does not have a financial interest but is required to identify for the record that he is a member of the Mobile Source Air Pollution Reduction Committee, which is involved in this item.

Supervisor Hagman raised concerns about committing to specific technologies or manufacturers too early in the planning and grant process, recognizing the rapidly evolving nature of zero-emission trucks and charging infrastructure. Dr. Katzenstein responded that this project began years ago and the RFP aimed to be project-ready with partners and that the selected technologies were part of forming a viable proposal. Dr. Katzenstein mentioned that upcoming funding opportunities will be open to multiple truck manufacturers. For additional details, please refer to the Webcast beginning at 25:08.

Board Member Padilla-Campos expressed general support and asked for more clarity on specific workforce development goals. Dr. Katzenstein explained that technician training will continue from earlier programs and will include megawatt charging system education. He agreed on clearly listing such goals in reports and will ensure metrics will be included in the contract to track the outcome of the training programs. For additional details, please refer to the Webcast beginning at 28:15.

Mr. Eder emphasized the importance about solar energy and zero-emission ecosystems. For additional details, please refer to the Webcast beginning at 30:20.

Moved by McCallon; seconded by Hagman; unanimously approved.

Ayes:	Hagman, McCallon, Nguyen, Padilla-Campos, Rodriguez
Noes:	None
Abstain:	None
Absent:	Lock Dawson

3. **Modify Contracts and SEP Agreements for Installation and/or Maintenance of Air Filtration Systems in Schools and Residences and Execute New and Modify Existing School Site Access Agreements**

This item authorizes no-cost modifications to existing contracts, Supplemental Environmental Project (SEP) agreements, and school site access agreements to complete the installation and/or maintenance of air filtration systems in schools and residences. For additional details, please refer to the Webcast beginning at 33:06.

Supervisor Hagman suggested to approve the item without staff presentation. For additional details, please refer to the Webcast beginning at 33:24

Moved by Hagman; seconded by McCallon; unanimously approved.

Ayes:	Hagman, McCallon, Nguyen, Padilla-Campos, Rodriguez
Noes:	None
Abstain:	None
Absent:	Lock Dawson

OTHER MATTERS:

4. **Other Business**
   Board Member Padilla-Campos asked for an update on the Replace Your Ride Program at the next Technology Committee Meeting that includes a comparison of the program with other air districts. For additional details, please refer to the Webcast beginning at 35:15.

5. **Public Comment Period**
   Mr. Eder expressed his disapproval of removing the solar federal tax credits. For additional details, please refer to the Webcast beginning at 36:39.

6. **Next Meeting Date**
   The next regular Technology Committee meeting is scheduled for Friday, June 20, 2025, at noon.

Adjournment
The meeting adjourned at 11:07 a.m.

Attachment
Attendance Record

ATTACHMENT

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
TECHNOLOGY COMMITTEE MEETING
Attendance Record – May 16, 2025

Supervisor Curt Hagman	South Coast AQMD Board Member
Mayor Pro Tem Larry McCallon	South Coast AQMD Board Member
Board Member Veronica Padilla-Campos	South Coast AQMD Board Member
Mayor Pro Tem Carlos Rodriguez	South Coast AQMD Board Member
Supervisor Janet Nguyen	South Coast AQMD Board Member
Charles Hahn	Board Consultant/Assistant (Nguyen)
Samuel Kang	Board Consultant/Assistant (Cacciotti)
Fred Minassian	Board Consultant/Assistant (Padilla-Campos)
Kiera Dixon	Public Member
Harvey Eder	Public Solar Power Coalition
Warisa Niizawa	LACSD
Catherine Smith	Public Member
Debra Ashby	South Coast AQMD Staff
Lara Brown	South Coast AQMD Staff
Cindy Bustillos	South Coast AQMD Staff
Penny Shaw Cedillo	South Coast AQMD Staff
Philip Crabbe	South Coast AQMD Staff
Scott Gallegos	South Coast AQMD Staff
Kelly Gamino	South Coast AQMD Staff
Sindy Enriquez	South Coast AQMD Staff
Sheri Hanizavareh	South Coast AQMD Staff
Anissa “Cessa” Heard-Johnson	South Coast AQMD Staff
Eugene Kang	South Coast AQMD Staff
Roupen Karakouzian	South Coast AQMD Staff
Aaron Katzenstein	South Coast AQMD Staff
Angela Kim	South Coast AQMD Staff
Howard Lee	South Coast AQMD Staff
Hay Lo	South Coast AQMD Staff
Ian MacMillan	South Coast AQMD Staff
Ron Moskowitz	South Coast AQMD Staff
Ghislain Muberwa	South Coast AQMD Staff
Susan Nakamura	South Coast AQMD Staff
Wayne Nastri	South Coast AQMD Staff
Vasileios Papapostolou	South Coast AQMD Staff
Robert Paud	South Coast AQMD Staff
Marissa Poon	South Coast AQMD Staff
Sarah Rees	South Coast AQMD Staff

Kristin Remy ..... South Coast AQMD Staff
Danielle Soto ..... South Coast AQMD Staff
Lisa Tanaka O'Malley ..... South Coast AQMD Staff
Veronica Tejada ..... South Coast AQMD Staff
Alexis Thrower ..... South Coast AQMD Staff
Alejandra Vega ..... South Coast AQMD Staff
Donna Vernon ..... South Coast AQMD Staff
Mei Wang ..... South Coast AQMD Staff
Michelle White ..... South Coast AQMD Staff
Fan Xu ..... South Coast AQMD Staff
Alyssa Yan ..... South Coast AQMD Staff

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BOARD MEETING DATE: June 6, 2025 AGENDA NO. 25

REPORT: Mobile Source Air Pollution Reduction Review Committee

SYNOPSIS: The Mobile Source Air Pollution Reduction Review Committee held a hybrid meeting on Thursday, May 15, 2025. The following is a summary of the meeting.

RECOMMENDED ACTION:
Receive and file.

Curt Hagman
South Coast AQMD Representative
to MSRC

AK:CR:me

MSRC Chair and Vice Chair Elected
Annually, the MSRC elects its Chair and Vice Chair. Mayor Pro Tem Larry McCallon of the City of Highland was re-elected as MSRC Chair for a one-year term. Mayor Pro Tem McCallon represents the San Bernardino County Transportation Authority on the MSRC.

Mayor Brian Berkson of the City of Jurupa was re-elected as MSRC Vice Chair for a one-year term. Mayor Berkson represents the Riverside County Transportation Commission on the MSRC.

Contract Modification Requests
The MSRC considered six contract modification requests and took the following actions:

1. Anaheim Transportation Network, Agreement #MS24006 to procure proposed vehicles for Old Towne Orange Microtransit Service, approval of fifteen-month term extension;
2. SCAG, Contract #MS21005 to implement Last Mile Freight Program, approval of modified statement of work and payment schedule to recognize truck lease expenditures as co-funding, approve reimbursement of infrastructure expense and change project participant name;

3. Ryder Integrated Logistics, Inc., Agreement #MS21016 to procure 2 integrated power centers and 4 Mega Chargers, denial of 28-month term extension;
4. City of Carson, Contract #ML18057 to purchase 5 light-duty zero emission vehicles and install charging infrastructure, reduce contract value by $18,562.50;
5. City of Pico Rivera, Contract #ML18067 to install charging infrastructure, approval of one-month term extension; and
6. City of Fontana, Contract #ML16047 to enhance existing Class I bikeway, approval of six-month term extension.

Proposed Amendments to MSRC "Operational Policies and Procedures"
The MSRC considered proposed modifications to their "Operational Policies and Procedures" to clarify voting procedures and to specify a process for designating an interim Chair when the Chair and Vice Chair are both absent. The proposed modifications also added language to outline recusal procedures. The MSRC approved the proposed modifications.

FYs 2024-27 Advanced Technology Demonstration and Pilot Projects
On October 26, 2023, South Coast AQMD submitted a proposal for the Strategic Pathways for Extended Electric Drayage (SPEED) project in response to a joint CARB and CEC solicitation for CARB's FY 2021-22 and FY 2022-23 Advanced Technology Demonstration and Pilot Project program. South Coast AQMD, in partnership with Volvo, is leading a collaborative effort to expand battery electric truck deployment in South Coast AQMD's jurisdiction and beyond. This new initiative will further advance battery electric truck technologies by developing and demonstrating a high-power (750 kW) charging-capable truck for regional transportation between Southern California and the Central Valley. This project also aims to meet the workforce needs for increasing adoption of battery electric trucks, supporting infrastructure, and the upcoming rollout of high-power truck charging technologies. The project aligns with the goal of Advanced Technology Demonstration and Pilot Project to strategically accelerate the advancement of innovative and economically viable technologies into the commercial marketplace.

On February 6, 2025, CEC released a Notice of Proposed Awards in which South Coast AQMD was awarded $22,000,000 in CARB funds and $19,295,211 in CEC funds for the SPEED Project. South Coast AQMD and its project partners plan to deploy a total of 100 Class 8 Volvo battery electric trucks with approximately 10 truck fleets in South Coast AQMD and San Diego County Air Pollution Control District (SDCAPCD) areas. Each truck deployed within South Coast AQMD area will receive funding up to $242,222 and each truck deployed within SDCAPCD area will receive funding up to $220,000. An estimated 79 Combined Charging System ports, each receiving funding up to $80,000, will be deployed at the participating fleets' depots. The MSRC considered this partnership opportunity and approved an allocation of up to $2,000,000 to augment the partners' contributions as an element of the FYs 2024-27 Work

Program. The MSRC's funding would be designated towards the truck incentives within South Coast AQMD.

Contracts Administrator's Report

The MSRC AB 2766 Contracts Administrator's report provides a written status report on all open contracts from FY 2011-12 to the present. The Contracts Administrator's Report for March 27, 2025 through April 23, 2025 is attached *(Attachment 1)*.

Attachments

1. March 27 through April 23, 2025 Contracts Administrator's Report
2. Minutes of March 20, 2025 MSRC Meeting

Clean Transportation Funding from the MSRC
Mobile Source Air Pollution Reduction Review Committee

MSRC-TAC Agenda Item No. 2

DATE: May 15, 2025

FROM: Cynthia Ravenstein

SUBJECT: AB 2766 Contracts Administrator's Report

SYNOPSIS: This report covers key issues addressed by MSRC staff, status of open contracts, and administrative scope changes from March 27 to April 23, 2025.

RECOMMENDATION: Receive and file report

WORK PROGRAM IMPACT: None

Contract Execution Status

2021-24 Work Program

On September 2, 2022, the SCAQMD Governing Board approved an award under the Major Event Center Transportation Program. This contract is executed.

On February 3, 2023, the SCAQMD Governing Board approved an award under the Transformative Transportation Strategies & Mobility Solutions Program. This contract is executed.

On June 2, 2023, the SCAQMD Governing Board approved six awards under the Microtransit Service RFP, for zero-emission shared mobility service. These contracts are executed.

On September 1, 2023, the SCAQMD Governing Board approved two awards under the Publicly Accessible Goods Movement Zero Emission Infrastructure Request for Information. One of these contracts will be administered by SCAQMD on behalf of the MSRC, and the other award is conditional upon successful selection of a site developer and operator and securing co-funding commitments. These contracts are under development.

On February 2, 2024, the SCAQMD Governing Board approved allocations for partnership in applications seeking funding under the Carl Moyer Program solicitation. Some of the applications were subsequently awarded funding Carl Moyer funding. To the extent feasible these contracts will be administered by SCAQMD on behalf of the MSRC; these contracts are under development.

2024-27 Work Program

On October 4, 2024, the SCAQMD Governing Board approved an award for programmatic outreach services for the MSRC. This contract is executed.

On December 6, 2024, the SCAQMD Governing Board approved an award for partnership on the West Coast Truck Charging and Fueling Corridor Project. This contract is under development. The SCAQMD Governing Board also approved three allocations for partnership with SCAQMD on technology advancement projects. To the extent feasible these contracts will be administered by SCAQMD on behalf of MSRC; these contracts are under development.

On April 4, 2025, the SCAQMD Governing Board approved an award for hosting and maintenance of the MSRC website. This contract is under development.

Work Program Status

Contract Status Reports for Work Program years with open and/or pending contracts are attached.

FY 2011-12 Work Program Contracts

1 contract is in "Open/Complete" status, having completed all obligations except operations.

FY 2011-12 Invoices Paid

No invoices were paid during this period.

FYs 2012-14 Work Program Contracts

1 contract from this Work Program year is open, and 1 is in "Open/Complete" status. 1 contract closed during this period: City of Los Angeles, Bureau of Sanitation, Contract #ML14013 – Purchase 14 Heavy-duty Natural Gas Vehicles.

FYs 2012-14 Invoices Paid

No invoices were paid during this period.

FYs 2014-16 Work Program Contracts

3 contracts from this Work Program year are open, and 10 are in "Open/Complete" status.

FYs 2014-16 Invoices Paid

No invoices were paid during this period.

FYs 2016-18 Work Program Contracts

17 contracts from this Work Program year are open, and 48 are in "Open/Complete" status. 1 contract was terminated during this period at the contractor's request: City of Palm Springs, Contract #ML18147 – Install 18 EV Charging Stations. The $60,000 allocated reverted to the AB 2766 Discretionary Fund. 9 contracts closed during this period: City of Artesia, Contract #ML18028 – Install EVSE; City of Grand Terrace, Contract #ML18030 – Install EVSE; City of Duarte, Contract #ML18033 – Purchase 1 Heavy-Duty Zero Emission Vehicle; City of Redlands, Contract #ML18039 – Purchase 1 Medium/Heavy-Duty Zero Emission Vehicle and Infrastructure; City of Moreno Valley, Contract #ML18061 – Purchase 1 Heavy-duty Near-Zero Emission Vehicle; City of Murrieta, Contract #ML18087 – Install 4 EV Charging Stations; City of Gardena, Contract #ML18095 – Purchase 1 Heavy-duty Near-Zero Emission Vehicle; City of Redondo Beach, Contract #ML18098 – Install 6 EV Charging Stations; and Mountain View Unified School District, Contract #MS18110 – Install New Limited-Access CNG Station.

FYs 2016-18 Invoices Paid

4 invoices totaling $67,804.10 were paid during this period.

FYs 2018-21 Work Program Contracts
7 contracts from this Work Program year are open, and 7 are in "Open/Complete" status.

FYs 2018-21 Invoices Paid
5 invoices totaling $1,492,167.00 were paid during this period.

FYs 2021-24 Work Program Contracts
8 contracts from this Work Program year are open.

FYs 2021-24 Invoices Paid
No invoices were paid during this period.

FYs 2024-27 Work Program Contracts
1 contract from this Work Program year is open.

FYs 2024-27 Invoices Paid
1 invoice in the amount of $26,155.25 was paid during this period.

Administrative Scope Changes
Two administrative scope changes were initiated during the period from March 27 to April 23, 2025:

- Omnitrans, Agreement #MS24003 (Expand Microtransit Service in Bloomington) – 10-month term extension
- Anaheim Transportation Network, Agreement #MS24006 (Implement Microtransit Service in Old Towne Orange) – Three-month term extension to keep open for MSRC consideration

Attachments

- FY 2011-12 through FYs 2021-27 Contract Status Report

AB2766 Contracts Status Report
3/27/2025 - 4/23/2025

Cont. #	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
FY 2011-2012 Contracts									
Declined/Cancelled Contracts									
ML12016	City of Cathedral City	1/4/2013	10/3/2019		$ 60,000.00	$ -	CNG Vehicle & Electric Vehicle Infrastructure	$ 60,000.00	No
ML12038	City of Long Beach Public Works				$ 26,000.00	$ -	Electric Vehicle Charging Infrastructure	$ 26,000.00	No
ML12040	City of Duarte				$ 30,000.00	$ -	One Heavy-Duty Nat. Gas Vehicle	$ 30,000.00	No
ML12044	County of San Bernardino Public Works				$ 250,000.00	$ -	Install New CNG Station	$ 250,000.00	No
ML12048	City of La Palma	1/4/2013	11/3/2018		$ 20,000.00	$ -	Two Medium-Duty LPG Vehicles	$ 20,000.00	No
ML12052	City of Whittier	3/14/2013	7/13/2019		$ 165,000.00	$ -	Expansion of Existing CNG Station	$ 165,000.00	No
ML12053	City of Mission Viejo				$ 60,000.00	$ -	EV Charging Infrastructure	$ 60,000.00	No
ML12090	City of Palm Springs	10/9/2015	10/8/2021	9/8/2025	$ 21,163.00	$ -	EV Charging Infrastructure	$ 21,163.00	No
MS12007	WestAir Gases & Equipment				$ 100,000.00	$ -	Construct New Limited-Acess CNG Station	$ 100,000.00	No
MS12027	C.V. Ice Company, Inc.	5/17/2013	11/16/2019		$ 75,000.00	$ -	Purchase 3 Medium-Heavy Duty Vehicles	$ 75,000.00	No
MS12030	Complete Landscape Care, Inc.				$ 150,000.00	$ -	Purchase 6 Medium-Heavy Duty Vehicles	$ 150,000.00	No
MS12067	Leatherwood Construction, Inc.	11/8/2013	3/7/2017		$ 122,719.00	$ -	Retrofit Six Vehicles w/DECS - Showcase III Program	$ 122,719.00	No
MS12070	Valley Music Travel/CID Entertainment				$ 99,000.00	$ -	Implement Shuttle Service to Coachella Music Festival	$ 99,000.00	No
Total = 13									
Closed Contracts									
ML12013	City of Pasadena	10/19/2012	3/18/2015	9/18/2015	$ 200,000.00	$ 65,065.00	Electric Vehicle Charging Infrastructure	$ 134,935.00	Yes
ML12014	City of Santa Ana - Public Works Agency - Fleet & Facilities Mgmt	11/8/2013	8/7/2020	2/7/2022	$ 338,000.00	$ 255,977.50	9 H.D. Nat. Gas & LPG Trucks, EV Charging Stations	$ 82,022.50	Yes
ML12015	City of Fullerton	4/25/2013	11/24/2020	11/24/2021	$ 40,000.00	$ 40,000.00	HD CNG Vehicle, Expand CNG Station	$ -	Yes
ML12017	City of Los Angeles, Bureau of Sanitation	6/26/2013	5/25/2020	11/25/2021	$ 950,000.00	$ 950,000.00	32 H.D. Nat. Gas Vehicles	$ -	Yes
ML12018	City of West Covina	10/18/2013	10/17/2020	8/17/2023	$ 300,000.00	$ 300,000.00	Expansion of Existing CNG Station	$ -	Yes
ML12019	City of Palm Springs	9/6/2013	7/5/2015		$ 38,000.00	$ 16,837.00	EV Charging Infrastructure	$ 21,163.00	Yes
ML12020	City of Los Angeles Dept of General Services	9/27/2012	3/26/2019	3/26/2020	$ 450,000.00	$ 450,000.00	15 H.D. Nat. Gas Vehicles	$ -	Yes
ML12021	City of Rancho Cucamonga	9/14/2012	1/13/2020		$ 40,000.00	$ 40,000.00	Four Medium-Duty Nat. Gas Vehicles	$ -	Yes
ML12022	City of La Puente	12/6/2013	6/5/2020		$ 110,000.00	$ 110,000.00	2 Medium-Duty and Three Heavy-Duty CNG Vehicles	$ -	Yes
ML12023	County of Los Angeles Internal Services Department	8/1/2013	2/28/2015		$ 250,000.00	$ 192,333.00	EV Charging Infrastructure	$ 57,667.00	Yes
ML12037	Coachella Valley Association of Governments (CVAG)	3/14/2013	3/13/2014		$ 250,000.00	$ 250,000.00	Street Sweeping Operations	$ -	Yes
ML12039	City of Redlands	2/8/2013	10/7/2019		$ 90,000.00	$ 90,000.00	Three Heavy-Duty Nat. Gas Vehicles	$ -	Yes
ML12041	City of Anaheim Public Utilities Department	4/4/2014	11/3/2015	11/3/2017	$ 68,977.00	$ 38,742.16	EV Charging Infrastructure	$ 30,234.84	Yes
ML12042	City of Chino Hills	1/18/2013	3/17/2017		$ 87,500.00	$ 87,500.00	Expansion of Existing CNG Station	$ -	Yes
ML12043	City of Hemet	6/24/2013	9/23/2019	11/23/2021	$ 30,000.00	$ 30,000.00	One Heavy-Duty Nat. Gas Vehicles	$ -	Yes
ML12046	City of Irvine	8/11/2013	3/10/2021		$ 30,000.00	$ 30,000.00	One Heavy-Duty Nat. Gas Vehicle	$ -	Yes
ML12047	City of Orange	2/1/2013	1/31/2019		$ 30,000.00	$ 30,000.00	One Heavy-Duty Nat. Gas Vehicle	$ -	Yes
ML12049	City of Rialto Public Works	7/14/2014	9/13/2015		$ 30,432.00	$ 3,265.29	EV Charging Infrastructure	$ 27,166.71	Yes
ML12050	City of Baldwin Park	4/25/2013	4/24/2014	10/24/2014	$ 402,400.00	$ 385,363.00	EV Charging Infrastructure	$ 17,037.00	Yes
ML12054	City of Palm Desert	9/30/2013	2/28/2015		$ 77,385.00	$ 77,385.00	EV Charging Infrastructure	$ -	Yes
ML12055	City of Manhattan Beach	3/1/2013	12/31/2018		$ 10,000.00	$ 10,000.00	One Medium-Duty Nat. Gas Vehicle	$ -	Yes
ML12056	City of Cathedral City	3/26/2013	5/25/2014		$ 25,000.00	$ 25,000.00	Regional Street Sweeping Program	$ -	Yes
ML12057	City of Coachella	8/28/2013	8/27/2019	1/27/2022	$ 57,456.00	$ 57,456.00	Purchase One Nat. Gas H.D. Vehicle/Street Sweeping	$ -	Yes
ML12066	City of Manhattan Beach	1/7/2014	4/6/2015		$ 5,900.00	$ 5,900.00	Electric Vehicle Charging Infrastructure	$ -	Yes
ML12091	City of Bellflower	10/5/2018	10/4/2019	6/30/2022	$ 100,000.00	$ 49,230.44	EV Charging Infrastructure	$ 50,769.56	Yes
MS12001	Los Angeles County MTA	7/1/2012	4/30/2013		$ 300,000.00	$ 211,170.00	Clean Fuel Transit Service to Dodger Stadium	$ 88,830.00	Yes
MS12002	Orange County Transportation Authority	9/7/2012	4/30/2013		$ 342,340.00	$ 333,185.13	Express Bus Service to Orange County Fair	$ 9,154.87	Yes
MS12003	Orange County Transportation Authority	7/20/2012	2/28/2013		$ 234,669.00	$ 167,665.12	Implement Metrolink Service to Angel Stadium	$ 67,003.88	Yes
MS12004	USA Waste of California, Inc.	10/24/2013	11/23/2019		$ 175,000.00	$ 175,000.00	Construct New Limited-Access CNG Station in Chino	$ -	Yes
MS12005	USA Waste of California, Inc.	10/19/2012	8/18/2013		$ 75,000.00	$ 75,000.00	Vehicle Maintenance Facility Modifications	$ -	Yes
MS12006	Waste Management Collection & Recycling, Inc.	10/19/2012	8/18/2013		$ 75,000.00	$ 75,000.00	Vehicle Maintenance Facility Modifications	$ -	Yes
MS12008	Bonita Unified School District	7/12/2013	12/11/2019	4/11/2021	$ 175,000.00	$ 175,000.00	Construct New Limited-Access CNG Station	$ -	Yes
MS12009	Sysco Food Services of Los Angeles	1/7/2014	4/6/2020		$ 150,000.00	$ 150,000.00	Construct New Public-Access LNG Station	$ -	Yes
MS12010	Murrieta Valley Unified School District	4/5/2013	9/4/2019		$ 242,786.00	$ 242,786.00	Construct New Limited-Access CNG Station and Maintenance Fac	$ -	Yes
MS12011	Southern California Gas Company	6/14/2013	6/13/2019	5/28/2021	$ 150,000.00	$ 150,000.00	Construct New Public-Access CNG Station - Pico Rivera	$ -	Yes
MS12012	Rim of the World Unified School District	12/20/2012	5/19/2014		$ 75,000.00	$ 75,000.00	Vehicle Maintenance Facility Modifications	$ -	Yes
MS12024	Southern California Gas Company	6/13/2013	12/12/2019	11/12/2020	$ 150,000.00	$ 150,000.00	Construct New Public-Access CNG Station - Murrieta	$ -	Yes
MS12025	Silverado Stages, Inc.	11/2/2012	7/1/2018		$ 150,000.00	$ 150,000.00	Purchase Six Medium-Heavy Duty Vehicles	$ -	Yes
MS12026	U-Haul Company of California	3/14/2013	3/13/2019		$ 500,000.00	$ 353,048.26	Purchase 23 Medium-Heavy Duty Vehicles	$ 146,951.74	Yes
MS12028	Dy-Dee Service of Pasadena, Inc.	12/22/2012	1/21/2019		$ 45,000.00	$ 40,000.00	Purchase 2 Medium-Duty and 1 Medium-Heavy Duty Vehicles	$ 5,000.00	Yes
MS12029	Community Action Partnership of Orange County	11/2/2012	11/1/2018		$ 25,000.00	$ 14,850.00	Purchase 1 Medium-Heavy Duty Vehicle	$ 10,150.00	Yes
MS12031	Final Assembly, Inc.	11/2/2012	11/1/2018		$ 50,000.00	$ 32,446.00	Purchase 2 Medium-Heavy Duty Vehicles	$ 17,554.00	Yes
MS12032	Fox Transportation	12/14/2012	12/13/2018		$ 500,000.00	$ 500,000.00	Purchase 20 Medium-Heavy Duty Vehicles	$ -	Yes
MS12033	Mike Diamond/Phace Management Services LLC	12/22/2012	12/21/2018	6/21/2021	$ 148,900.00	$ 148,900.00	Purchase 20 Medium-Heavy Duty Vehicles	$ -	Yes

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Cont. #	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS12034	Ware Disposal Company, Inc.	11/2/2012	11/1/2018	5/1/2022	$ 133,070.00	$ 133,070.00	Purchase 8 Medium-Heavy Duty Vehicles	$ -	Yes
MS12035	Disneyland Resort	1/4/2013	7/3/2019		$ 25,000.00	$ 18,900.00	Purchase 1 Medium-Heavy Duty Vehicle	$ 6,100.00	Yes
MS12036	Jim & Doug Carter's Automotive/VSP Parking	1/4/2013	11/3/2018		$ 50,000.00	$ 50,000.00	Purchase 2 Medium-Heavy Duty Vehicles	$ -	Yes
MS12058	Krisda Inc	4/24/2013	1/23/2019		$ 25,000.00	$ 25,000.00	Repower One Heavy-Duty Off-Road Vehicle	$ -	Yes
MS12059	Orange County Transportation Authority	2/28/2013	12/27/2014		$ 75,000.00	$ 75,000.00	Maintenance Facilities Modifications	$ -	Yes
MS12060	City of Santa Monica	4/4/2014	8/3/2017	8/3/2019	$ 500,000.00	$ 434,202.57	Implement Westside Bikeshare Program	$ 65,797.43	Yes
MS12061	Orange County Transportation Authority	3/14/2014	3/13/2017		$ 224,000.00	$ 114,240.00	Transit-Oriented Bicycle Sharing Program	$ 109,760.00	Yes
MS12062	Fraser Communications	12/7/2012	5/31/2014		$ 998,669.00	$ 989,218.49	Develop & Implement "Rideshare Thursday" Public Awareness Ca	$ 9,450.51	Yes
MS12063	Custom Alloy Light Metals, Inc.	8/16/2013	2/15/2020		$ 100,000.00	$ 100,000.00	Install New Limited Access CNG Station	$ -	Yes
MS12064	Anaheim Transportation Network	3/26/2013	12/31/2014		$ 127,296.00	$ 56,443.92	Implement Anaheim Circulator Service	$ 70,852.08	Yes
MS12065	Orange County Transportation Authority	7/27/2013	11/30/2013		$ 43,933.00	$ 14,832.93	Ducks Express Service to Honda Center	$ 29,100.07	Yes
MS12068	Southern California Regional Rail Authority (Metrolink)	3/1/2013	9/30/2013		$ 57,363.00	$ 47,587.10	Implement Metrolink Service to Autoclub Speedway	$ 9,775.90	Yes
MS12069	City of Irvine	8/11/2013	2/28/2014		$ 45,000.00	$ 26,649.41	Implement Special Transit Service to Solar Decathlon	$ 18,350.59	Yes
MS12071	Transit Systems Unlimited, Inc.	5/17/2013	12/16/2018		$ 21,250.00	$ 21,250.00	Expansion of Existing CNG Station	$ -	Yes
MS12072	99 Cents Only Stores	4/5/2013	9/4/2019		$ 100,000.00	$ 100,000.00	Construct New CNG Station	$ -	Yes
MS12073	FirstCNG, LLC	7/27/2013	12/26/2019		$ 150,000.00	$ 150,000.00	Construct New CNG Station	$ -	Yes
MS12074	Arcadia Unified School District	7/5/2013	9/4/2019		$ 175,000.00	$ 175,000.00	Expansion of Existing CNG Infrastructure	$ -	Yes
MS12075	CR&R Incorporated	7/27/2013	1/26/2021	1/26/2022	$ 100,000.00	$ 100,000.00	Expansion of Existing CNG Infrastructure	$ -	Yes
MS12076	City of Ontario, Housing & Municipal Services	3/8/2013	4/7/2015		$ 75,000.00	$ 75,000.00	Maintenance Facilities Modification	$ -	Yes
MS12078	Penske Truck Leasing Co., L.P.	1/7/2014	1/6/2016		$ 75,000.00	$ 73,107.00	Maintenance Facility Modifications - Vernon	$ 1,893.00	Yes
MS12080	City of Pasadena	11/8/2013	8/7/2020	2/7/2022	$ 225,000.00	$ 225,000.00	Expansion of Existing CNG Infrastructure	$ -	Yes
MS12081	Penske Truck Leasing Co., L.P.	1/7/2014	1/6/2016		$ 75,000.00	$ 75,000.00	Maintenance Facility Modifications - Santa Ana	$ -	Yes
MS12082	City of Los Angeles, Bureau of Sanitation	11/20/2013	2/19/2021	2/19/2023	$ 175,000.00	$ 175,000.00	Install New CNG Infrastructure	$ -	Yes
MS12083	Brea Olinda Unified School District	7/30/2015	2/29/2024		$ 59,454.00	$ 59,454.00	Install New CNG Infrastructure	$ -	Yes
MS12085	Bear Valley Unified School District	4/25/2013	6/24/2014		$ 75,000.00	$ 75,000.00	Maintenance Facility Modifications	$ -	Yes
MS12086	SuperShuttle International, Inc.	3/26/2013	3/25/2019		$ 225,000.00	$ 225,000.00	Purchase 23 Medium-Heavy Duty Vehicles	$ -	Yes
MS12087	Los Angeles County MTA	8/29/2013	11/28/2015		$ 125,000.00	$ 125,000.00	Implement Rideshare Incentives Program	$ -	Yes
MS12088	Orange County Transportation Authority	12/6/2013	3/5/2016		$ 125,000.00	$ 18,496.50	Implement Rideshare Incentives Program	$ 106,503.50	Yes
MS12089	Riverside County Transportation Commission	10/18/2013	9/17/2015		$ 249,136.00	$ 105,747.48	Implement Rideshare Incentives Program	$ 143,388.52	Yes
MS12Home	Mansfield Gas Equipment Systems				$ 296,000.00	$ -	Home Refueling Apparatus Incentive Program	$ 296,000.00	Yes
Total = 74									
Closed/Incomplete Contracts									
ML12051	City of Bellflower	2/7/2014	2/6/2016	5/6/2018	$ 100,000.00	$ -	EV Charging Infrastructure	$ 100,000.00	No
MS12077	City of Coachella	6/14/2013	6/13/2020		$ 225,000.00	$ -	Construct New CNG Station	$ 225,000.00	No
MS12079	Penske Truck Leasing Co., L.P.	1/7/2014	1/6/2016		$ 75,000.00	$ -	Maintenance Facility Modifications - Boyle Heights	$ 75,000.00	No
MS12084	Airport Mobil Inc.	12/6/2013	5/5/2020		$ 150,000.00	$ -	Install New CNG Infrastructure	$ 150,000.00	No
Total = 4									
Open/Complete Contracts									
ML12045	City of Baldwin Park DPW	2/14/2014	12/13/2020	12/13/2026	$ 400,000.00	$ 400,000.00	Install New CNG Station	$ -	Yes
Total = 1									
FY 2012-2014 Contracts									
Open Contracts									
MS14057	Los Angeles County MTA	11/7/2014	10/6/2019	10/31/2026	$ 1,250,000.00	$ -	Implement Various Signal Synchronization Projects	$ 1,250,000.00	No
Total = 1									
Declined/Cancelled Contracts									
ML14063	City of Hawthorne				$ 32,000.00	$ -	Expansion of Existng CNG Infrastructure	$ 32,000.00	No
ML14068	City of South Pasadena	9/12/2014	10/11/2015	1/11/2020	$ 10,183.00	$ -	Electric Vehicle Charging Infrastructure	$ 10,183.00	No
ML14069	City of Beaumont	3/3/2017	3/2/2025		$ 200,000.00	$ -	Construct New CNG Infrastructure	$ 200,000.00	No
MS14035	Penske Truck Leasing Co., L.P.				$ 75,000.00	$ -	Vehicle Maint. Fac. Modifications - Sun Valley	$ 75,000.00	No
MS14036	Penske Truck Leasing Co., L.P.				$ 75,000.00	$ -	Vehicle Maint. Fac. Modifications - La Mirada	$ 75,000.00	No
MS14038	Penske Truck Leasing Co., L.P.				$ 75,000.00	$ -	Vehicle Maint. Fac. Modifications - Fontana	$ 75,000.00	No
MS14043	City of Anaheim				$ 175,000.00	$ -	Expansion of Existing CNG Station	$ 175,000.00	No
MS14078	American Honda Motor Co., Inc.	9/4/2015	8/3/2022		$ 150,000.00	$ -	New Public Access CNG Station	$ 150,000.00	No
MS14085	Prologis, L.P.				$ 100,000.00	$ -	New Limited Access CNG Station	$ 100,000.00	No
MS14086	San Gabriel Valley Towing I				$ 150,000.00	$ -	New Public Access CNG Station	$ 150,000.00	No
MS14091	Serv-Wel Disposal				$ 100,000.00	$ -	New Limited-Access CNG Infrastructure	$ 100,000.00	No
Total = 11									
Closed Contracts									
ML14010	City of Cathedral City	8/13/2014	10/12/2015		$ 25,000.00	$ 25,000.00	Street Sweeping Operations	$ -	Yes
ML14011	City of Palm Springs	6/13/2014	1/12/2016		$ 79,000.00	$ 78,627.00	Bicycle Racks, Bicycle Outreach & Education	$ 373.00	Yes
ML14012	City of Santa Ana - Public Works Agency- Fleet &Facilities Mgmt	2/13/2015	10/12/2021	10/12/2022	$ 41,220.00	$ 41,220.00	EV Charging and 1 H.D. CNG Vehicle	$ -	Yes

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Cont. #	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML14013	City of Los Angeles, Bureau of Sanitation	10/7/2016	2/6/2025		$ 400,000.00	$ 400,000.00	Purchase 14 H.D. Nat. Gas Vehicles	$ -	Yes
ML14014	City of Torrance	9/5/2014	12/4/2019		$ 56,000.00	$ 56,000.00	EV Charging Infrastructure	$ -	Yes
ML14015	Coachella Valley Association of Governments (CVAG)	6/6/2014	9/5/2015		$ 250,000.00	$ 250,000.00	Street Sweeping Operations	$ -	Yes
ML14016	City of Anaheim	4/3/2015	9/2/2021		$ 380,000.00	$ 380,000.00	Purchase 2 H.D. Vehicles, Expansion of Existing Infrastructure	$ -	Yes
ML14019	City of Corona Public Works	12/5/2014	6/4/2020	3/6/2023	$ 111,518.00	$ 111,517.18	EV Charging, Bicycle Racks, Bicycle Lockers	$ 0.82	Yes
ML14022	County of Los Angeles Department of Public Works	10/2/2015	5/1/2022		$ 270,000.00	$ 270,000.00	Purchase 9 H.D. Nat. Gas Vehicles	$ -	Yes
ML14023	County of Los Angeles Department of Public Works	10/2/2015	9/1/2017	3/1/2021	$ 230,000.00	$ 230,000.00	Maintenance Fac. Modifications-Westchester	$ -	Yes
ML14024	County of Los Angeles Department of Public Works	10/2/2015	9/1/2017	9/1/2021	$ 230,000.00	$ 230,000.00	Maintenance Fac. Modifications-Baldwin Park	$ -	Yes
ML14025	County of Los Angeles Dept of Public Works	10/2/2015	7/1/2018	7/1/2024	$ 300,000.00	$ 300,000.00	Construct New CNG Station in Malibu	$ -	Yes
ML14026	County of Los Angeles Dept of Public Works	10/2/2015	5/1/2023	5/1/2024	$ 300,000.00	$ 300,000.00	Construct New CNG Station in Castaic	$ -	Yes
ML14028	City of Fullerton	9/5/2014	1/4/2022		$ 126,950.00	$ 126,950.00	Expansion of Exisiting CNG Infrastructure	$ -	Yes
ML14029	City of Irvine	7/11/2014	6/10/2017		$ 90,500.00	$ 71,056.78	Bicycle Trail Improvements	$ 19,443.22	Yes
ML14030	County of Los Angeles Internal Services Dept	1/9/2015	3/8/2018	7/30/2021	$ 425,000.00	$ 216,898.02	Bicycle Racks, Outreach & Education	$ 208,101.98	Yes
ML14031	Riverside County Waste Management	6/13/2014	12/12/2020		$ 90,000.00	$ 90,000.00	Purchase 3 H.D. CNG Vehicles	$ -	Yes
ML14032	City of Rancho Cucamonga	1/9/2015	1/8/2022		$ 113,990.00	$ 104,350.63	Expansion of Existing CNG Infras., Bicycle Lockers, 1 H.D. CNG \	$ 9,639.37	Yes
ML14033	City of Irvine	7/11/2014	2/10/2021	2/10/2022	$ 60,000.00	$ 60,000.00	Purchase 2 H.D. CNG Vehicles	$ -	Yes
ML14034	City of Lake Elsinore	9/5/2014	5/4/2021		$ 56,700.00	$ 56,700.00	EV Charging Stations	$ -	Yes
ML14049	City of Moreno Valley	7/11/2014	3/10/2021		$ 105,000.00	$ 101,976.09	One HD Nat Gas Vehicle, EV Charging, Bicycle Lanes and Racks	$ 3,023.91	Yes
ML14051	City of Brea	9/5/2014	1/4/2017	7/4/2018	$ 450,000.00	$ 450,000.00	Installation of Bicycle Trail	$ -	Yes
ML14054	City of Torrance	11/14/2014	4/13/2017	7/13/2017	$ 350,000.00	$ 319,908.80	Upgrade Maintenance Facility	$ 30,091.20	Yes
ML14055	City of Highland	10/10/2014	3/9/2018	3/9/2019	$ 500,000.00	$ 489,385.24	Bicycle Lanes and Outreach	$ 10,614.76	Yes
ML14056	City of Redlands	9/5/2014	5/4/2016	5/4/2018	$ 125,000.00	$ 125,000.00	Bicycle Lanes	$ -	Yes
ML14061	City of La Habra	3/11/2016	3/10/2022		$ 41,600.00	$ 41,270.49	Purchase Two Heavy-Duty Nat. Gas Vehicles	$ 329.51	Yes
ML14062	City of San Fernando	3/27/2015	5/26/2021	10/31/2023	$ 325,679.00	$ 325,679.00	Expand Existing CNG Fueling Station	$ -	Yes
ML14064	City of Claremont	7/11/2014	7/10/2020	1/10/2021	$ 60,000.00	$ 60,000.00	Purchase Two Heavy-Duty Nat. Gas Vehicles	$ -	Yes
ML14065	City of Orange	9/5/2014	8/4/2015		$ 10,000.00	$ 10,000.00	Electric Vehicle Charging Infrastructure	$ -	Yes
ML14067	City of Duarte	12/4/2015	1/3/2023	6/3/2024	$ 60,000.00	$ 60,000.00	Purchase Two Electric Buses	$ -	Yes
ML14070	City of Rancho Cucamonga	9/3/2016	12/2/2018		$ 365,245.00	$ 326,922.25	Bicycle Trail Improvements	$ 38,322.75	Yes
ML14071	City of Manhattan Beach	1/9/2015	11/8/2018		$ 22,485.00	$ 22,485.00	Electric Vehicle Charging Infrastructure	$ -	Yes
ML14072	City of Cathedral City	8/13/2014	1/12/2021	7/12/2022	$ 41,000.00	$ 41,000.00	Install Bicycle Racks & Implement Bicycle Education Program	$ -	Yes
ML14094	City of Yucaipa	6/9/2017	6/8/2018		$ 84,795.00	$ 84,795.00	Installation of Bicycle Lanes	$ -	Yes
ML14095	City of South Pasadena	1/10/2019	7/9/2019		$ 142,096.00	$ 134,182.09	Bicycle Trail Improvements	$ 7,913.91	Yes
ML14096	County of Los Angeles Dept of Pub Wrks	5/3/2019	12/2/2019	3/2/2020	$ 74,186.00	$ 74,186.00	San Gabriel BikeTrail Underpass Improvements	$ -	Yes
ML14097	County of Los Angeles Internal Services Department	9/6/2019	9/5/2020	9/5/2021	$ 104,400.00	$ 104,400.00	Electric Vehicle Charging Infrastructure	$ -	Yes
MS14001	Los Angeles County MTA	3/6/2015	4/30/2015		$ 1,216,637.00	$ 1,199,512.68	Clean Fuel Transit Service to Dodger Stadium	$ 17,124.32	Yes
MS14002	Orange County Transportation Authority	9/6/2013	4/30/2014		$ 576,833.00	$ 576,833.00	Clean Fuel Transit Service to Orange County Fair	$ -	Yes
MS14003	Orange County Transportation Authority	8/1/2013	4/30/2014	10/30/2014	$ 194,235.00	$ 184,523.00	Implement Metrolink Service to Angel Stadium	$ 9,712.00	Yes
MS14004	Orange County Transportation Authority	9/24/2013	4/30/2014		$ 36,800.00	$ 35,485.23	Implement Express Bus Service to Solar Decathalon	$ 1,314.77	Yes
MS14005	Transit Systems Unlimited, Inc.	4/11/2014	2/28/2016		$ 515,200.00	$ 511,520.00	Provide Expanded Shuttle Service to Hollywood Bowl	$ 3,680.00	Yes
MS14007	Orange County Transportation Authority	6/6/2014	4/30/2015		$ 208,520.00	$ 189,622.94	Implement Special Metrolink Service to Angel Stadium	$ 18,897.06	Yes
MS14008	Orange County Transportation Authority	8/13/2014	5/31/2015		$ 601,187.00	$ 601,187.00	Implement Clean Fuel Bus Service to Orange County Fair	$ -	Yes
MS14009	A-Z Bus Sales, Inc.	1/17/2014	12/31/2014	3/31/2015	$ 388,000.00	$ 388,000.00	Alternative Fuel School Bus Incentive Program	$ -	Yes
MS14037	Penske Truck Leasing Co., L.P.	4/7/2017	6/6/2020		$ 75,000.00	$ 75,000.00	Vehicle Maint. Fac. Modifications - Carson	$ -	Yes
MS14039	Waste Management Collection and Recycling, Inc.	7/10/2015	4/9/2016		$ 75,000.00	$ 75,000.00	Vehicle Maint. Fac. Modifications - Irvine	$ -	Yes
MS14040	Waste Management Collection and Recycling, Inc.	7/10/2015	4/9/2016		$ 75,000.00	$ 75,000.00	Vehicle Maint. Fac. Modifications - Santa Ana	$ -	Yes
MS14041	USA Waste of California, Inc.	9/4/2015	10/3/2021		$ 175,000.00	$ 175,000.00	Limited-Access CNG Station, Vehicle Maint. Fac. Modifications	$ -	Yes
MS14042	Grand Central Recycling & Transfer Station	6/6/2014	9/5/2021		$ 150,000.00	$ 150,000.00	Expansion of Existing CNG Station	$ -	Yes
MS14044	TIMCO CNG Fund I, LLC	5/2/2014	11/1/2020		$ 150,000.00	$ 150,000.00	New Public-Access CNG Station in Santa Ana	$ -	Yes
MS14045	TIMCO CNG Fund I, LLC	6/6/2014	12/5/2020		$ 150,000.00	$ 150,000.00	New Public-Access CNG Station in Inglewood	$ -	Yes
MS14046	Ontario CNG Station Inc.	5/15/2014	5/14/2020	11/14/2021	$ 150,000.00	$ 150,000.00	Expansion of Existing CNG Infrastructure	$ -	Yes
MS14047	Southern California Regional Rail Authority (Metrolink)	3/7/2014	9/30/2014		$ 49,203.00	$ 32,067.04	Special Metrolink Service to Autoclub Speedway	$ 17,135.96	Yes
MS14048	BusWest	3/14/2014	12/31/2014	5/31/2015	$ 940,850.00	$ 847,850.00	Alternative Fuel School Bus Incentive Program	$ 93,000.00	Yes
MS14052	Arcadia Unified School District	6/13/2014	10/12/2020		$ 78,000.00	$ 78,000.00	Expansion of an Existing CNG Fueling Station	$ -	Yes
MS14053	Upland Unified School District	1/9/2015	7/8/2021		$ 175,000.00	$ 175,000.00	Expansion of Existing CNG Infrastructure	$ -	Yes
MS14058	Orange County Transportation Authority	11/7/2014	4/6/2016	4/6/2017	$ 1,250,000.00	$ 1,250,000.00	Implement Various Signal Synchronization Projects	$ -	Yes
MS14059	Riverside County Transportation Commission	9/5/2014	3/4/2018	7/4/2023	$ 1,250,000.00	$ 1,209,969.08	Implement Various Signal Synchronization Projects	$ 40,030.92	No
MS14072	San Bernardino County Transportation Authority	3/27/2015	3/26/2018	3/26/2024	$ 1,237,500.00	$ 1,148,376.17	Implement Various Signal Synchronization Projects	$ 89,123.83	Yes
MS14073	Anaheim Transportation Network	1/9/2015	4/30/2017		$ 221,312.00	$ 221,312.00	Anaheim Resort Circulator Service	$ -	Yes
MS14074	Midway City Sanitary District	1/9/2015	3/8/2021		$ 250,000.00	$ 250,000.00	Limited-Access CNG Station & Facility Modifications	$ -	Yes
MS14075	Fullerton Joint Union High School District	7/22/2016	11/21/2023		$ 293,442.00	$ 293,442.00	Expansion of Existing CNG Infrastructure/Maintenance Fac. Mods	$ -	Yes
MS14076	Rialto Unified School District	6/17/2015	2/16/2022	6/25/2023	$ 225,000.00	$ 225,000.00	New Public Access CNG Station	$ -	Yes
MS14077	County Sanitation Districts of L.A. County	3/6/2015	5/5/2021		$ 175,000.00	$ 175,000.00	New Limited Access CNG Station	$ -	Yes
MS14079	Waste Resources, Inc.	9/14/2016	8/13/2022	10/13/2024	$ 100,000.00	$ 100,000.00	New Limited Access CNG Station	$ -	Yes

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Cont. #	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS14080	CR&R Incorporated	6/1/2015	8/31/2021	8/31/2022	$ 200,000.00	$ 200,000.00	Expansion of Existing CNG Infrastructure/Maint Fac. Mods.	$ -	Yes
MS14081	CR&R Incorporated	6/1/2015	5/30/2021		$ 175,000.00	$ 100,000.00	Expansion of Existing CNG Infrastructure/Maint Fac. Mods.	$ 75,000.00	Yes
MS14082	Grand Central Recycling & Transfer Station	12/4/2015	3/3/2023	3/3/2024	$ 150,000.00	$ 150,000.00	Construct New Public Access CNG Station	$ -	Yes
MS14083	Hacienda La Puente Unified School District	7/10/2015	3/9/2022	6/9/2023	$ 175,000.00	$ 175,000.00	New Limited Access CNG Station	$ -	Yes
MS14084	US Air Conditioning Distributors	5/7/2015	9/6/2021		$ 100,000.00	$ 100,000.00	Expansion of Existing CNG Infrastructure	$ -	Yes
MS14087	Orange County Transportation Authority	8/14/2015	4/30/2016		$ 239,645.00	$ 195,377.88	Implement Special Metrolink Service to Angel Stadium	$ 44,267.12	Yes
MS14088	Southern California Regional Rail Authority (Metrolink)	5/7/2015	9/30/2015		$ 79,660.00	$ 66,351.44	Special Metrolink Service to Autoclub Speedway	$ 13,308.56	Yes
MS14089	Top Shelf Consulting, LLC	1/18/2017	8/4/2016	3/31/2017	$ 200,000.00	$ 200,000.00	Enhanced Fleet Modernization Program	$ -	Yes
MS14090	City of Monterey Park	5/7/2015	5/6/2021		$ 225,000.00	$ 225,000.00	Expansion of Existing CNG Infrastructure	$ -	Yes
Total = 75									
Closed/Incomplete Contracts									
ML14020	County of Los Angeles Dept of Pub Wrks	8/13/2014	1/12/2018		$ 150,000.00	$ -	San Gabriel BikeTrail Underpass Improvements	$ 150,000.00	No
ML14021	Riverside County Regional Park and Open Space District	7/24/2014	12/23/2016	9/30/2024	$ 250,000.00	$ -	Bicycle Trail Improvements	$ 250,000.00	No
ML14027	County of Los Angeles Dept of Public Works	10/2/2015	5/1/2023	8/1/2028	$ 492,000.00	$ -	Construct New CNG Station in Canyon Country and La Puente	$ 492,000.00	No
ML14050	City of Yucaipa	7/11/2014	9/10/2015	7/1/2016	$ 84,795.00	$ -	Installation of Bicycle Lanes	$ 84,795.00	No
ML14060	County of Los Angeles Internal Services Department	10/6/2017	1/5/2019		$ 104,400.00	$ -	Electric Vehicle Charging Infrastructure	$ 104,400.00	No
ML14066	City of South Pasadena	9/12/2014	7/11/2016	2/11/2018	$ 142,096.00	$ -	Bicycle Trail Improvements	$ 142,096.00	No
ML14093	County of Los Angeles Dept of Pub Wrks	8/14/2015	1/13/2019		$ 150,000.00	$ -	San Gabriel BikeTrail Underpass Improvements	$ 150,000.00	No
MS14092	West Covina Unified School District	9/3/2016	12/2/2022		$ 124,000.00	$ -	Expansion of Existing CNG Infrastructure	$ 124,000.00	No
Total = 8									
Open/Complete Contracts									
ML14018	City of Los Angeles Dept of General Services	3/6/2015	9/5/2021	2/5/2026	$ 810,000.00	$ 810,000.00	Purchase 27 H.D. Nat. Gas Vehicles	$ -	Yes
Total = 1									
FY 2014-2016 Contracts									
Open Contracts									
ML16047	City of Fontana	1/6/2017	8/5/2019	8/5/2025	$ 500,000.00	$ -	Enhance an Existing Class 1 Bikeway	$ 500,000.00	No
ML16075	City of San Fernando	10/27/2016	2/26/2019	12/26/2024	$ 354,000.00	$ -	Install a Class 1 Bikeway	$ 354,000.00	No
ML16127	City of Yucaipa	11/7/2024	5/6/2025		$ 174,420.00	$ -	Implement a "Complete Streets" Pedestrian Access Project	$ 174,420.00	No
Total = 3									
Declined/Cancelled Contracts									
ML16014	City of Dana Point				$ 153,818.00	$ -	Extend an Existing Class 1 Bikeway	$ 153,818.00	No
ML16065	City of Temple City				$ 500,000.00	$ -	Implement a "Complete Streets" Pedestrian Access Project	$ 500,000.00	No
ML16067	City of South El Monte				$ 73,329.00	$ -	Implement an "Open Streets" Event	$ 73,329.00	No
ML16074	City of La Verne	7/22/2016	1/21/2023		$ 365,000.00	$ -	Install CNG Fueling Station	$ 365,000.00	No
MS16043	LBA Realty Company LLC				$ 100,000.00	$ -	Install Limited-Access CNG Station	$ 100,000.00	No
MS16080	Riverside County Transportation Commission				$ 1,200,000.00	$ -	Passenger Rail Service for Coachella and Stagecoach Festivals	$ 1,200,000.00	No
MS16098	Long Beach Transit				$ 198,957.00	$ -	Provide Special Bus Service to Stub Hub Center	$ 198,957.00	No
MS16104	City of Perris				$ 175,000.00	$ -	Expansion of Existing CNG Infrastructure	$ 175,000.00	No
MS16106	City of Lawndale	3/1/2019	11/30/2025		$ 175,000.00	$ -	Expansion of Existing CNG Infrastructure	$ 175,000.00	No
MS16107	Athens Services				$ 100,000.00	$ -	Construct a Limited-Access CNG Station	$ 100,000.00	No
MS16108	VNG 5703 Gage Avenue, LLC				$ 150,000.00	$ -	Construct Public-Access CNG Station in Bell Gardens	$ 150,000.00	No
MS16109	Sanitation Districts of Los Angeles County				$ 275,000.00	$ -	Expansion of an Existing L/CNG Station	$ 275,000.00	No
MS16111	VNG 925 Lakeview Avenue, LLC				$ 150,000.00	$ -	Construct Public Access CNG Station in Placentia	$ 150,000.00	No
Total = 13									
Closed Contracts									
ML16006	City of Cathedral City	4/27/2016	4/26/2022	4/26/2023	$ 25,000.00	$ 25,000.00	Bicycle Outreach	$ -	Yes
ML16007	City of Culver City Transportation Department	10/6/2015	4/5/2023		$ 246,000.00	$ 246,000.00	Purchase 7 H.D. Nat. Gas Vehicles, EV Charging Infrastructure	$ -	Yes
ML16009	City of Fountain Valley	10/6/2015	2/5/2018	5/5/2019	$ 46,100.00	$ 46,100.00	Install EV Charging Infrastructure	$ -	Yes
ML16011	City of Claremont	10/6/2015	6/5/2022		$ 90,000.00	$ 90,000.00	Purchase 3 Heavy-Duty Nat. Gas Vehicles	$ -	Yes
ML16012	City of Carson	1/15/2016	10/14/2022		$ 60,000.00	$ 60,000.00	Purchase 2 Heavy-Duty Nat. Gas Vehicles	$ -	Yes
ML16013	City of Monterey Park	12/4/2015	7/3/2022	7/3/2024	$ 90,000.00	$ 90,000.00	Purchase 3 Heavy-Duty Nat. Gas Vehicles	$ -	Yes
ML16015	City of Yorba Linda	3/4/2016	11/3/2017		$ 85,000.00	$ 85,000.00	Install Bicycle Lanes	$ -	Yes
ML16016	City of Los Angeles Dept of General Services	2/5/2016	12/4/2022		$ 630,000.00	$ 630,000.00	Purchase 21 Heavy-Duty Nat. Gas Vehicles	$ -	Yes
ML16018	City of Hermosa Beach	10/7/2016	1/6/2023		$ 29,520.00	$ 23,768.44	Purchase 2 M.D. Nat. Gas Vehicles, Bicycle Outreach	$ 5,751.56	Yes
ML16019	City of Los Angeles, Dept of General Services	1/25/2017	3/24/2023		$ 102,955.00	$ 102,955.00	Install EV Charging Infrastructure	$ -	Yes
ML16020	City of Pomona	4/1/2016	2/1/2018	8/1/2018	$ 440,000.00	$ 440,000.00	Install Road Surface Bicycle Detection Systems	$ -	Yes
ML16021	City of Santa Clarita	10/7/2016	6/6/2024		$ 49,400.00	$ 49,399.00	Install EV Charging Infrastructure	$ 1.00	Yes
ML16023	City of Banning	12/11/2015	12/10/2021		$ 30,000.00	$ 30,000.00	Purchase 1 H.D. Nat. Gas Vehicle	$ -	Yes
ML16024	City of Azusa	4/27/2016	2/26/2022		$ 30,000.00	$ 30,000.00	Purchase 1 H.D. Nat. Gas Vehicle	$ -	Yes
ML16025	City of South Pasadena	6/22/2016	4/21/2023	2/21/2025	$ 130,000.00	$ 130,000.00	Expand Existing CNG Infrastructure	$ -	Yes
ML16026	City of Downey	5/6/2016	9/5/2017		$ 40,000.00	$ 40,000.00	Install EV Charging Infrastructure	$ -	Yes
ML16027	City of Whittier	1/8/2016	11/7/2022		$ 30,000.00	$ 30,000.00	Purchase 1 H.D. Nat. Gas Vehicle	$ -	Yes

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Cont. #	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML16028	City of Azusa	9/9/2016	4/8/2018		$ 25,000.00	$ 25,000.00	Enhance Existing Class 1 Bikeway	$ -	Yes
ML16031	City of Cathedral City	12/19/2015	2/18/2017		$ 25,000.00	$ 25,000.00	Street Sweeping in Coachella Valley	$ -	Yes
ML16032	City of Azusa	9/9/2016	4/8/2019	4/8/2021	$ 474,925.00	$ 474,925.00	Implement a "Complete Streets" Pedestrian Access Project	$ -	Yes
ML16033	Coachella Valley Association of Governments	4/27/2016	4/26/2018		$ 250,000.00	$ 250,000.00	Street Sweeping Operations in Coachella Valley	$ -	Yes
ML16034	City of Riverside	3/11/2016	10/10/2018	7/10/2020	$ 500,000.00	$ 500,000.00	Implement a "Complete Streets" Pedestrian Access Project	$ -	Yes
ML16036	City of Brea	3/4/2016	12/3/2018		$ 500,000.00	$ 500,000.00	Install a Class 1 Bikeway	$ -	Yes
ML16037	City of Rancho Cucamonga	2/5/2016	11/4/2022		$ 30,000.00	$ 30,000.00	Purchase One Heavy-Duty Natural Gas Vehicle	$ -	Yes
ML16038	City of Palm Springs	4/1/2016	7/31/2022	9/30/2022	$ 170,000.00	$ 60,000.00	Install Bicycle Lanes & Purchase 2 Heavy-Duty Vehicles	$ 110,000.00	Yes
ML16041	City of Moreno Valley	9/3/2016	1/2/2021	4/2/2024	$ 20,000.00	$ 20,000.00	Install EV Charging Infrastructure	$ -	Yes
ML16042	City of San Dimas	4/1/2016	12/31/2019	12/31/2021	$ 55,000.00	$ 55,000.00	Install EV Charging Infrastructure	$ -	No
ML16045	City of Anaheim	6/22/2016	8/21/2019		$ 275,000.00	$ 255,595.08	Maintenance Facility Modifications	$ 19,404.92	Yes
ML16046	City of El Monte	4/1/2016	5/31/2021	5/31/2023	$ 20,160.00	$ 14,637.50	Install EV Charging Infrastructure	$ 5,522.50	Yes
ML16049	City of Buena Park	4/1/2016	11/30/2018		$ 429,262.00	$ 429,262.00	Installation of a Class 1 Bikeway	$ -	Yes
ML16050	City of Westminster	5/6/2016	7/5/2020	5/5/2022	$ 115,000.00	$ 93,925.19	Installation of EV Charging Infrastructure	$ 21,074.81	Yes
ML16051	City of South Pasadena	2/12/2016	1/11/2017	12/11/2017	$ 320,000.00	$ 258,691.25	Implement "Open Streets" Event with Various Cities	$ 61,308.75	Yes
ML16052	City of Rancho Cucamonga	9/3/2016	11/2/2019	3/31/2021	$ 315,576.00	$ 305,576.00	Install Two Class 1 Bikeways	$ 10,000.00	Yes
ML16053	City of Claremont	3/11/2016	7/10/2018	12/10/2020	$ 498,750.00	$ 498,750.00	Implement a "Complete Streets" Pedestrian Access Project	$ -	Yes
ML16054	City of Yucaipa	3/26/2016	7/26/2018	10/25/2019	$ 120,000.00	$ 120,000.00	Implement a "Complete Streets" Pedestrian Access Project	$ -	Yes
ML16055	City of Ontario	5/6/2016	5/5/2022		$ 270,000.00	$ 270,000.00	Purchase Nine Heavy-Duty Natural-Gas Vehicles	$ -	Yes
ML16056	City of Ontario	3/23/2016	9/22/2020	9/22/2021	$ 106,565.00	$ 106,565.00	Expansion of an Existing CNG Station	$ -	Yes
ML16058	Los Angeles County Department of Public Works	10/7/2016	4/6/2024		$ 371,898.00	$ 371,898.00	Purchase 11 H.D. Nat. Gas Vehicles and Install EV Charging Infra	$ -	Yes
ML16059	City of Burbank	4/1/2016	2/28/2022		$ 180,000.00	$ 180,000.00	Purchase 6 H.D. Nat. Gas Vehicles	$ -	Yes
ML16060	City of Cudahy	2/5/2016	10/4/2017		$ 73,910.00	$ 62,480.00	Implement an "Open Streets" Event	$ 11,430.00	Yes
ML16061	City of Murrieta	4/27/2016	1/26/2020		$ 11,642.00	$ 9,398.36	Installation of EV Charging Infrastructure	$ 2,243.64	Yes
ML16062	City of Colton	6/3/2016	7/2/2020		$ 21,003.82	$ 21,003.82	Installation of EV Charging Infrastructure	$ -	Yes
ML16063	City of Glendora	3/4/2016	4/3/2022		$ 30,000.00	$ 30,000.00	Purchase One H.D. Nat. Gas Vehicle	$ -	Yes
ML16064	County of Orange, OC Parks	2/21/2017	10/20/2018		$ 204,073.00	$ 157,632.73	Implement "Open Streets" Events with Various Cities	$ 46,440.27	Yes
ML16066	City of Long Beach Public Works	1/13/2017	9/12/2018		$ 75,050.00	$ 63,763.62	Implement an "Open Streets" Event	$ 11,286.38	Yes
ML16068	Riverside County Dept of Public Health	12/2/2016	8/1/2018		$ 171,648.00	$ 171,648.00	Implement "Open Streets" Events with Various Cities	$ -	Yes
ML16069	City of West Covina	3/10/2017	6/9/2021		$ 54,199.00	$ 54,199.00	Installation of EV Charging Infrastructure	$ -	Yes
ML16070	City of Beverly Hills	2/21/2017	6/20/2023		$ 90,000.00	$ 90,000.00	Purchase 3 H.D. Nat. Gas Vehicles	$ -	Yes
ML16071	City of Highland	5/5/2017	1/4/2020	1/4/2023	$ 264,500.00	$ 264,500.00	Implement a "Complete Streets" Pedestrian Access Project	$ -	Yes
ML16072	City of Palm Desert	3/4/2016	1/4/2020	1/3/2022	$ 56,000.00	$ 56,000.00	Installation of EV Charging Infrastructure	$ -	Yes
ML16073	City of Long Beach Public Works	1/13/2017	7/12/2017		$ 50,000.00	$ 50,000.00	Implement an "Open Streets" Event	$ -	Yes
ML16076	City of San Fernando	2/21/2017	8/20/2021		$ 43,993.88	$ 43,993.88	Install EV Charging Infrastructure	$ -	Yes
ML16078	City of Moreno Valley	5/6/2016	11/5/2017	5/5/2018	$ 32,800.00	$ 31,604.72	Install Bicycle Infrastructure & Implement Bicycle Education	$ 1,195.28	Yes
ML16079	City of Yucaipa	4/1/2016	3/31/2020		$ 5,000.00	$ 5,000.00	Purchase Electric Lawnmower	$ -	Yes
ML16083	City of El Monte	4/1/2016	4/30/2021	4/30/2023	$ 57,210.00	$ 25,375.60	Install EV Charging Infrastructure	$ 31,834.40	Yes
ML16122	City of Wildomar	6/8/2018	6/7/2019		$ 500,000.00	$ 500,000.00	Install Bicycle Lanes	$ -	Yes
ML16126	City of Palm Springs	7/31/2019	7/30/2020	10/30/2020	$ 22,000.00	$ 19,279.82	Install Bicycle Racks, and Implement Bicycle Outreach	$ 2,720.18	Yes
MS16001	Los Angeles County MTA	4/1/2016	4/30/2017		$ 1,350,000.00	$ 1,332,039.84	Clean Fuel Transit Service to Dodger Stadium	$ 17,960.16	Yes
MS16002	Orange County Transportation Authority	10/6/2015	5/31/2016		$ 722,266.00	$ 703,860.99	Clean Fuel Transit Service to Orange County Fair	$ 18,405.01	Yes
MS16003	Special Olympics World Games Los Angeles 2015	10/9/2015	12/30/2015		$ 380,304.00	$ 380,304.00	Low-Emission Transportation Service for Special Olympics World	$ -	Yes
MS16004	Mineral LLC	9/4/2015	7/3/2017	1/3/2018	$ 27,690.00	$ 9,300.00	Design, Develop, Host and Maintain MSRC Website	$ 18,390.00	Yes
MS16029	Orange County Transportation Authority	1/12/2018	6/11/2020		$ 836,413.00	$ 567,501.06	TCM Partnership Program - OC Bikeways	$ 268,911.94	Yes
MS16030	Better World Group Advisors	12/19/2015	12/31/2017	12/31/2019	$ 271,619.00	$ 245,355.43	Programmic Outreach Services to the MSRC	$ 26,263.57	Yes
MS16081	EDCO Disposal Corporation	3/4/2016	10/3/2022		$ 150,000.00	$ 150,000.00	Expansion of Existing Public Access CNG Station	$ -	Yes
MS16084	Transit Systems Unlimited, Inc.	5/6/2016	2/28/2018		$ 565,600.00	$ 396,930.00	Implement Special Shuttle Service from Union Station to Hollywoo	$ 168,670.00	Yes
MS16085	Southern California Regional Rail Authority (Metrolink)	3/11/2016	9/30/2016		$ 78,033.00	$ 64,285.44	Special MetroLink Service to Autoclub Speedway	$ 13,747.56	Yes
MS16086	San Bernardino County Transportation Authority	9/3/2016	10/2/2021		$ 800,625.00	$ 769,021.95	Freeway Service Patrols	$ 31,603.05	Yes
MS16087	Burrtec Waste & Recycling Services, LLC	7/8/2016	3/7/2023		$ 100,000.00	$ 100,000.00	Construct New Limited-Access CNG Station	$ -	Yes
MS16088	Transit Systems Unlimited, Inc.	5/12/2017	1/11/2023		$ 17,000.00	$ 17,000.00	Expansion of Existing CNG Station	$ -	Yes
MS16089	Orange County Transportation Authority	7/8/2016	4/30/2017		$ 128,500.00	$ 128,500.00	Implement Special Bus Service to Angel Stadium	$ -	Yes
MS16092	San Bernardino County Transportation Authority	2/3/2017	1/2/2019		$ 242,937.00	$ 242,016.53	Implement a Series of "Open Streets" Events	$ 920.47	Yes
MS16093	Orange County Transportation Authority	9/3/2016	3/2/2018	9/2/2018	$ 1,553,657.00	$ 1,499,575.85	Implement a Mobile Ticketing System	$ 54,081.15	Yes
MS16094	Riverside County Transportation Commission	1/25/2017	1/24/2022	2/24/2024	$ 1,909,241.00	$ 1,635,864.00	MetroLink First Mile/Last Mile Mobility Strategies	$ 273,377.00	Yes
MS16095	Orange County Transportation Authority	7/22/2016	5/31/2017		$ 694,645.00	$ 672,864.35	Implement Special Bus Service to Orange County Fair	$ 21,780.65	Yes
MS16096	San Bernardino County Transportation Authority	10/27/2016	12/26/2019	6/30/2021	$ 450,000.00	$ 450,000.00	EV Charging Infrastructure	$ -	Yes
MS16097	Walnut Valley Unified School District	10/7/2016	11/6/2022		$ 250,000.00	$ 250,000.00	Expand CNG Station & Modify Maintenance Facility	$ -	Yes
MS16099	Foothill Transit	3/3/2017	3/31/2017		$ 50,000.00	$ 50,000.00	Provide Special Bus Service to the Los Angeles County Fair	$ -	Yes
MS16100	Southern California Regional Rail Authority (Metrolink)	5/5/2017	9/30/2017		$ 80,455.00	$ 66,169.43	Provide Metrolink Service to Autoclub Speedway	$ 14,285.57	Yes
MS16102	Nasa Services, Inc.	2/21/2017	4/20/2023		$ 100,000.00	$ 100,000.00	Construct a Limited-Access CNG Station	$ -	Yes
MS16103	Arrow Services, Inc.	2/3/2017	4/2/2023		$ 100,000.00	$ 100,000.00	Construct a Limited-Access CNG Station	$ -	Yes

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Cont. #	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS16105	Huntington Beach Union High School District	3/3/2017	7/2/2024		$ 175,000.00	$ 175,000.00	Expansion of Existing CNG Infrastructure	$ -	Yes
MS16112	Orange County Transportation Authority	4/14/2017	3/13/2024		$ 1,470,000.00	$ 1,470,000.00	Repower Up to 98 Transit Buses	$ -	Yes
MS16113	Los Angeles County MTA	5/12/2017	4/11/2024		$ 1,875,000.00	$ 1,875,000.00	Repower Up to 125 Transit Buses	$ -	Yes
MS16114	City of Norwalk	3/3/2017	6/2/2024		$ 32,170.00	$ 32,170.00	Purchase 3 Transit Buses	$ -	Yes
MS16116	Riverside Transit Agency	3/3/2017	1/2/2023		$ 10,000.00	$ 9,793.00	Purchase One Transit Bus	$ 207.00	Yes
MS16117	Omnitrans	4/21/2017	6/20/2023		$ 175,000.00	$ 175,000.00	Expansion of Existing CNG Infrastructure	$ -	Yes
MS16118	Omnitrans	4/21/2017	6/20/2023		$ 175,000.00	$ 175,000.00	Expansion of Existing CNG Infrastructure	$ -	Yes
MS16119	Omnitrans	4/21/2017	8/20/2022		$ 150,000.00	$ -	New Public Access CNG Station	$ 150,000.00	No
MS16124	Riverside County Transportation Commission	12/14/2018	12/14/2019	5/14/2020	$ 253,239.00	$ 246,856.41	Extended Freeway Service Patrols	$ 6,382.59	Yes
MS16125	San Bernardino County Transportation Authority	9/20/2019	11/19/2020		$ 1,000,000.00	$ 1,000,000.00	Traffic Signal Synchronization Projects	$ -	Yes
MS16127	Los Angeles County MTA	6/29/2021		6/28/2022	$ 2,500,000.00	$ 2,500,000.00	Expansion of the Willowbrook/Rosa Parks Transit Station	$ -	Yes
Total = 91									
Closed/Incomplete Contracts									
ML16005	City of Palm Springs	3/4/2016	10/3/2017		$ 40,000.00	$ -	Install Bicycle Racks, and Implement Bicycle Outreach	$ 40,000.00	No
ML16035	City of Wildomar	4/1/2016	11/1/2017		$ 500,000.00	$ -	Install Bicycle Lanes	$ 500,000.00	No
ML16057	City of Yucaipa	4/27/2016	1/26/2019	1/26/2024	$ 380,000.00	$ -	Implement a "Complete Streets" Pedestrian Access Project	$ 380,000.00	No
MS16082	Riverside County Transportation Commission	9/3/2016	8/2/2018		$ 590,759.00	$ 337,519.71	Extended Freeway Service Patrols	$ 253,239.29	No
MS16090	Los Angeles County MTA	10/27/2016	4/26/2020	10/26/2020	$ 2,500,000.00	$ -	Expansion of the Willowbrook/Rosa Parks Transit Station	$ 2,500,000.00	No
MS16091	San Bernardino County Transportation Authority	10/7/2016	11/6/2018		$ 1,000,000.00	$ -	Traffic Signal Synchronization Projects	$ 1,000,000.00	No
MS16123	Orange County Transportation Authority	12/7/2018	11/6/2023		$ 91,760.00	$ -	Install La Habra Union Pacific Bikeway	$ 91,760.00	No
Total = 7									
Open/Complete Contracts									
ML16008	City of Pomona	9/20/2016	11/19/2022	5/19/2025	$ 60,000.00	$ 60,000.00	Purchase 3 Medium-Duty and 1 Heavy-Duty Nat. Gas Vehicles	$ -	Yes
ML16017	City of Long Beach	2/5/2016	8/4/2023	5/4/2029	$ 1,415,400.00	$ 1,415,400.00	Purchase 50 Medium-Duty, 17 H.D. Nat. Gas Vehicles, New CNG	$ -	Yes
ML16022	Los Angeles Department of Water and Power	5/5/2017	3/4/2024	6/4/2028	$ 240,000.00	$ 240,000.00	Purchase 8 H.D. Nat. Gas Vehicles	$ -	Yes
ML16039	City of Torrance Transit Department	1/6/2017	9/5/2022	3/27/2026	$ 27,392.00	$ 27,391.57	Install Eight Level II EV Chargers	$ 0.43	Yes
ML16040	City of Eastvale	1/6/2017	7/5/2022	11/5/2026	$ 66,409.00	$ 66,040.41	Install EV Charging Infrastructure	$ 368.59	Yes
ML16077	City of Rialto	5/3/2018	10/2/2021	2/2/2026	$ 463,216.00	$ 463,216.00	Ped. Access Improvements, Bicycle Lanes, Bicycle Sharing, Outre	$ -	Yes
MS16110	City of Riverside	10/6/2017	2/5/2025	10/5/2026	$ 270,000.00	$ 270,000.00	Expansion of Existing CNG Station and Maintenance Facility Impr	$ -	Yes
MS16115	City of Santa Monica	4/14/2017	7/13/2025		$ 450,000.00	$ 450,000.00	Repower 30 Transit Buses	$ -	Yes
MS16120	Omnitrans	4/7/2017	5/6/2025		$ 945,000.00	$ 870,000.00	Repower 63 Existing Buses	$ 75,000.00	Yes
MS16121	Long Beach Transit	11/3/2017	4/2/2024	11/30/2028	$ 600,000.00	$ 600,000.00	Repower 39 and Purchase 1 New Transit Buses with Near-Zero E	$ -	Yes
Total = 10									
Terminated Contracts									
ML16010	City of Fullerton	10/7/2016	4/6/2023	4/6/2024	$ 78,222.00	$ 27,896.71	Install EV Charging Stations	$ 50,325.29	Yes
ML16048	City of Placentia	3/26/2016	5/25/2021	12/25/2026	$ 80,000.00	$ 18,655.00	Install EV Charging Infrastructure	$ 61,345.00	Yes
Total = 2									
FY 2016-2018 Contracts									
Open Contracts									
ML18051	City of Rancho Cucamonga	3/1/2019	10/31/2025	4/30/2030	$ 91,500.00	$ 82,500.00	Purchase 6 Light-Duty ZEVs, Install 3 Limited Access and 3 Public Access EV Charging Stations	$ 9,000.00	No
ML18055	City of Long Beach	11/29/2018	11/28/2026	11/28/2029	$ 529,728.00	$ 339,734.73	Install EV Charging Stations	$ 189,993.27	No
ML18057	City of Carson	10/5/2018	7/4/2023	9/15/2027	$ 106,250.00	$ 50,000.00	Purchase 5 Zero-Emission Vehicles and Infrastructure	$ 56,250.00	No
ML18060	County of Los Angeles Internal Services Department	10/5/2018	8/4/2026	8/4/2028	$ 1,273,938.00	$ 724,868.96	Purchase 29 Light-Duty Zero Emission Vehicles, 1 Med/Heavy Duty ZEV, 6 Heavy-Duty Near-Zero Vehicles and Install EV Charging Station	$ 549,069.04	No
ML18067	City of Pico Rivera	9/7/2018	11/6/2022	12/6/2027	$ 83,500.00	$ -	Install EVSE	$ 83,500.00	No
ML18068	City of Mission Viejo	7/31/2019	6/30/2027	6/29/2029	$ 86,940.00	$ 20,000.00	Purchase 2 Light-Duty ZEVs & Install EVSE	$ 66,940.00	No
ML18069	City of Torrance	3/1/2019	7/31/2027	12/31/2028	$ 187,400.00	$ 100,000.00	Purchase 4 Heavy-Duty Near-Zero Emission Vehicles and Install 1	$ 87,400.00	No
ML18078	County of Riverside	10/5/2018	10/4/2028	10/4/2030	$ 375,000.00	$ 300,000.00	Purchase 15 Heavy-Duty Vehicles	$ 75,000.00	No
ML18082	City of Los Angeles Bureau of Sanitation	8/30/2019	8/29/2028	8/29/2030	$ 900,000.00	$ -	Purchase 8 MD Vehicles and 8 Limited EV Charging Infrastructure	$ 900,000.00	No
ML18092	City of South Pasadena	2/1/2019	1/31/2025	4/30/2027	$ 50,000.00	$ 20,000.00	Procure Two Light-Duty ZEVs and Install EV Charging Station	$ 30,000.00	No
ML18135	City of Azusa	12/6/2019	12/5/2029		$ 30,000.00	$ 30,000.00	Purchase Three Light-Duty ZEVs	$ -	No
ML18145	City of Los Angeles Dept of Transportation	1/10/2020	4/9/2027	12/31/2028	$ 1,400,000.00	$ 1,100,000.00	Provide One Hundred Rebates to Purchasers of Zero-Emission Taxis and Purchase Eleven HD ZEVs	$ 300,000.00	No
ML18151	County of San Bernardino Department of Public Works	8/25/2020	10/24/2029		$ 200,000.00	$ 150,000.00	Purchase Eight Heavy-Duty Near Zero Emission Vehicles	$ 50,000.00	No
ML18152	County of San Bernardino Flood Control District	8/11/2020	10/10/2029		$ 108,990.00	$ 75,000.00	Purchase Five Heavy-Duty Near Zero Emission Vehicles	$ 33,990.00	No
MS18106	R.F. Dickson Co., Inc.	7/19/2019	1/18/2026		$ 265,000.00	$ 250,470.90	Expansion of Existing Infrastructure/Mechanic Training	$ 14,529.10	Yes
MS18181	San Bernardino County Transportation Authority	4/10/2023	9/9/2030	9/9/2031	$ 1,662,000.00	$ -	Construct Hydrogen Fueling Station	$ 1,662,000.00	No
MS18182	Air Products and Chemicals Inc.	3/8/2023	2/7/2031	8/7/2032	$ 1,000,000.00	$ -	Install Publicly Accessible Hydrogen Fueling Station	$ 1,000,000.00	No
Total = 17									
Declined/Cancelled Contracts									

AB2766 Contracts Status Report

Cont. #	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML18044	City of Malibu	8/8/2018	10/7/2022	10/7/2023	$ 50,000.00	$ -	Install EV Charging Infrastructure	$ 50,000.00	No
ML18053	City of Paramount	9/7/2018	3/6/2023		$ 64,675.00	$ -	Install EV Charging Infrastructure	$ 64,675.00	No
ML18075	City of Orange				$ 25,000.00	$ -	One Heavy-Duty Vehicle	$ 25,000.00	No
ML18140	City of Bell Gardens	12/14/2018	12/13/2028		$ 50,000.00	$ -	Purchase Two Heavy-Duty Near-ZEVs	$ 50,000.00	No
ML18149	City of Sierra Madre				$ 50,000.00	$ -	Implement Bike Share Program	$ 50,000.00	No
ML18150	City of South El Monte				$ 20,000.00	$ -	Implement Bike Share Program	$ 20,000.00	No
ML18153	City of Cathedral City	5/3/2019	4/2/2025		$ 52,215.00	$ -	Install EV Charging Infrastructure	$ 52,215.00	No
ML18158	City of Inglewood				$ 146,000.00	$ -	Purchase 4 Light-Duty Zero Emission, 4 Heavy-Duty Near-Zero Emission Vechicles and EV Charging Infrastructure	$ 146,000.00	No
ML18164	City of Pomona				$ 200,140.00	$ -	Purchase Three Heavy-Duty ZEVs	$ 200,140.00	No
ML18165	City of Baldwin Park	2/1/2019	1/30/2024		$ 49,030.00	$ -	Expand CNG Station	$ 49,030.00	No
ML18172	City of Huntington Park	3/1/2019	2/28/2025		$ 65,450.00	$ -	Purchase One Heavy-Duty ZEV	$ 65,450.00	No
ML18174	City of Bell	11/22/2019	7/21/2026		$ 25,000.00	$ -	Purchase One Heavy-Duty Near-Zero Emission Vehicle	$ 25,000.00	No
ML18177	City of San Bernardino	6/7/2019	12/6/2026	12/6/2028	$ 279,088.00	$ -	Purchase Medium- and Heavy-Duty Evs and Install EV Charging S	$ 279,088.00	No
MS18009	Penske Truck Leasing Co., L.P.	8/8/2018	12/7/2020		$ 82,500.00	$ -	Modify Maintenance Facility & Train Technicians	$ 82,500.00	No
MS18013	California Energy Commission				$ 3,000,000.00	$ -	Advise MSRC and Administer Hydrogen Infrastructure Projects	$ 3,000,000.00	No
MS18017	City of Banning				$ 225,000.00	$ -	Expansion of Existing CNG Infrastructure	$ 225,000.00	No
MS18018	City of Norwalk	6/8/2018	9/7/2019		$ 75,000.00	$ -	Vehicle Maintenance Facility Modifications	$ 75,000.00	No
MS18107	Huntington Beach Union High School District				$ 225,000.00	$ -	Expansion of Existing Infrastructure	$ 225,000.00	No
MS18109	City of South Gate				$ 175,000.00	$ -	Install New Limited-Access CNG Infrastructure	$ 175,000.00	No
MS18111	Newport-Mesa Unified School District				$ 175,000.00	$ -	Expansion of Existing CNG Infrastructure	$ 175,000.00	No
MS18112	Banning Unified School District	11/29/2018	11/28/2024	11/28/2025	$ 275,000.00	$ -	Install New CNG Infrastructure	$ 275,000.00	No
MS18113	City of Torrance				$ 100,000.00	$ -	Expansion of Existing CNG Infrastructure	$ 100,000.00	No
MS18114	Los Angeles County Department of Public Works	11/15/2019	11/14/2026		$ 175,000.00	$ -	Install New Limited-Access CNG Infrastructure in La Crescenta	$ 175,000.00	No
MS18116	Los Angeles County Department of Public Works	11/15/2019	11/14/2026		$ 175,000.00	$ -	Install New Limited-Access CNG Infrastructure in Downey	$ 175,000.00	No
MS18119	LBA Realty Company XI LP				$ 100,000.00	$ -	Install New Limited-Access CNG Infrastructure	$ 100,000.00	No
MS18121	City of Montebello				$ 70,408.00	$ -	Expansion of Existing CNG Infrastructure	$ 70,408.00	No
MS18175	Regents of the University of California	6/7/2019	8/6/2025	8/6/2026	$ 1,000,000.00	$ -	Expansion of Existing Hydrogen Station	$ 1,000,000.00	No
MS18183	Nikola-TA HRS 1, LLC	9/28/2022	1/27/2030		$ 1,660,000.00	$ -	Install Publicly Accessible Hydrogen Fueling Station	$ 1,660,000.00	No
MS18184	Clean Energy				$ 1,000,000.00	$ -	Install Publicly Accessible Hydrogen Fueling Station	$ 1,000,000.00	No
Total = 29									
Closed Contracts									
ML18019	City of Hidden Hills	5/3/2018	5/2/2022	5/2/2023	$ 49,999.00	$ 49,999.00	Purchase Two Light-Duty ZEVs and EVSE	$ -	Yes
ML18021	City of Signal Hill	4/6/2018	1/5/2022		$ 49,661.00	$ 46,079.31	Install EV Charging Stations	$ 3,581.69	Yes
ML18022	City of Desert Hot Springs	5/3/2018	1/2/2020	1/2/2021	$ 50,000.00	$ 50,000.00	Traffic Signal and Synchronization Project	$ -	Yes
ML18028	City of Artesia	6/28/2018	3/27/2025		$ 50,000.00	$ 50,000.00	Install EVSE	$ -	Yes
ML18030	City of Grand Terrace	6/28/2018	3/27/2022	3/27/2025	$ 45,000.00	$ 45,000.00	Install EVSE	$ -	Yes
ML18033	City of Duarte	8/8/2018	2/7/2025		$ 50,000.00	$ 50,000.00	Purchase 1-HD ZEV	$ -	Yes
ML18034	City of Calabasas	6/8/2018	3/7/2022	3/7/2023	$ 50,000.00	$ 50,000.00	Install EVSE	$ -	Yes
ML18035	City of Westlake Village	8/8/2018	11/7/2022		$ 50,000.00	$ 50,000.00	Install EVSE	$ -	Yes
ML18039	City of Redlands	6/28/2018	7/27/2024	1/27/2025	$ 63,191.00	$ 63,190.33	Purchase 1 Medium/Heavy-Duty ZEV and Install EV Charging Sta	$ 0.67	Yes
ML18040	City of Agoura Hills	7/13/2018	6/12/2022		$ 17,914.00	$ 17,914.00	Install EV Charging Infrastructure	$ -	Yes
ML18041	City of West Hollywood	8/8/2018	12/7/2023	6/7/2024	$ 50,000.00	$ 50,000.00	Install EV Charging Infrastructure	$ -	Yes
ML18042	City of San Fernando	6/28/2018	2/27/2024		$ 10,000.00	$ 10,000.00	Purchase 1 Light-Duty ZEV	$ -	Yes
ML18043	City of Yorba Linda	9/7/2018	12/6/2023	12/6/2024	$ 87,990.00	$ 87,990.00	Install EV Charging Infrastructure	$ -	Yes
ML18048	City of Lynwood	6/28/2018	10/27/2024		$ 93,500.00	$ 44,505.53	Purchase Up to 3 Medium-Duty Zero-Emission Vehicles	$ 48,994.47	Yes
ML18049	City of Downey	7/6/2018	5/5/2023		$ 148,260.00	$ 148,116.32	Install EV Charging Stations	$ 143.68	Yes
ML18052	City of Garden Grove	8/8/2018	10/7/2022		$ 53,593.00	$ 46,164.28	Purchase 4 L.D. ZEVs and Infrastructure	$ 7,428.72	Yes
ML18054	City of La Habra Heights	8/8/2018	4/7/2022		$ 9,200.00	$ 9,200.00	Purchase 1 L.D. ZEV	$ -	Yes
ML18056	City of Chino	3/29/2019	9/28/2023		$ 103,868.00	$ 103,868.00	Install EV Charging Infrastructure	$ -	Yes
ML18061	City of Moreno Valley	5/9/2019	3/8/2025		$ 25,000.00	$ 25,000.00	Purchase 1 Heavy-Duty Near-ZEV	$ -	Yes
ML18062	City of Beaumont	8/8/2018	9/7/2024		$ 25,000.00	$ 25,000.00	Purchase 1 Heavy-Duty Near-ZEV	$ -	Yes
ML18070	City of Lomita	11/29/2018	6/28/2022		$ 6,250.00	$ 6,250.00	Purchase 1 Light-Duty ZEV	$ -	Yes
ML18071	City of Chino Hills	9/7/2018	10/6/2022		$ 20,000.00	$ 20,000.00	Purchase 2 Light-Duty ZEVs	$ -	Yes
ML18076	City of Culver City Transportation Department	10/5/2018	10/4/2023		$ 1,130.00	$ 1,130.00	Purchase Light-Duty ZEV	$ -	Yes
ML18077	City of Orange	11/2/2018	10/1/2022		$ 59,776.00	$ 59,776.00	Four Light-Duty ZEV and EV Charging Infrastructure	$ -	Yes
ML18079	City of Pasadena	12/7/2018	11/6/2023		$ 183,670.00	$ 183,670.00	EV Charging Infrastructure	$ -	Yes
ML18086	City of Los Angeles Bureau of Street Lighting	2/8/2019	4/7/2023		$ 300,000.00	$ 300,000.00	Install Sixty EV Charging Stations	$ -	Yes
ML18087	City of Murrieta	3/29/2019	3/28/2025		$ 143,520.00	$ 143,520.00	Install Four EV Charging Stations	$ -	Yes
ML18088	City of Big Bear Lake	11/29/2018	8/28/2020	8/28/2021	$ 50,000.00	$ 50,000.00	Install Bicycle Trail	$ -	Yes
ML18090	City of Santa Clarita	5/9/2019	2/8/2023	2/8/2024	$ 122,000.00	$ 118,978.52	Install Nine EV Charging Stations	$ 3,021.48	Yes
ML18095	City of Gardena	11/9/2018	12/8/2024		$ 25,000.00	$ 25,000.00	Purchase Heavy-Duty Near-ZEV	$ -	Yes
ML18096	City of Highland	12/13/2019	8/12/2024		$ 10,000.00	$ 9,918.84	Purchase Light-Duty Zero Emission Vehicle	$ 81.16	Yes

Clean Transportation Funding from the MSRC

AB2766 Contracts Status Report

Cont. #	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML18097	City of Temple City	11/29/2018	7/28/2022		$ 16,000.00	$ 12,000.00	Purchase Two Light-Duty ZEVs	$ 4,000.00	Yes
ML18098	City of Redondo Beach	2/1/2019	3/31/2023	3/31/2025	$ 89,400.00	$ 89,400.00	Install Six EV Charging Stations	$ -	Yes
ML18099	City of Laguna Hills	3/1/2019	5/31/2023	9/30/2024	$ 32,250.00	$ 32,250.00	Install EV Charging Stations	$ -	Yes
ML18101	City of Burbank	2/1/2019	4/30/2024	10/30/2024	$ 137,310.00	$ 137,310.00	Install Twenty EV Charging Stations	$ -	Yes
ML18126	City of Lomita	12/7/2018	1/6/2020		$ 26,500.00	$ 13,279.56	Install bicycle racks and lanes	$ 13,220.44	Yes
ML18127	City of La Puente	2/1/2019	2/28/2023		$ 10,000.00	$ 7,113.70	Purchase Light-Duty Zero Emission Vehicle	$ 2,886.30	Yes
ML18128	City of Aliso Viejo	8/30/2019	11/29/2023		$ 65,460.00	$ 65,389.56	Purchase Two Light-Duty ZEVs and Install Seven EVSEs	$ 70.44	Yes
ML18130	City of Lake Forest	3/1/2019	9/30/2022		$ 106,480.00	$ 106,480.00	Install Twenty-One EVSEs	$ -	Yes
ML18131	City of Los Angeles, Police Department	5/3/2019	12/2/2022		$ 19,294.00	$ 19,294.00	Purchase Three Light-Duty ZEVs	$ -	Yes
ML18136	City of Orange	4/12/2019	8/11/2024		$ 40,000.00	$ 40,000.00	Purchase Four Light-Duty Zero Emission Vehicles	$ -	Yes
ML18138	City of La Canada Flintridge	2/8/2019	5/7/2023		$ 32,589.00	$ 32,588.07	Install Four EVSEs and Install Bicycle Racks	$ 0.93	Yes
ML18139	City of Calimesa	8/30/2019	7/29/2020	11/29/2021	$ 50,000.00	$ 50,000.00	Install Bicycle Lane	$ -	Yes
ML18142	City of La Quinta	4/24/2019	2/23/2023	8/23/2023	$ 51,780.00	$ 51,780.00	Install Two EV Charging Stations	$ -	Yes
ML18148	City of San Dimas	1/21/2022	5/20/2023	11/20/2024	$ 50,000.00	$ 50,000.00	Implement Bicycle Detection Measures	$ -	Yes
ML18154	City of Hemet	11/22/2019	9/21/2023	3/21/2024	$ 30,000.00	$ 30,000.00	Purchase Two Light-Duty ZEVs and EV Charging Stations	$ -	Yes
ML18155	City of Claremont	7/31/2019	9/30/2023		$ 35,609.00	$ 35,608.86	Install EV Charging Infrastructure	$ 0.14	Yes
ML18156	City of Covina	2/1/2019	3/31/2023	12/31/2023	$ 63,800.00	$ 62,713.00	Purchase Four Light-Duty ZEVs and EV Charging Infrastructure	$ 1,087.00	Yes
ML18160	City of Irwindale	3/29/2019	12/28/2022		$ 14,263.00	$ 14,263.00	Purchase Two Light-Duty ZEVs	$ -	Yes
ML18169	City of Alhambra	6/14/2019	8/13/2024		$ 111,980.00	$ 111,980.00	Install EV Charging Infrastructure	$ -	Yes
ML18173	City of Manhattan Beach	3/29/2019	2/28/2023		$ 49,000.00	$ 49,000.00	Purchase Two Light-Duty ZEVs and EV Charging Infrastructure	$ -	Yes
ML18176	City of Coachella	3/1/2019	11/30/2024		$ 58,020.00	$ 58,020.00	Install EV Charging Stations	$ -	Yes
ML18179	City of Rancho Mirage	8/20/2021	2/19/2022		$ 50,000.00	$ 50,000.00	Traffic Signal Synchronization	$ -	Yes
ML18186	City of Paramount	8/1/2024	1/31/2025		$ 42,686.00	$ 42,686.00	Install EV Charging Infrastructure	$ -	Yes
MS18001	Los Angeles County MTA	6/29/2017	4/30/2018		$ 807,945.00	$ 652,737.07	Provide Clean Fuel Transit Service to Dodger Stadium	$ 155,207.93	Yes
MS18002	Southern California Association of Governments	6/9/2017	11/30/2018	12/30/2021	$ 2,500,000.00	$ 2,276,272.46	Regional Active Transportation Partnership Program	$ 223,727.54	Yes
MS18003	Geographics	2/21/2017	2/20/2021	6/20/2021	$ 72,453.00	$ 65,521.32	Design, Host and Maintain MSRC Website	$ 6,931.68	Yes
MS18004	Orange County Transportation Authority	8/3/2017	4/30/2019		$ 503,272.00	$ 456,145.29	Provide Special Rail Service to Angel Stadium	$ 47,126.71	Yes
MS18005	Orange County Transportation Authority	1/5/2018	4/30/2019		$ 834,222.00	$ 834,222.00	Clean Fuel Bus Service to OC Fair	$ -	Yes
MS18006	Anaheim Transportation Network	10/6/2017	2/28/2020		$ 219,564.00	$ 9,488.22	Implement Anaheim Circulator Service	$ 210,075.78	Yes
MS18008	Foothill Transit	1/12/2018	3/31/2019		$ 100,000.00	$ 99,406.61	Special Transit Service to LA County Fair	$ 593.39	Yes
MS18010	Southern California Regional Rail Authority (Metrolink)	12/28/2017	7/31/2019		$ 351,186.00	$ 275,490.61	Implement Special Metrolink Service to Union Station	$ 75,695.39	Yes
MS18011	Southern California Regional Rail Authority (Metrolink)	2/9/2018	6/30/2018		$ 239,565.00	$ 221,725.12	Special Train Service to Festival of Lights	$ 17,839.88	Yes
MS18012	City of Hermosa Beach	2/2/2018	2/1/2024		$ 36,000.00	$ 36,000.00	Construct New Limited-Access CNG Station	$ -	Yes
MS18014	Regents of the University of California	10/5/2018	12/4/2019	3/4/2020	$ 254,795.00	$ 251,455.59	Planning for EV Charging Infrastructure Investments	$ 3,339.41	Yes
MS18015	Southern California Association of Governments	7/13/2018	2/28/2021	11/30/2023	$ 2,000,000.00	$ 1,585,466.77	Southern California Future Communities Partnership Program	$ 414,533.23	Yes
MS18016	Southern California Regional Rail Authority (Metrolink)	1/10/2019	3/31/2019		$ 87,764.00	$ 73,140.89	Special Train Service to Auto Club Speedway	$ 14,623.11	Yes
MS18023	Riverside County Transportation Commission	6/28/2018	6/27/2021	3/31/2023	$ 500,000.00	$ 500,000.00	Weekend Freeway Service Patrols	$ -	Yes
MS18024	Riverside County Transportation Commission	6/28/2018	8/27/2021	8/31/2024	$ 1,500,000.00	$ 1,147,960.00	Vanpool Incentive Program	$ 352,040.00	Yes
MS18025	Los Angeles County MTA	11/29/2018	5/31/2019		$ 1,324,560.00	$ 961,246.86	Special Bus and Train Service to Dodger Stadium	$ 363,313.14	Yes
MS18065	San Bernardino County Transportation Authority	3/29/2019	8/28/2023	3/28/2024	$ 2,000,000.00	$ 2,000,000.00	Implement Metrolink Line Fare Discount Program	$ -	Yes
MS18102	Orange County Transportation Authority	10/4/2019	5/31/2020		$ 1,146,000.00	$ 1,146,000.00	Implement OC Flex Micro-Transit Pilot Project	$ -	Yes
MS18103	Orange County Transportation Authority	2/8/2019	9/7/2020		$ 642,000.00	$ 613,303.83	Install Hydrogen Detection System	$ 28,696.17	Yes
MS18104	Orange County Transportation Authority	2/21/2020	3/31/2021	3/31/2022	$ 212,000.00	$ 165,235.92	Implement College Pass Transit Fare Subsidy Program	$ 46,764.08	Yes
MS18105	Southern California Regional Rail Authority	1/10/2019	6/30/2019		$ 252,696.00	$ 186,830.04	Special Train Service to the Festival of Lights	$ 65,865.96	Yes
MS18110	Mountain View Unified School District	2/1/2019	3/31/2025		$ 61,748.00	$ 61,747.29	Install New Limited-Access CNG Infrastructure	$ 0.71	Yes
MS18123	City Rent A Bin DBA Serv-Wel Disposal	12/14/2018	2/13/2025		$ 200,000.00	$ 200,000.00	Install New Limited-Access CNG Infrastructure	$ -	Yes
MS18180	Omnitrans	8/4/2022	8/3/2023		$ 83,000.00	$ 75,000.00	Modify Vehicle Maintenance Facility and Train Technicians	$ 8,000.00	Yes
Total = 78									
Closed/Incomplete Contracts									
ML18083	City of San Fernando	11/2/2018	11/1/2022		$ 20,000.00	$ -	Implement Traffic Signal Synchronization	$ 20,000.00	No
ML18093	City of Monterey Park	2/1/2019	2/28/2026	10/31/2028	$ 25,000.00	$ -	Purchase Heavy-Duty Near-ZEV	$ 25,000.00	No
ML18129	City of Yucaipa	12/14/2018	3/13/2023	9/13/2027	$ 63,097.00	$ -	Install Six EV Charging Stations	$ 63,097.00	No
ML18133	City of Rancho Mirage	12/7/2018	11/6/2020		$ 50,000.00	$ -	Traffic Signal Synchronization	$ 50,000.00	No
ML18137	City of Wildomar	3/1/2019	5/31/2021	12/1/2022	$ 50,000.00	$ -	Install Bicycle Trail	$ 50,000.00	No
ML18167	City of Beverly Hills	3/29/2019	6/28/2025		$ 50,000.00	$ -	Purchase Two Heavy-Duty Near-Zero Emission Vehicles	$ 50,000.00	No
ML18168	City of Maywood	3/29/2019	11/28/2022		$ 7,059.00	$ -	Purchase EV Charging Infrastructure	$ 7,059.00	No
ML18185	City of Wildomar	10/19/2023	10/18/2024		$ 25,000.00	$ -	Install Bicycle Trail	$ 25,000.00	No
MS18026	Omnitrans	10/5/2018	1/4/2020		$ 83,000.00	$ -	Modify Vehicle Maintenance Facility and Train Technicians	$ 83,000.00	No
MS18118	City of Beverly Hills	3/29/2019	7/28/2025		$ 85,272.00	$ -	Expansion of Existing CNG Infrastructure	$ 85,272.00	No
Total = 10									
Open/Complete Contracts									
ML18020	City of Colton	5/3/2018	4/2/2024	4/2/2027	$ 67,881.00	$ 67,881.00	Purchase One Medium-Duty and One Heavy-Duty ZEVs	$ -	Yes
ML18031	City of Diamond Bar	9/7/2018	11/6/2025	11/6/2027	$ 58,930.00	$ 58,930.00	Install EVSE, Purchase up to 2-LD Vehicles	$ -	Yes

AB2766 Contracts Status Report

Cont. #	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML18032	City of Arcadia	2/1/2019	4/30/2025		$ 24,650.00	$ 24,650.00	Purchase 1 Heavy-Duty Near-ZEV	$ -	Yes
ML18036	City of Indian Wells	8/8/2018	5/7/2023	5/7/2026	$ 50,000.00	$ 50,000.00	Install EV Charging Stations	$ -	Yes
ML18037	City of Westminster	6/28/2018	6/27/2024	12/27/2026	$ 120,900.00	$ 120,900.00	Install EVSE, Purchase up to 3-LD ZEV & 1-MD/HD ZEV	$ -	Yes
ML18038	City of Anaheim	10/5/2018	5/4/2025	5/4/2026	$ 151,630.00	$ 147,883.27	Purchase 5 Light-Duty ZEVs and Install EVSE	$ 3,746.73	Yes
ML18045	City of Culver City Transportation Department	6/28/2018	6/27/2025		$ 51,000.00	$ 51,000.00	Purchase Eight Near-Zero Vehicles	$ -	Yes
ML18046	City of Santa Ana - Public Works Agency - Fleet & Facilities Mgmt	11/9/2018	7/8/2026		$ 359,591.00	$ 359,590.75	Purchase 6 Light-Duty ZEVs, 9 Heavy-Duty Near-Zero Emission Vehicles and Install EVSE	$ 0.25	Yes
ML18047	City of Whittier	8/8/2018	4/7/2026	1/7/2029	$ 113,910.00	$ 113,910.00	Purchase 5 Heavy-Duty Near-Zero Emission Vehicles	$ -	Yes
ML18050	City of Irvine	9/7/2018	8/6/2028		$ 302,035.00	$ 302,035.00	Install EVSE	$ -	Yes
ML18059	City of Glendale Water & Power	2/1/2019	7/31/2026	1/31/2028	$ 260,500.00	$ 232,315.70	Install Electric Vehicle Charging Infrastructure	$ 28,184.30	Yes
ML18063	City of Riverside	6/7/2019	1/6/2027	9/30/2029	$ 50,000.00	$ 50,000.00	Expand Existing CNG Station	$ -	Yes
ML18064	City of Eastvale	11/29/2018	4/28/2026	4/28/2029	$ 61,463.00	$ 61,462.40	Purchase 2 Light-Duty, One Medium-Duty. Zero Emission Vehicles and Infrastructure	$ 0.60	Yes
ML18072	City of Anaheim	12/18/2018	11/17/2026		$ 239,560.00	$ 239,560.00	Purchase 9 Light-Duty ZEVs & 2 Med/Hvy-Duty ZEVs	$ -	Yes
ML18074	City of Buena Park	12/14/2018	6/13/2026		$ 107,960.00	$ 107,960.00	EV Charging Infrastructure	$ -	Yes
ML18080	City of Santa Monica	1/10/2019	12/9/2023	9/9/2025	$ 44,289.00	$ 44,288.92	Install EV Charging Stations	$ 0.08	Yes
ML18081	City of Beaumont	10/5/2018	10/4/2022	10/4/2025	$ 31,870.00	$ 31,870.00	EV Charging Infrastructure	$ -	Yes
ML18085	City of Orange	4/12/2019	10/11/2026		$ 50,000.00	$ 50,000.00	Purchase Two Heavy-Duty Near-Zero Emission Vehicles	$ -	Yes
ML18089	City of Glendora	7/19/2019	4/18/2025	10/18/2028	$ 50,760.00	$ 50,760.00	Purchase a Heavy-Duty ZEV	$ -	Yes
ML18091	City of Temecula	1/19/2019	7/18/2023	3/18/2026	$ 111,575.00	$ 111,574.46	Install EV Charging Stations	$ 0.54	No
ML18094	City of Laguna Woods	7/12/2019	12/11/2024	10/11/2026	$ 50,000.00	$ 50,000.00	Install Two EV Charging Ports	$ -	Yes
ML18100	City of Brea	10/29/2020	12/28/2024	12/31/2025	$ 56,500.00	$ 56,500.00	Install Twenty-Four Level II EV Charging Stations	$ -	Yes
ML18132	City of Montclair	4/5/2019	9/4/2023	9/4/2026	$ 40,000.00	$ 40,000.00	Install Eight EV Chargers	$ -	Yes
ML18134	City of Los Angeles Dept of General Services	5/3/2019	5/2/2028	5/2/2029	$ 116,000.00	$ 116,000.00	Purchase Two Medium-Duty ZEVs	$ -	Yes
ML18141	City of Rolling Hills Estates	2/14/2020	1/13/2024	4/13/2026	$ 40,000.00	$ 40,000.00	Purchase One Light-Duty ZEV and Install Seven EV Chargers	$ -	Yes
ML18143	City of La Habra	10/18/2019	9/17/2025	9/17/2027	$ 80,700.00	$ 80,700.00	Install Two EV Charging Stations	$ -	Yes
ML18144	City of Fontana Public Works	10/4/2019	12/3/2023	12/31/2025	$ 269,090.00	$ 269,090.00	Install Twelve EVSEs	$ -	No
ML18146	City of South Gate	3/1/2019	11/30/2023	11/30/2026	$ 127,400.00	$ 127,400.00	Purchase Five Light-Duty ZEVs and Install Six EVSEs	$ -	Yes
ML18157	City of Los Angeles Bureau of Street Services	6/21/2019	5/20/2027		$ 85,000.00	$ 85,000.00	Purchase One Medium-Duty ZEV	$ -	Yes
ML18159	City of Rialto	12/13/2019	5/12/2024	9/19/2025	$ 135,980.00	$ 106,597.86	Purchase Nine Light-Duty ZEVs and EV Charging Infrastructure	$ 29,382.14	No
ML18161	City of Indio	5/3/2019	10/2/2025		$ 25,000.00	$ 25,000.00	Purchase 1 Light-Duty Zero Emission and EV Charging Infrastruct	$ -	Yes
ML18162	City of Costa Mesa	1/10/2020	7/9/2026		$ 148,210.00	$ 148,210.00	Purchase Three Light-Duty ZEVs and EV Charging Stations	$ -	Yes
ML18163	City of San Clemente	3/8/2019	12/7/2024	12/7/2025	$ 75,000.00	$ 70,533.75	Purchase Three Light-Duty ZEVs and EV Charging Infrastructure	$ 4,466.25	Yes
ML18166	City of Placentia	2/18/2021	5/17/2027		$ 25,000.00	$ 25,000.00	Purchase One Heavy-Duty Near-Zero Emission Vehicle	$ -	Yes
ML18170	City of Laguna Niguel	1/10/2020	8/9/2028		$ 75,100.00	$ 75,100.00	Purchase One Light-Duty ZEV and EV Charging Infrastructure	$ -	No
ML18171	City of El Monte	3/1/2019	4/30/2025		$ 68,079.00	$ 68,077.81	Purchase One Heavy-Duty ZEVs and EV Charging Infrastructure	$ 1.19	Yes
MS18027	City of Gardena	11/2/2018	9/1/2026	10/1/2029	$ 365,000.00	$ 350,000.00	Install New Limited Access CNG, Modify Maint. Facility & Train Te	$ 15,000.00	Yes
MS18066	El Dorado National	12/6/2019	2/5/2026		$ 100,000.00	$ 100,000.00	Install New Limited-Access CNG Station	$ -	Yes
MS18073	Los Angeles County MTA	1/10/2019	2/9/2026		$ 2,000,000.00	$ 2,000,000.00	Purchase 40 Zero-Emission Transit Buses	$ -	Yes
MS18108	Capistrano Unified School District	2/1/2019	5/30/2025	9/30/2026	$ 111,750.00	$ 111,750.00	Expansion of Existing Infrastructure	$ -	Yes
MS18115	City of Commerce	6/7/2019	12/6/2025	7/6/2026	$ 275,000.00	$ 275,000.00	Expansion of Existing L/CNG Infrastructure	$ -	No
MS18117	City of San Bernardino	6/7/2019	11/6/2025		$ 240,000.00	$ 240,000.00	Expansion of Existing CNG Infrastructure/Mechanic Training	$ -	Yes
MS18120	City of Redondo Beach	2/1/2019	9/30/2025		$ 275,000.00	$ 275,000.00	Install New Limited-Access CNG Infrastructure	$ -	Yes
MS18122	Universal Waste Systems, Inc.	2/1/2019	3/31/2025	7/31/2027	$ 195,000.00	$ 195,000.00	Install New Limited Access CNG Infrastructure	$ -	Yes
MS18124	County Sanitation Districts of Los Angeles County	7/31/2019	2/28/2027		$ 275,000.00	$ 275,000.00	Install New Limited-Access CNG Infrastructure	$ -	Yes
MS18125	U.S. Venture	5/9/2019	8/8/2025		$ 200,000.00	$ 200,000.00	Install New Limited-Access CNG Infrastructure	$ -	Yes
Total = 46									
Terminated Contracts									
ML18058	City of Perris	10/12/2018	11/11/2024	11/11/2028	$ 94,624.00	$ -	Purchase 1 Medium-Duty ZEV and EV Charging Infrastructure	$ 94,624.00	No
ML18084	City of South El Monte	10/18/2019	9/17/2023	3/30/2028	$ 30,000.00	$ -	EV Charging Infrastructure	$ 30,000.00	No
ML18147	City of Palm Springs	1/10/2019	1/9/2024	7/9/2026	$ 60,000.00	$ -	Install Eighteen EV Charging Stations	$ 60,000.00	No
ML18178	City of La Puente	11/1/2019	11/30/2025	11/30/2028	$ 25,000.00	$ -	Purchase One Heavy-Duty Near-Zero Emission Vehicle	$ 25,000.00	No
MS18029	Irvine Ranch Water District	8/8/2018	10/7/2024	1/7/2029	$ 185,000.00	$ -	Install New Limited Access CNG Station & Technician Training	$ 185,000.00	No
Total = 5									
FY 2018-2021 Contracts									
Open Contracts									
MS21005	Southern California Association of Governments	5/5/2021	1/31/2024	1/31/2027	$ 16,751,000.00	$ 1,452,085.88	Implement Last Mile Goods Movement Program	$ 15,298,914.12	No
MS21006	Geographics	4/1/2021	6/20/2023	9/20/2025	$ 21,421.00	$ 19,228.25	Hosting & Maintenance of the MSRC Website	$ 2,192.75	No
MS21009	ITS Technologies & Logistics, LLC	7/15/2022	7/14/2028	4/14/2030	$ 1,686,900.00	$ 168,690.00	Deploy 12 Zero-Emission Yard Tractors	$ 1,518,210.00	No
MS21010	MHX, LLC	9/29/2021	1/28/2028	6/28/2030	$ 569,275.00	$ -	Deploy One Zero-Emission Overhead Crane	$ 569,275.00	No
MS21016	Ryder Integrated Logistics, Inc.	12/7/2022	4/6/2029		$ 3,169,746.00	$ -	Procure Two Integrated Power Centers and Four Mega Chargers	$ 3,169,746.00	No
MS21019	Volvo Financial Services	3/31/2022	3/30/2030	12/30/2030	$ 3,930,270.00	$ 3,930,103.15	Lease up to 14 Zero-Emission Trucks and Provide Charging Infras	$ 166.85	Yes

AB2766 Contracts Status Report

Cont. #	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS21023	BNSF Railway Company	4/22/2022	4/21/2028	4/21/2030	$ 1,313,100.00	$ -	Install EV Charging Infrastructure	$ 1,313,100.00	No
Total =7									
Declined/Cancelled Contracts									
MS21008	CMA CGM (America) LLC				$ 3,000,000.00	$ -	Deploy 2 Zero-Emission Rubber Tire Gantry Cranes, 2 Zero-Emission Empty Container Handlers, 10 Zero-Emission Yard Trucks	$ 3,000,000.00	No
MS21011	RDS Logistics Group	1/21/2022	7/20/2028		$ 808,500.00	$ -	Deploy 3 Zero-Emission Yard Tractors and Charging Infrastructure	$ 808,500.00	No
MS21012	Amazon Logistics, Inc.				$ 4,157,710.00	$ -	Deploy up to 10 Zero-Emission and 100 Near Zero-Emission Trucl	$ 4,157,710.00	No
MS21020	Sea-Logix, LLC				$ 2,300,000.00	$ -	Deploy up to 23 Near-Zero Emssions Trucks	$ 2,300,000.00	No
MS21021	CMA CGM (America) LLC				$ 1,946,463.00	$ -	Deploy up to 13 Near Zero Emission Trucks	$ 1,946,463.00	No
MS21022	Orange County Transportation Authority				$ 289,054.00	$ -	Implement Special Transit Service to the Orange County Fair	$ 289,054.00	No
Total =6									
Closed Contracts									
MS21001	Los Angeles County MTA	8/30/2019	7/29/2020		$ 613,752.87	$ 613,752.87	Implement Special Transit Service to Dodger Stadium	$ -	Yes
MS21002	Better World Group Advisors	11/1/2019	12/31/2022	12/31/2024	$ 448,154.00	$ 246,331.16	Programmatic Outreach Services	$ 201,822.84	Yes
MS21003	Orange County Transportation Authority	7/8/2020	5/31/2021		$ 468,298.00	$ 241,150.48	Provide Express Bus Service to the Orange County Fair	$ 227,147.52	Yes
MS21004	Los Angeles County MTA	1/7/2021	5/31/2023		$ 814,822.00	$ 326,899.00	Clean Fuel Bus Service to Dodger Stadium	$ 487,923.00	Yes
Total = 4									
Open/Complete Contracts									
MS21007	Penske Truck Leasing Co., L.P.	4/1/2022	3/31/2028		$ 957,813.00	$ 957,812.40	Deploy 5 Zero-Emission Yard Tractors	$ 0.60	Yes
MS21013	4 Gen Logistics	3/27/2022	5/26/2028		$ 7,000,000.00	$ 7,000,000.00	Deploy 40 Zero Emission Trucks	$ -	Yes
MS21014	Green Fleet Systems, LLC	8/31/2021	8/30/2027	8/30/2028	$ 300,000.00	$ 300,000.00	Deploy up to 3 Near Zero Emission Trucks	$ -	Yes
MS21015	Premium Transportation Services, Inc. dba Total Transportation Services	9/22/2021	5/21/2027	1/2/2028	$ 1,500,000.00	$ 1,483,065.00	Deploy up to 15 Near-Zero Emissions Trucks	$ 16,935.00	No
MS21017	MHX, LLC	9/29/2021	9/28/2030		$ 1,900,000.00	$ 1,900,000.00	Deploy up to 10 Zero-Emission Trucks & Infrastructure	$ -	Yes
MS21018	Pac Anchor Transportation, Inc.	8/17/2021	8/16/2027	8/16/2028	$ 2,100,000.00	$ 2,100,000.00	Deploy up to 21 Near Zero Emission Trucks	$ -	Yes
MS21025	Costco Wholesale Corporation	12/9/2022	12/8/2028		$ 160,000.00	$ 160,000.00	Install Five EV Charging Units	$ -	Yes
Total = 7									
FY 2021-2024 Contracts									
Open Contracts									
MS24001	Los Angeles County MTA	1/26/2023	5/31/2028		$ 1,200,248.00	$ -	Provide Clean Fuel Bus Service to Dodger Stadium	$ 1,200,248.00	No
MS24002	South Pasadena Police Department	1/16/2024	5/15/2030		$ 499,789.00	$ -	Procure Zero-Emission Vehicles and Infrastructure	$ 499,789.00	No
MS24003	Omnitrans	4/15/2024	10/30/2025	8/30/2026	$ 315,278.00	$ -	Bloomington Microtransit Service Expansion	$ 315,278.00	No
MS24004	City of Seal Beach	12/21/2023	9/30/2025		$ 162,891.00	$ -	Circuit Transit Shared Mobility	$ 162,891.00	No
MS24005	City of Huntington Beach	7/1/2024	9/1/2026		$ 279,186.00	$ -	Circuit Transit Rideshare Program	$ 279,186.00	No
MS24006	Anaheim Transportation Network	10/12/2023	5/31/2025		$ 322,000.00	$ -	Old Towne Orange Microtransit Service	$ 322,000.00	No
MS24007	City of Gardena	6/12/2024	8/31/2026		$ 424,134.00	$ -	Gtrans Microtransit Service	$ 424,134.00	No
MS24008	City of Long Beach	3/19/2024	1/31/2026		$ 410,734.00	$ -	Circuit Transit Mobility Transit Expansion Program	$ 410,734.00	No
Total = 8									
Pending Execution Contracts									
MS24010	Penske Truck Leasing Co., L.P.				$ 17,706,870.00	$ -	Partner on Application to Install EV Charging Infrastructure at 20 L	$ 17,706,870.00	No
MS24011	Southern California Gas Company				$ 6,000,000.00	$ -	Partner on Application to Install Hydrogen Fueling in Pico Rivera	$ 6,000,000.00	No
MS24012	Pilot Travel Center, LLC				$ 3,000,000.00	$ -	Partner on Application to Install Hydrogen Fueling in Rialto	$ 3,000,000.00	No
MS24013	Los Angeles Cleantech Incubator				$ 3,000,000.00	$ -	Implement Drayage Truck Recharging Facilities	$ 3,000,000.00	No
MS24999	Prologis Mobility				$ 10,843,251.00	$ -	Implement EV Charging in various locations	$ 10,843,251.00	No
Total = 5									
FY 2024-2027 Contracts									
Open Contracts									
MS27001	Better World Group Advisors	1/1/2025	12/31/2027		$ 300,000.00	$ 26,155.25	Programmatic Outreach Services	$ 273,844.75	No
Total = 1									
Pending Execution Contracts									
MS27002	Exemplifi, LLC				$ 20,200.00	$ -	Host and Maintain MSRC Website	$ 20,200.00	No
MS27003	California Energy Commission				$ 6,000,000.00	$ -	West Coast Truck Chrg & Fuel Corridor Prj	$ 6,000,000.00	No
MS27999	Voltu Motor, Inc.				$ 300,000.00	$ -	Develop, Dmns & Deploy MD ZE Wk Trucks	$ 300,000.00	No
MS27998	Enevate Corp.				$ 250,000.00	$ -	Develop & Dmns Fst Chrg Btty Pck for Md Dty	$ 250,000.00	No
MS27997	Evolectric, Inc.				$ 250,000.00	$ -	Intg & Dmns Btty Pck & Fst Chrg w/Md Dty	$ 250,000.00	No
Total = 5									

Clean Transportation Funding Database

AB2766 Discretionary Fund Program Invoices

3/27/2025 to 4/23/2025

Contract Admin.	MSRC Chair	MSRC Liaison	Finance	Contract #	Contractor	Invoice #	Amount
2016-2018 Work Program							
4/18/2025				ML18135	City of Azusa	1 (Final)	$30,000.00
4/2/2025	4/9/2025	4/16/2025	4/18/2025	ML18055	City of Long Beach	25-003	$24,888.80
4/2/2025	4/9/2025			MS18106	R.F. Dickson Co., Inc.	CA1000773	$470.90
4/1/2025	4/9/2025	4/16/2025	4/18/2025	ML18055	City of Long Beach	25-002	$12,444.40
Total: $67,804.10							
2018-2021 Work Program							
4/4/2025	4/9/2025	4/16/2025	4/18/2025	MS21019	Volvo Financial Services	006	$1,034,234.00
4/2/2025	4/9/2025		4/10/2025	MS21006	Geographics	25-24104	$60.00
4/2/2025	4/9/2025		4/10/2025	MS21006	Geographics	25-24090	$373.00
4/1/2025	4/17/2025	4/18/2025	4/22/2025	MS21005	Southern California Association of Governments	MS21005C-17	$387,500.00
4/1/2025	4/17/2025	4/18/2025	4/22/2025	MS21005	Southern California Association of Governments	MS21005C-16	$70,000.00
Total: $1,492,167.00							
2024-2027 Work Program							
4/11/2025	4/17/2025	4/18/2025	4/23/2025	MS27001	Better World Group Advisors	WG-MSRC5	$26,155.25
Total: $26,155.25							

Total This Period: $1,586,126.35

MOBILE SOURCE AIR POLLUTION REDUCTION REVIEW COMMITTEE
THURSDAY, MARCH 20, 2025 MEETING MINUTES

21865 Copley Drive, Diamond, Bar, CA 91765

MEMBERS PRESENT:

(Chair) Larry McCallon, representing San Bernardino County Transportation Authority (SBCTA)
(Vice-Chair) Brian Berkson, representing Riverside County Transportation Commission (RCTC)
Curt Hagman, representing South Coast Air Quality Management District
William Robertson, representing California Air Resources Board (CARB)
Patrick Harper, representing Orange County Transportation Authority (OCTA)
Mark Henderson, representing Southern California Association of Governments (SCAG)
Linda Krupa, representing Regional Rideshare Agency
Rena Lum (Alt.), representing Los Angeles County Metropolitan Transportation Authority (Metro)

MEMBERS ABSENT:

Cindy Allen (Alt.), representing SCAG
Steve Veres, representing Metro
John Dutrey (Alt.), representing SBCTA
Peter Christensen (Alt.), representing CARB

MSRC-TAC MEMBERS PRESENT:

Steven Lee, Metro
David Leyzerovsky, Metro
Brian Cunanan RCTC/Regional Rideshare Agency
Lijin Sun, SCAG

OTHERS PRESENT:

Claire Garcia
Lauren Dunlap
Sam Emmersen, Better World Group
Erika Pinto, LA Metro
Moses Huerta
Jennifer, Sierra Club
Mariany Anaya, SBCTA
Victor Lopez, City of Carson
Paul Macias
SBCCOG Office

SOUTH COAST AQMD STAFF & CONTRACTORS PRESENT:

Cynthia Ravenstein, MSRC Contracts Administrator
Daphne Hsu, Principal Deputy District Counsel
Donna Vernon, Administrative Assistant
Ghislain Muberwa, Information Technology Specialist
Hay Lo, Air Quality Specialist
Jeffrey Inabinet, Senior Staff Specialist
Karen Sandoval, Financial Analyst
Lane Garcia, Program Supervisor
Laurence Brown, Air Quality Specialist
Leticia Ramirez, MSRC Contracts Assistant
Marjorie Eaton, Administrative Assistant
Ray Gorski, MSRC Technical Advisor-Contractor
Yuh Jiun Tan, Acting Planning & Rules Manager

DRAFT

CALL TO ORDER

- Chair McCallon called the meeting to order at 2:00 p.m.

- Roll call was taken at the start of the meeting.

STATUS REPORT

Clean Transportation Policy Update

The Environmental Protection Agency (EPA) has submitted vehicle waivers concerning three specific California regulations to Congress for review: the Advanced Clean Trucks regulation, Advanced Clean Cars 2, and the Omnibus Low NOx regulation. If the waivers were to be disallowed, California would lose the authority to implement its more stringent regulations.

- Chair McCallon asked for disclosures.

  Items Nos. 6, 8, 9, and 10 – MSRC Member Curt Hagman said he does not have a financial interest in Item No. 6, but is required to identify for the record that he is a member of the Governing Board for the South Coast AQMD, which is involved in this item. In addition, for Item Nos. 8, 9, and 10 he does not have a financial interest but is required to identify for the record that he is a member of the Board of Directors for San Bernardino County Transportation Authority, which is involved in these items.

  Items Nos. 8, 9, and 10 – MSRC Member Patrick Harper said he does not have a financial interest in Item Nos. 8, 9, and 10, but is required to identify for the record that he is a Director for the Orange County Transportation Authority, which is involved in these items.

  Items Nos. 8, 9, and 10 – MSRC Vice Chair Brian Berkson said he does not have a financial interest in Item Nos. 8, 9, and 10, but is required to identify for the record that he is a Commissioner for the Riverside County Transportation Commission, which is involved in these items.

  Items Nos. 8, 9, and 10 – MSRC Alternate Member Rena Lum said she does not have a financial interest in Item Nos. 8, 9, and 10 but is required to identify for the record that she is an employee for the Los Angeles County Metropolitan Transportation Authority, which is involved in these items.

  Items Nos. 8, 9, and 10 – MSRC Member Linda Krupa said she does not have a financial interest in Item Nos. 8, 9, and 10, but is required to identify for the record

that she is a Commissioner for the Riverside County Transportation Commission, which is involved in these items.

Items Nos. 6, 8, 9, and 10 – MSRC Chair Larry McCallon said he does not have a financial interest in Item No. 6, but is required to identify for the record that he is a member of the Governing Board for the South Coast AQMD, which is involved in this item. In addition, for Item Nos. 8, 9, and 10 he does not have a financial interest but is required to identify for the record that he is a member of the Board of Directors for San Bernardino County Transportation Authority, which is involved in these items.

- Chair McCallon asked for public comment on the Consent Calendar.

  No public comment.

CONSENT ITEMS (Items 1 through 4):

1. **Minutes of September 19, 2024 MSRC Meeting**
   September 19, 2024, MSRC meeting minutes were included in the agenda package.

   Moved by Hagman; seconded by Henderson; under approval of Consent Calendar Items #1-4, item unanimously approved.

   Ayes: Hagman, Krupa, Henderson, Harper, Lum, Robertson, Berkson, McCallon
   Noes: None
   Action: Staff will include the MSRC minutes with the MSRC Committee Report for the April 2025 South Coast AQMD Board meeting.

2. **Summary of Final Report by MSRC Contractor**

- Volvo Financial Services, Contract #MS21019 – Electrified Freight Delivery for the QCD Fleet
  Moved by Hagman; seconded by Henderson; under approval of Consent Calendar Items #1-4, item unanimously approved.

  Ayes: Hagman, Krupa, Henderson, Harper, Lum, Robertson, Berkson, McCallon
  Noes: None
  Action: Staff will release any remaining retention on the contract

3. **MSRC Contracts Administrator's Report**
   The MSRC AB2766 Contracts Administrator's Report for January 1 through February 26, 2025 was included in the agenda package.

   Moved by Hagman; seconded by Henderson; under approval of Consent Calendar

Items #1-4, item unanimously approved.

Ayes: Hagman, Krupa, Henderson, Harper, Lum, Robertson, Berkson, McCallon
Noes: None
Action: Staff will include the MSRC Contracts Administrator's Report in the MSRC Committee Report for the April 2025 South Coast AQMD Board meeting.

4. Financial Report on AB 2766 Discretionary Fund

A financial report on the AB2766 Discretionary Fund for February 2025 was included in the agenda package.

Moved by Hagman; seconded by Henderson; under approval of Consent Calendar Items #1-4, item unanimously approved.

Ayes: Hagman, Krupa, Henderson, Harper, Lum, Robertson, Berkson, McCallon
Noes: None
Action: No further action is required.

ACTION CALENDAR (Items 5 through 10)

FY 2016-18 Work Program

5. Consider One-Year Term Extension by City of Long Beach, Contract #ML18055 – Install EV Charging Stations

Cynthia Ravenstein, MSRC Contracts Administrator, presented that the City of Long Beach was awarded $622,220 under the MSRC's FY 2016-18 Local Government Partnership Program to install electric vehicle charging stations. Initially, the City planned to install 50 charging stations but later requested an increase to 74 stations. To date, they have successfully deployed 47 stations, with 43 of those being reimbursed by the program. There have been some challenges including issues with their contractor and staffing shortages, which led them to request a one-year term extension to complete the project. Despite not being able to assure 100% completion within this timeframe, the City believes there is a reasonable chance of success. The MSRC Technical Advisory Committee (TAC) discussed the possibility of extending the term to 18 months but ultimately suggested granting only a one-year extension due to the age of the contract and a reluctance to approve further extensions.

MSRC Member Curt Hagman expressed concern regarding the completion of the contract. Hagman questioned why they should be granted an additional year for completion.

MSRC Vice-Chair Brian Berkson suggested that funds allocated for this project might be better utilized elsewhere.

MSRC Member Mark Henderson expressed uncertainty about whether the staffing issues have been fully resolved, despite indications of improvement. He emphasized the importance of receiving definitive answers rather than vague responses.

MSRC Member William Robertson highlighted the potential financial risks associated with funding the installation of electric vehicle charging stations. Robertson contrasted the risks of continuing to invest in this project versus reallocating the funds to another project.

Ravenstein acknowledged the risks involved in the potential return of unspent funds to the MSRC, and suggested that a reduced contractual value might make sense. Additionally, Ravenstein noted the need to fulfill a three-year operational timeline, so that the requested extension would have stations operational by November 2026.

Chair McCallon asked for public comment on Item Number 5.

No public comment.

Moved by Harper for a one-year extension, with the condition this be the final extension, reduce the scope from 74 to 63 chargers and reduce the funding proportionately, seconded by Henderson; item unanimously approved.

Ayes: Hagman, Krupa, Henderson, Harper, Lum, Robertson, Berkson, McCallon
Noes: None
Action: Staff will amend the above contract accordingly.

FY 2021-24 Work Program

6. Update and Next Steps for Partnerships in Seeking Funding Under the South Coast AQMD Carl Moyer Program

Cynthia Ravenstein, MSRC Contracts Administrator, presented that in September 2022, the MSRC launched a Request for Information (RFI) for zero emission goods movement infrastructure with an allocation of $50 million in funding. There was an impressive response. In December 2023, the South Coast AQMD announced a Carl Moyer Program aimed at supporting zero emission infrastructure, presenting

opportunities for collaboration. Three selected RFI respondents were approached to partner in their Carl Moyer applications. Conditional awards were authorized, stipulating that if these applicants secured funding from the South Coast AQMD Carl Moyer program, they would qualify for funding from the MSRC. The awards totaled almost $27 million and included $6 million to Southern California Gas Company for hydrogen fueling, $3 million to Pilot Travel Centers for hydrogen fueling, and nearly $18 million to Penske Truck Rental initiative to develop a fast-charging EV network across approximately 20 sites.

The Southern California Gas Company and Pilot Travel projects have received Carl Moyer Program funding awards, and contracts for these projects are currently in development. The Penske Truck Leasing situation is more complex due to multiple locations involved, each requiring separate applications under the Carl Moyer program. Some locations have successfully received funding from either the Carl Moyer program or the Community Air Protection Program (CAPP), while others remain on the backup list of the Carl Moyer program. This backup list serves as a contingency for projects that may receive funding if higher-priority projects do not move forward.

Specifically, the MSRC had allocated $273,130 for the Anaheim location. As this location did not receive either a Carl Moyer Program or CAPP award, and was not on the backup list, MSRC staff recommended to de-obligate these funds. Additionally, it was recommended that the MSRC re-evaluate its allocations to projects on the backup list in six months.

MSRC Member Curt Hagman discussed the uncertainty surrounding the projects on the backup list. He considered that it might be better to defund these projects to potentially pursue better opportunities that may emerge in the next six months.

MSRC Vice Chair Brian Berkson asked what portion of the MSRC's allocation for Penske is associated with the locations on the Carl Moyer backup list. Ravenstein answered that the amount on the backup list is $4.4 million of the 17 million.

MSRC Member William Robertson expressed concerns about the implications of a backup list. He noted that if certain projects fall through, funds that were designated for them might not automatically be redirected to projects on the backup list in any particular order. He suggested a cautious outlook on how many projects will eventually be funded.

Berkson asked what staff foresees happening within the next six months; whether it is typical for the Carl Moyer program in a six-month period to kick out some projects and add some new ones. Ravenstein answered that the times are not typical. She thinks that there may be more projects failing to go forward than there normally

would have been. Berkson then indicated he wouldn't mind waiting six months.

Hagman expressed his concerns regarding the status of federal funding and its impact on upcoming projects, particularly in light of regulatory changes and uncertainties in government support. He suggested a pragmatic approach of waiting to see how circumstances evolve over the next six months.

Chair McCallon asked for public comment on Item Number 6.

No public comment.

Moved by Berkson to de-obligate $273,130 from Penske Anaheim Project location and review status of projects on Carl Moyer backup list in six months, seconded by Henderson; item unanimously approved.

Ayes: Hagman, Krupa, Henderson, Harper, Lum, Robertson, Berkson, McCallon
Noes: None
Action: Staff will reflect the above change in the MSRC's financial report.

Berkson discusses the need for organizations and stakeholders to adapt to an evolving and uncertain funding landscape, particularly in the context of environmental initiatives. He emphasizes the importance of proactive planning in order to navigate this complex situation, as new information from sources like EPA and CARB will clarify the available funding. There is a call for reevaluating funding sources, noting that traditional reliance on public funds may need to be supplemented with private investments. He suggests considering new partnerships and innovative approaches that prioritize infrastructure, like charging stations, as part of future grant initiatives. The overarching message encourages thinking outside the box to prepare for foreseeable challenges in funding and implementation of environmental projects.

FY 2024-27 Work Program

7. Consider Selection of New MSRC Website Host

Cynthia Ravenstein, MSRC Contracts Administrator, presented that the MSRC authorized release of an RFP for hosting and maintaining its existing online platform. As of the deadline of January 16, 2025, a total of eight proposals were submitted. A Website Evaluation Subcommittee of the MSRC-TAC was formed and was responsible for scoring and ranking each proposal. After thorough evaluation, they recommended awarding the contract to Exemplify LLC with a budget set at a maximum of $20,200 for the initial two-year period.

Exemplify LLC demonstrated a comprehensive understanding of the requirements, as

well as good visibility for addressing service requests. Their proposal provided a high level of monitoring, risk reduction strategies, and detailed performance tracking. Furthermore, the South Coast AQMD Information Management department reviewed the proposal and found no significant concerns.

Chair McCallon asked for public comment on Item Number 7.

No public comment.

Moved by Hagman, seconded by Krupa; item unanimously approved.

Ayes: Hagman, Krupa, Henderson, Harper, Lum, Robertson, Berkson, McCallon
Noes: None
Action: This award will be placed on the South Coast AQMD Board agenda for approval

8. Consider Issuing an Invitation to Negotiate to County Transportation Commissions within the South Coast AQMD jurisdiction to Implement a Transportation Demand Management (TDM) – CTC Partnership Program to Improve Air Quality and Enhance Clean Mobility

Ray Gorski, MSRC Technical Advisor, presented that this item addresses the solicitation of proposals from certain entities, specifically focusing on a request for the MSRC to authorize the release of an Invitation to Negotiate (ITN). Notably, there is no funding appropriation involved at this stage; the MSRC would simply be requesting proposals for evaluation later in the year. The completion of this request will allow for an examination of projects, and the MSRC-TAC is anticipated to bring forward recommendations regarding funding decisions for MSRC consideration in August and September.

Gorski presented a transportation demand management initiative proposed to be part of the 2024-27 Work Program. The proposal focuses on collaborating with county transportation commissions (CTCs) to devise innovative strategies aimed at reducing commuter and discretionary vehicle trips and vehicle miles traveled. This initiative builds on an earlier program implemented by the MSRC in 2015, where funds were allocated to CTCs to develop effective strategies for minimizing vehicle use.

The timing to enhance TDM strategies is seen as particularly apt in light of major upcoming events in the South Coast region, such as the 2028 Olympics, the Super Bowl, and the World Cup Soccer. The rationale behind focusing on CTCs includes their primary role in implementing TDM strategies, their understanding of regional transportation needs, and the urgency created by upcoming large-scale events. Each of the four CTCs within South Coast AQMD would be granted autonomy to devise

customized strategies and apply for funding from the MSRC. A total funding allocation of $16 million is proposed, equally distributed among the four CTCs, allowing each to receive up to $4 million.

Gorski discussed the recommendation for an ITN solicitation mechanism directed specifically towards the CTCs. Each CTC would be required to present a full proposal detailing how they plan to allocate the proposed funding. The original submission deadline of July 1 has been recommended for extension to August 1 to allow more time for proposal preparation, following feedback from the MSRC-TAC.

Proposals submitted by the CTCs would undergo an evaluation process conducted by the MSRC-TAC subcommittee. While the CTCs are encouraged to consider strategies to manage upcoming disruptive events over the next three years in the South Coast region, they are not mandated to do so. The primary focus of the submitted proposals must be on air pollution and emission reductions, which will be the key criterion for assessing the effectiveness of the suggested strategies. Following the submission and evaluation of proposals, the MSRC will determine whether the proposed projects are viable and likely to yield cost-effective improvements in air quality.

Chair McCallon asked for public comment on Item Number 8.

No public comment.

Moved by Hagman, seconded by Berkson; item unanimously approved.

Ayes: Hagman, Krupa, Henderson, Harper, Lum, Robertson, Berkson, McCallon
Noes: None
Action: The proposed ITN will be placed on the South Coast AQMD Board agenda for approval.

9. Consider Issuing an Invitation to Negotiate to the San Bernardino County Transportation Authority (SBCTA) for Implementation of a Regional Rideshare Integration and Enhancement Project

Ray Gorski, MSRC Technical Advisor, presented that similar to the preceding item, this action would release an Invitation to Negotiate (ITN). The focus of the ITN would seek a proposal for implementing an expansion and improvements to the current regional rideshare database, which is used to reduce the number of motor vehicle trips by matching commuters with alternative commute options, such as transit services and van pools.

The proposed ITN would seek to incorporating commuters who may commute to or

from San Diego County into the regional database. The intent is to collaborate with the San Diego Association of Governments to better integrate the San Diego County commuters.

Gorski outlined that the ITN would be targeted towards SBCTA given its role in regional transportation coordination for the South Coast region.
$725,000 is the proposed funding amount.

If the MSRC and South Coast AQMD approve the proposed ITN, the next step would be SBCTA assembling a proposal that would be sent back to the MSRC-TAC for evaluation. Should the proposal be regarded as meritorious, it would then be recommended for funding consideration to the MSRC. Gorski clarified that no financial allocations are being made currently.

Robertson asked about the expected duration of the project. Gorski answered 18 months.

Chair McCallon asked for public comment on Item Number 9.

No public comment.

Moved by Hagman, seconded by Berkson; item unanimously approved.

Ayes: Hagman, Krupa, Henderson, Harper, Lum, Robertson, Berkson, McCallon
Noes: None
Action: The proposed ITN will be placed on the South Coast AQMD Board agenda for approval.

10. Consider Issuing an Invitation to Negotiate to the Riverside County Transportation Commission (RCTC) for Implementation of a Regional Worksite Transit Trainer Program

Daphne Hsu, Principal Deputy District Counsel, indicated that there was a divided vote at the MSRC-TAC on this item. She expressed the intent to address the need for establishing a clear policy regarding voting recommendations within the MSRC-TAC in a future meeting. The default standard typically provides that a majority of members' votes signify approval, but a formal policy would provide clarity. Chair McCallon states that it is a good idea to raise at a future meeting.

Ray Gorski, MSRC Technical Advisor, presented that this item proposes the release of an Invitation to Negotiate (ITN) for the implementation of a transit trainer program by the RCTC in collaboration with four other county transportation commissions. The primary aim of the program is to address and diminish the barriers

to public transit usage, particularly the hurdles stemming from unfamiliarity with transit systems. It is recognized that many individuals avoid using public transit due to perceived complexities and uncertainties about the scheduling and logistics involved. The transit trainer program would facilitate a one-on-one training approach where trained transit specialists will assist employees from various companies. The trainers would guide these individuals through the entire process of planning and executing their transit trips. This would include assessing their starting point and destination, detailing available transit options, and offering personal support to ensure that they feel comfortable navigating the public transit system. The project is designed to boost public transit adoption within the region and aims to create a more user-friendly commuting alternative.

Gorski outlined a proposed funding allocation of $1.275 million for the program. The program is envisioned as being scalable and accessible across various regions. The implementation would occur in three distinct phases: design and development, integration with a regional transit database, and promotion and measurement of the program's effectiveness. By onboarding consultant staff, RCTC would coordinate efforts with other transportation agencies to ensure the successful deployment of this initiative, focusing on matching trainers with commuters in a more efficient manner to encourage a shift from single-occupant vehicle use to public transit options.

Chair Larry McCallon expressed concern as to whether this would be an appropriate use of MSRC funds. He referenced a program in San Bernardino County run by Omnitrans, the local bus operator, which already addresses the issue at hand. Due to this existing solution, he cannot support the proposed initiative.

MSRC Member Patrick Harper expressed agreement with the Chair's views, indicating that it may be unnecessary given existing operations at OCTA. He referenced the just-completed allocation of $4 million per county transportation commission for transportation demand management, suggesting that agencies have the discretion to use these funds as they see fit.

MSRC Member Linda Krupa recounted receiving a presentation on public transportation systems in Riverside County. While the attendees deemed the systems beneficial, they expressed concerns about their lack of knowledge and experience in using them, particularly how to transition between bus routes and Metrolink. She suggested that other counties may already have training programs in place.

Harper discussed the challenges in promoting public transit usage, particularly for employees in workplaces. He pointed out that while a lot of information is made available through different channels, such as websites and public outreach, there are still issues regarding engagement and effective utilization by potential users. Harper expressed uncertainty about the primary goals of this proposed program. He also

conveyed skepticism regarding the value of providing basic transit training when several organizations already address that need.

MSRC Member Brian Berkson questioned the program's primary goals and the specific strategies it aims to implement. He sought clarification on whether the program was intended as solely educational or if it would encompass a more systemic approach involving collaboration with employers. Chair McCallon answered his understanding is that RCTC would hire some consultants to establish the program to teach people how to use transit. Krupa stated she must agree with Brian.

Brian Cunanan, MSRC-TAC Member representing the Regional Rideshare Agency and RCTC staff member, further detailed that the program is designed to enhance the experience of new riders using the Metrolink transit system. By utilizing existing transit riders as voluntary trainers, the initiative aims to alleviate the intimidating nature of navigating Metrolink for first-time users. The program, which has undergone successful piloting, would seek to provide a more personal touch by having experienced commuters guide their coworkers through the features and operations of the train service. This approach not only makes the experience less daunting for new riders but also allows for a broader reach across various lines and time frames without incurring the higher costs associated with hiring consultants.

Chair McCallon asked for public comment on Item Number 10.

No public comment.

Moved by McCallon to deny the Regional Worksite Transit Trainer Program, seconded by Hagman; item denied.

Ayes: None
Noes: Hagman, Krupa, Henderson, Harper, Lum, Berkson, McCallon
Abstain: Robertson
Action: No action necessary

OTHER BUSINESS:

Chair Larry McCallon asked if anyone has other business.

No other business

PUBLIC COMMENT PERIOD

No public comments.

DRAFT

ADJOURNMENT

The meeting adjourned at 3:13 p.m.

[Prepared by Marjorie Eaton]

DRAFT

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 26

REPORT: California Air Resources Board Monthly Meeting

SYNOPSIS: The California Air Resources Board held a Board meeting on May 22, 2025. The following is a summary of the meeting.

RECOMMENDED ACTION:
Receive and file.

Patricia Lock Dawson, Member
South Coast AQMD Governing Board

ft

The May 22, 2025 Board meeting of the California Air Resources Board (Board) was held in Sacramento, California at the California Environmental Protection Agency Headquarters Building. The key items presented are summarized below.

DISCUSSION ITEMS

25-3-1: Public Meeting to Hear an Informational Update on the California Air Toxics Assessment

The Board heard an informational update on the Board's California Air Toxics Assessment, or CATA. CATA was initiated in 2017 with the purpose of providing support to communities and air toxics programs across the state. It assesses statewide data to determine the exposure and associated cancer risks of major air toxics and helps identify communities disproportionately impacted by air toxics. CATA assessments have helped AB 617 communities identify the major air toxics and emission sources impacting them, as well as the dominant trends and spatial patterns of health risks associated with air toxics. Future iterations of CATA will

provide additional insight into the health benefits of existing and new regulations, as well as the impact of wildfires.

25-3-2: Public Meeting to Hear an Informational Update on Natural and Working Lands and Nature-Based Strategies

The Board heard an informational update on staff's efforts to implement the nature-based strategies recommendations of the 2022 Scoping Plan Update, as well as other complementary nature-based climate work at CARB that works on matters related to Natural and Working Lands (NWL). California's NWL store thousands of million metric tons of carbon in their soil and vegetation, and the 2022 Scoping Plan Update found that these lands are likely to continue to be a source of emissions under higher temperatures, more extreme droughts, and changes in precipitation. The nature-based strategies program in CARB collaborates with agencies and stakeholders across California to monitor the state and change of all lands and provide the scientific and policy support needed to accelerate climate action in this sector. The Nature-Based Strategies program update had three primary objectives: update the NWL Carbon Inventory, lead the NWL components of the Scoping Plan, and provide technical and policy support for climate related NWL related issues.

Attachment
CARB May 22, 2025 Meeting Agenda

CALIFORNIA
AIR RESOURCES BOARD

Gavin Newsom, Governor
Yana Garcia, CalEPA Secretary
Liane M. Randolph, Chair

Public Meeting Agenda

Thursday, May 22, 2025 @ 9:00 a.m.

Zoom Webinar: *Register*
Phone Number: (669) 444-9171
Conference Code: 072072
Webinar ID: 936 4272 8310

ww2.arb.ca.gov/ma052225

California Environmental Protection Agency
1001 I Street, Sacramento, California 95814
Byron Sher Auditorium, 2nd Floor
webcast (Livestream/Watch Only)

The May 22, 2025, meeting of the California Air Resources Board (CARB or Board) will be held at 1001 I Street in Sacramento, with remote participation also available. This facility is accessible to persons with disabilities and by public transit. For transit information, call (916) 321-BUSS (2877) or visit *http://sacrt.com/.*

To only watch the Board Meeting and not provide verbal comments, please view the *webcast*. If you do not wish to provide oral comments, we strongly recommend watching the webcast as this will free up space on the webinar for those who are providing oral comments. Please do not view the webcast and then switch over to the webinar to comment as the webcast will have a time delay; instead, register to participate via the Zoom webinar.

Public Comment Guidelines and Information

- *In-Person Public Testimony*
- *Remote Public Participation*

The Board will set a two-minute time limit on oral comments; however, the amount of time could change at the Chair's discretion. In-person speakers signed up to comment will be called upon first, followed by public Zoom and phone participants wishing to comment. The Chair may close speaker sign-ups 30 minutes after the public comment portion of an item has begun.

Please note that under the California Public Records Act (Gov. Code, § 7920.000 et seq.), your written and oral comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request.

Spanish interpretation will be available for the May 22 Board Meeting

- *Agenda de la Reunión Pública*
- *Spanish Webcast*

Thursday, May 22, 2025 @ 9:00 a.m.

The following agenda items may be heard in a different order at the Board Meeting.

Hard copies of the Public Agenda and Proposed Resolutions (when applicable) will be provided at the meeting; copies of all other documents linked below will only be available upon request.

Discussion Items:

25-3-1: Public Meeting to Hear an Informational Update on the California Air Toxics Assessment

The Board will hear an informational update on CARB's California Air Toxics Assessment. The California Air Toxics Assessment assesses statewide data to determine the exposure and associated cancer risks of major air toxics and helps identify communities disproportionately impacted by air toxics in California.

- *More Information*
- *Item Summary*
- *Meeting Presentation*
- *Submit Written Comments*
- *View Public Comments*

25-3-2: Public Meeting to Hear an Informational Update on Natural and Working Lands and Nature-Based Strategies

This informational item is to provide a background and summary of the Nature-Based Strategies program at CARB that works on matters related to Natural and Working Lands (NWL). The Nature-Based Strategies program updates have 3 primary objectives: update the NWL Carbon Inventory, lead the NWL components of the Scoping Plan, and provide technical and policy support for climate related NWL related issues.

- *More Information*
- *Item Summary*
- *Meeting Presentation*
- *Submit Written Comments*
- *View Public Comments*

Closed Session

The Board may hold a closed session, as authorized by Government Code section 11126(e) to confer with, and receive advice from, its legal counsel regarding the following pending litigation, potential litigation on additional challenges to federal decisions regarding waivers and authorizations, and other matters as authorized by Government Code section 11126(e)(2)(B) or (C).

American Free Enterprise Chamber of Commerce et al. v. Steven S. Cliff et al. (United States District Court, Eastern District of California, Sacramento Division, Case No. 2:24 cv 00988 KJM-JDP)

American Free Enterprise Chamber of Commerce v. Engine Manufacturers Association, et al. (United States District Court, Northern District of Illinois, Western Division, Case No. 3:24-cv-50504)

American Free Enterprise Chamber of Commerce v. U.S. Environmental Protection Agency (United States Court of Appeals, Ninth Circuit, Case No. 25-89)

American Free Enterprise Chamber of Commerce v. U.S. Environmental Protection Agency (United States Court of Appeals, Ninth Circuit, Case No. 25-106)

American Fuel & Petrochemical Manufacturers and Energy Marketers of America v. United States Environmental Protection Agency (United States Court of Appeals, Ninth Circuit, Case No. 25-1481; D.C. Circuit Court of Appeals, No. 25-1084)

American Fuel & Petrochemical Manufacturers and the American Waterways Operators v. U.S. *Environmental Protection Agency, et al.* (United States Court of Appeals, District of Columbia Circuit, Case No. 25-1088); *American Fuel & Petrochemical Manufacturers and the American Waterways Operators v.* U.S. *Environmental Protection Agency, et al.* (United States Court of Appeals, Ninth Circuit, Case No. 25-1615)

Association of American Railroads et al. v. Randolph et al. (United States District Court, Eastern District of California, Sacramento Division, Case No. 2:23 cv 01154 JAM-JDP)

California Air Resources Board v. Noil Energy Group, Inc. and Speedy Fuel Inc. (Los Angeles County Superior Court, Case Nos. 2OSTCV30142 and 2OSTCV30292; California Court of Appeal, Second District, Case No. B339478)

California Trucking Association v. California Air Resources Board (United States District Court, Eastern District of California, Case No. 2:23-cv-02333-TLN-CKD)

Chamber of Commerce of the United States et al. v. California Air Resources Board et al. (United States District Court, Central District of California, Case No. 2:24-cv-00801)

Christopher Broaddus v. California Air Resources Board (Sacramento County Superior Court, Case No. 24VVM000161)

City of Los Angeles, acting by and through its Department of Water and Power v. California Air Resources Board (Los Angeles County Superior Court of the State of California, Case No. 24STCP01428)

Committee for a Better Arvin et al v. U.S. Environmental Protection Agency (United States Court of Appeals, Ninth Circuit, Case No. 24-7270)

Commonwealth of Kentucky, et al. v. U.S. Environmental Protection Agency (United States Court of Appeals, District of Columbia Circuit, Case No. 24 1050)

Commonwealth of Kentucky, et al. v. U.S. Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 24-1087)

Communities for a Better Environment v. California Air Resources Board et al. (Fresno County Superior Court, Case No. 24CECG05430); *Defensores del Valle Central para el Aire y Agua Limpio et al. v. California Air Resources Board et al*. (Fresno County Superior Court, Case No. 24CECG05508); *Growth Energy v. California Air Resources Board et al*. (Fresno County Superior Court, Case No. 24CECG05514)

Diamond Alternative Energy, LLC, et al. v. U.S. Environmental Protection Agency, et al. (United States Supreme Court, Case No. 24-7); certiorari granted from *Ohio, et al. v. U.S. Environmental Protection Agency, et al.* (United States Court of Appeals, District of Columbia Circuit, Case No. 22-1081; consolidated with Case Nos. 22-1083, 22-1084, and 22-1085)

Environmental Defense Fund, et al. v. Andrew Wheeler, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 20 1360)

Friends of Oceano Dunes, Inc. v. California Air Resources Board, et al. (San Luis Obispo County Superior Court, Case No. 17CV-0576) and *Friends of Oceano Dunes, Inc. v. California Air Resources Board, et al.* (United States District Court, Central District of California, Case No. 2:17 cv 8733)

Government Accountability and Oversight v. California Air Resources Board (Sacramento County Superior Court, Case No. 24CV012372)

GreenPower Motor Company, Inc. v. California Air Resources Board (Sacramento County Superior Court, Case No. 23WM000083)

Natural Resources Defense Council v. National Highway Traffic Safety Admin., et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 22-1080, consolidated with Nos. 22-1144 and 22-1145)

Outdoor Power Equipment Institute v. U.S. Environmental Protection Agency (United States Court of Appeals, Ninth Circuit, Case No. 25-881)

People v. Southern California Gas Company (Los Angeles County Superior Court, Case No. BC602973)

Ryan Murray Partners, Inc. v. California Air Resources Board (Superior Court of California, County of Sacramento, Case No. 25CV005264)

State of New York, et al. v. U. S Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 21-1028)

State of Nebraska, et al. v. Steven S. Cliff, et al. (United States District Court, Eastern District of California, Case No. 2:24-cv-01364-JAM-CKD)

Specialty Equipment Market Association & Performance Racing, Inc., et al. v. California Air Resources Board, et al. (United States District Court, Eastern District of California, Case No. 2:24-cv-02771-TLN-AC)

State of California, et al. v. David Bernhardt, et al. (United States District Court, Northern District of California, 472 F. Supp. 3d 573 (N.D. Cal. 2020) Case No. 3:18 cv 5712 DMR; BLM, Wyoming, and industry appeal to United States Court of Appeals, Ninth Circuit, Case No. 20-16793)

State of California, et al., v. Hino Motors, Ltd. and Hino Motors Manufacturing, U.S.A., Inc. (United States District Court, Eastern District of Michigan, Case Nos. 2:25-cv-10144-SFC-APP, and 2:25-cv-10146-SFC-KGA)

State of California v. U.S. Environmental Protection Agency (United States Court of Appeals, District of Columbia Circuit, Case No. 21-1034, consolidated with California Communities Against Toxics et al. v. EPA, Case No. 21-1024)

State of California, et al. v. U.S. Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 21-1014)

State of California v. Wheeler, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 20-1167; consolidated with other cases under No. 20-1145, *Competitive Enterprise Institute, et al. v. NHTSA, et al.*).

State of Nebraska, et al. v. Steven S. Cliff, et al. (United States District Court, Eastern District of California, Case No. 2:24-cv-01364-TLN-CKD)

State of Nebraska, et al., v. U.S. Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 24-1129; consolidated with Case Nos. 24-1133, 24-1157, 24-1207, 24-1208, 24-1209, 24-1210, and 24-1214).

State of New York, et al. v. Donald Trump, et al. (United States District Court, District of Rhode Island, Case No. 1:25-cv-39)

State of North Dakota v. U.S. Environmental Protection Agency (United States Court of Appeals, District of Columbia Circuit, Case No. 15-1381)

State of North Dakota, et al. v. U.S. Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 16-1242)

State of Texas, et al. v. U.S. Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 22-1031)

State of Texas, et al. v. U.S. Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 24-1054)

State of West Virginia, et al. v. U.S. Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 24-1009)

State of West Virginia et al. v. U.S. Environmental Protection Agency (United States Court of Appeals, District of Columbia Circuit, Case No. 24-1120)

South Coast Air Quality Management District v. City of Los Angeles, et al. (Los Angeles County Superior Court, Case No. 20STCP02985; transferred to San Diego County Superior Court, Case No. 37-2021-00023385-CU-TT-CTL; appeal California Court of Appeal, Fourth Appellate District, Div. 1, Case. No. D080902; remanded to Superior Court)

The Two Hundred for Homeownership, Robert Apodaca, and Jose Antonio Ramirez v. California Air Resources Board, Steven S. Cliff, in his official capacity, et al. (United States District Court, Eastern District of California, Fresno Division, Case No. 1:22-at-904)

Western Propane Gas Association v. California Air Resources Board, et al. (Fresno County Superior Court, Case No. 24CECG03716)

Western States Petroleum Association v. California Air Resources Board, et al. (Fresno County Superior Court, Case No. 22CECG03603)

Western States Petroleum Association v. California Air Resources Board (Los Angeles County Superior Court, Case No. 20STCP03138x, California Court of Appeal, Second District, Case No. B327663)

Western States Petroleum Association v. California Air Resources Board (Fresno County Superior Court, Case No. 23CECG02976)

Western States Trucking Association v. California Air Resources Board (Fresno County Superior Court, Case No. 23CECG02964)

Western States Trucking Association, Inc. and Construction Industry Air Quality Coalition, Inc. v. U.S. Environmental Protection Agency (United States Court of Appeals, District of Columbia Circuit, Case No. 23-1148)

Opportunity for Members of the Board to Comment on Matters of Interest

Board members may identify matters they would like to have noticed for consideration at future meetings and comment on topics of interest; no formal action on these topics will be taken without further notice.

Open Session to Provide an Opportunity for Members of the Public to Address the Board on Subject Matters within the Jurisdiction of the Board

Although no formal Board action may be taken, the Board is allowing an opportunity to interested members of the public to address the Board on items of interest that are within the Board's jurisdiction, but that do not specifically appear on the agenda. Each person will be allowed a maximum of two minutes to ensure that everyone has a chance to speak. The public will also have an opportunity to *submit written comments* for open session the morning of the Board Meeting.

Other Information

Submit Comments Electronically the Day of the Board Meeting

View Submitted Comments

Please Note: PowerPoint presentations to be displayed during public comment at the Board meeting must be electronically submitted via email to the Clerks' Office at *cotb@arb.ca.gov* no later than noon on the business day prior to the scheduled Board Meeting.

If you have any questions, please contact the Clerks' Office:

1001 I Street, 6th Floor, Sacramento, California 95814
cotb@arb.ca.gov or (916) 322-5594
CARB Homepage: *www.arb.ca.gov*

Special Accommodation Request

Consistent with California Government Code section 7296.2, special accommodation or language needs may be provided for any of the following:

- An interpreter to be available at the hearing;
- Documents made available in an alternate format or another language;
- A disability-related reasonable accommodation.

To request these special accommodations or language needs, please contact the Clerks' Office at *cotb@arb.ca.gov* or at (916) 322-5594 as soon as possible, but no later than 7 business days before the scheduled Board hearing. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Acomodación Especial

Consecuente con la sección 7296.2 del Código de Gobierno de California, una acomodación especial o necesidades lingüísticas pueden ser suministradas para cualquiera de los siguientes:

- Un intérprete que esté disponible en la audiencia;
- Documentos disponibles en un formato alterno u otro idioma;
- Una acomodación razonable relacionados con una incapacidad.

Para solicitar estas comodidades especiales o necesidades de otro idioma, por favor contacte la oficina del Consejo al (916) 322-5594 o por correo electronico al *cotb@arb.ca.gov* lo más pronto posible, pero no menos de 7 días de trabajo antes del día programado para la audiencia del Consejo. TTY/TDD/Personas que necesiten este servicio pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California.

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 28

PROPOSAL: Certify Final Subsequent Environmental Assessment for Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces, and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters; and Amend Rule 1111 and Rule 1121

SYNOPSIS: Proposed Amended Rule 1111 (PAR 1111) and Proposed Amended Rule 1121 (PAR 1121) establish requirements to reduce NOx emissions from space and water heating units, respectively. PAR 1111 and PAR 1121 establish manufacturer requirements for the sale of space and water heating units that meet low-NOx and zero-NOx emission standards that change over time, and include a mitigation fee for NOx-emitting units, with an option to pay a higher mitigation fee if manufacturers sell more low-NOx units than the targets. Alternatively, manufacturers that elect to sell only zero-emission space and water heating units would not be subject to a per unit mitigation fee.

COMMITTEE: Stationary Source, October 18, and December 20, 2024, February 21, March 21, April 18, and May 16, 2025

RECOMMENDED ACTIONS:
Adopt the attached Resolution:

1. Certifying the Final Subsequent Environmental Assessment for Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces, and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters; and
2. Amending Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces, and Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters.

Wayne Nastri
Executive Officer

SR:MK:HF:YZ:JV:PC

Background

Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces (Rule 1111), was adopted in December 1978 and regulates NOx emissions from natural gas-fired fan-type central furnaces with rated heat input capacity of less than 175,000 British thermal units per hour (Btu/hr), or for units with combined heating and cooling (package units), a cooling rate of less than 65,000 Btu/hr. The rule was amended in 2009 to lower the NOx emissions limit from 40 to 14 nanograms per Joule (ng/J). The rule was later amended several times to provide an alternative compliance option and extend the option that allows the manufacturer to pay a per-unit mitigation fee, in lieu of meeting the lower NOx emission limit. Currently, all furnace types have transitioned to 14 ng/J, except for mobile home furnaces. Staff is not recommending any significant revisions to this sector and will allow manufacturers to continue to use the current mitigation fee alternative compliance option for mobile home furnaces.

Rule 1121 – Control of Nitrogen Oxides from Residential Type, Natural Gas-Fired Water Heaters (Rule 1121), was adopted in December 1978 and regulates NOx emissions from natural gas-fired water heaters with a rated heat input capacity of less than 75,000 Btu/hr. This rule was amended in 1999 to reduce the NOx emission limit from 40 ng/J to 10 ng/J and amended again in 2004 to extend the compliance dates of the 10 ng/J limit for some categories. Currently, all Rule 1121 water heaters are meeting the NOx emissions limit of 10 ng/J, except for mobile home water heaters that are subject to an emissions limit of 40 ng/J.

Rule 1111 and Rule 1121 are applicable to manufacturers, distributors, retailers, resellers, and installers of space and water heating appliances that are used in over five million structures, mostly residential homes.

Proposed Amendments

PAR 1111 and PAR 1121 establish zero-NOx emission limits for space and water heating units with compliance dates for units installed in new or existing buildings. A zero-emission manufacturer alternative compliance option is also provided that establishes targets for manufacturers for the sale of both NOx-emitting and zero-emission space and water heating units. Manufacturers that elect to sell NOx-emitting gas units will be required to pay a mitigation fee of $100 and $50 for each space and water heating unit, respectively, sold within the target. The target goals change over a ten-year period to encourage increased market adoption of zero-emission space and water heating units. The zero emission sales target is 30 percent in 2027, 50 percent in 2029, 75 percent in 2033, and 90 percent in 2036. PAR 1111 and PAR 1121 include provisions that allow manufacturers to sell NOx-emitting gas units over the sales targets by paying a higher mitigation fee of $500 and $250 per space and water heating unit. If the manufacturer meets the annual target goal, there are no additional mitigation fees. The fees will be adjusted annually to reflect the consumer price index with a three percent cap to provide certainty for the manufacturers. The mitigation fees collected will be used to provide incentives to install zero-emission units.

The analysis of zero-emission space and water heating focused mostly on heat pumps, as they are the zero-emission technology for space and water heating with the highest market penetration; however, there are other zero-emission technologies commercially available. Heat pumps do not produce NOx emissions at the point of use. Heat pumps provide both heating and cooling, which can result in upfront savings for certain installations, e.g., when replacing both a furnace and air conditioner. Heat pumps are three to four times more efficient than conventional NOx emitting appliances, which can result in utility cost savings over the life of the equipment.

Both proposed amended rules provide an exemption from the zero-NOx emission standards for space and water heating appliances installed or used in existing mobile homes, any mobile homes located in master-metered mobile home parks, and new buildings with a building permit issued prior to the date of rule adoption.

PAR 1111 and PAR 1121 have clarified and updated rule language, restructured the rule, removed obsolete language, and streamlined the labeling, recordkeeping, and reporting requirements.

Public Process

PAR 1111 and PAR 1121 were developed through a public process that began in the third quarter of 2023 and included eight Working Group Meetings on October 5, 2023, November 28, 2023, January 31, 2024, April 4, 2024, June 20, 2024, August 15, 2024, December 4, 2024, and February 13, 2025. The working group is composed of representatives from manufacturers, trade organizations, businesses, environmental groups, public agencies, consultants, and other interested parties. A public workshop was held on October 3, 2024, and a public consultation was held on March 6, 2025. Throughout the rulemaking, staff also met with many individual stakeholders and conducted site visits to a wide variety of affected facilities.

At the November Board Meeting, Board Members directed staff to conduct additional outreach to local governments as the proposed amended rules would affect residents. As a result, staff enhanced the outreach effort and presented the revised rule concept to many cities, council of governments, and other organizations along with conducting numerous stakeholder meetings. Staff developed a myth versus fact sheet to dispel misinformation, added the email addresses from each commenter to our electronic subscribers list, and sent the fact sheet to over 17,000 individuals to clearly explain the rule concept. In addition, staff wrote an article that was printed in several newspapers to attempt to dispel misinformation.

Emission Reductions

PAR 1111 and PAR 1121 will affect approximately 10 million units in the South Coast AQMD. The rule approach sets manufacturer sales targets for zero-emission units that increase over time and apply when a new unit is installed or an existing unit is replaced; therefore, the emission reductions are based on the expected unit turnover, which is generally 25 years for space heaters and 15 years for water heaters. At full

implementation, PAR 1111 and PAR 1121 are estimated to reduce NOx emissions by 6.1 tons per day (tpd) by 2061 if the manufacturers meet the proposed compliance sales targets.

Key Issues

Throughout the rule development process, staff worked with stakeholders and revised PAR 1111 and PAR 1121 to address key issues such as consumer choice and individual affordability. The initial rule proposal included a mandate, which would have required applicable units to transition to zero-emission units on replacement. PAR 1111 initially also proposed to expand the applicability of natural gas-fired furnaces with heat input rated from 175,000 Btu/hr to 2 million Btu/hr. At the November 2024 Governing Board meeting, the Board directed staff to conduct more outreach for PAR 1111 and PAR 1121, with an emphasis on cities and local governments. Based on extensive stakeholder feedback, staff made significant revisions and released a revised proposal that allows manufacturers to sell zero-emission units (with no mitigation fee) and NOx-emitting gas units (with a mitigation fee). The revised rule concept for PAR 1111 and PAR 1121 was released on February 7, 2025, and presented at Working Group Meeting #8 on February 13, 2025, and numerous subsequent public meetings.

There are four remaining key issues: 1) concerns for affordability and consumer choice, 2) cost of zero emission units is substantially higher than estimates in Draft Staff Report, 3) lower mitigation fees will ensure NOx-emitting gas units remain affordable, and 4) higher mitigation fees will encourage manufacturers to stay within targets.

Affordability and Consumer Choice

Staff received more than 14,500 comments, many that opposed the proposed amended rules because they believe the proposed rules will require them to replace their existing NOx-emitting gas units with electric units, including their stoves. This is in large part due to misinformation provided by outside groups, implying the proposed rules are still a mandate and consumers will not be able to purchase NOx-emitting gas units. Each person who submitted a comment was added to the subscribers list if an email address was provided and now the subscribers list has over 17,000 email addresses. Staff sends all rule updates and outreach materials (e.g., infographic flyer Myths vs Facts) to that list of over 17,000 subscribers.

Under the provisions of the proposed rules, manufacturers can still sell NOx-emitting units. While the proposed rules do contain a zero-NOx emission requirement for manufacturers that do not opt-in to the alternative compliance option, staff anticipates that all major space and water heating manufacturers will take advantage of the alternative compliance option. Staff has also recommended a check-in for the third quarter of 2028 to assess the manufacturer targets and mitigation fee structure.

Cost Estimates of Zero-Emission Units

The Cost of Living Council has developed a cost analysis that presents cost estimates of $47,800 for a single family home and $8.9 billion annually that has been widely distributed. This cost analysis overstates the cost impacts of the proposed rules with no supporting data. For instance, the Cost of Living Council reports cost estimate for a heat pump water heater installation is nearly five times greater than staff's cost estimates, which were developed using thousands of real-world installation costs. The Staff Report and Socioeconomic analysis includes cost data based on real installations of space and water heat pumps, public cost data, where cost estimates were presented to stakeholders at numerous public meetings, and fully disclosed how the cost effectiveness was calculated. On March 6th, staff presented an update on cost estimates to include more recent 2024 costs and presented the revised costs at the Public Consultation Meeting to address any questions on the proposed amended rules and cost analysis.

Lower Mitigation Fees to Address Affordability

Some stakeholders suggested that the mitigation fees would be passed down to consumers, making the NOx emitting appliances unaffordable. Under PAR 1111 and 1121, manufacturers are required to pay a mitigation fee of $100 for NOx-emitting furnaces and $50 for NOx-emitting water heaters, which is about one percent of the unit and installation cost. Space and water heating units are a major household expense, but these units have a long service life, meaning the upfront mitigation fee equates to less than $4.00 per year of the equipment life which should not change the level of affordability for the consumer. The "over the target" fee of $500 for furnaces and $250 for water heaters applies only to those NOx-emitting units sold *above* sales target and the targets were established to reflect current market trends. If the manufacturer stays within the target goals, no "over the target" fee is required. If the rules did not include "over the target" fees, the sales targets would not have any impact, i.e., the manufacturers would not be motivated to sell zero-emission units and it would remain business as usual for the region.

Collected mitigation fees will help transition the region to zero-emission units by funding the GO ZERO incentive program. The GO ZERO incentive program will help offset upfront costs to consumers interested in making the transition to zero-emission space and water heating units. The GO ZERO program seeks to target up to 75 percent of the incentive funds to overburdened communities to help residents who need the most financial assistance to transition to clean, modern, healthy appliances.

Higher Mitigation Fees to Encourage Staying Within Sales Targets

Environmental stakeholders are advocating for a three-step tiered mitigation fee structure for units sold over the sales targets that would start at $500 and go up to $1,000 for space heating and would start at $250 and go up to $500 for water heating. Environmental stakeholders propose scaling the mitigation fees to increase depending on the percent of sales over the target: $500 per furnace that exceeds the target by 1 – 10 percent, $750 per furnace that exceeds the target by 11 – 20 percent, and $1,000 per

furnace that exceeds the target by over 21 percent. Environmental stakeholders have commented that a three-step tiered mitigation fee will encourage the manufacturers to meet the sales targets, and the tiered approach will encourage manufacturers to not go over 20 percent of the target.

Manufacturers have commented that the current two-tier mitigation fee structure for under and above the sales target is complicated to implement, and manufacturers strongly prefer a flat fee.

Staff considered this tiered approach proposed by the Environmental stakeholders and the flat fee requested by the manufacturers and presented options at the Stationary Source Committee in March 2025. Staff recommended maintaining the proposed fee structure to balance affordability with NOx emission reduction goals. Staff will monitor the implementation of the rules and assess zero-emission unit market adoption.

California Environmental Quality Act (CEQA)

Pursuant to the California Environmental Quality Act (CEQA) and South Coast AQMD's certified regulatory program (Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l); codified in South Coast AQMD Rule 110), the South Coast AQMD, as lead agency for PAR 1111 and PAR 1121, prepared a Subsequent Environmental Assessment (SEA), a substitute CEQA document in lieu of a Subsequent Environmental Impact Report (EIR), which tiers off of the Final Program EIR for the 2022 AQMP. The Draft SEA was released for a 46-day public review and comment period, three comment letters were received, and responses to the comments are included in Appendix B of the Final SEA (see Attachment J of this Board Letter). The Final SEA concluded that while implementation of the proposed project will result in an air quality benefit of 6.1 tpd of NOx emission reductions, significant and unavoidable adverse environmental impacts may occur for the topics of: 1) air quality due to construction activities; and 2) energy due to change in operational electricity and interim natural gas demand needed to produce electricity until renewable energy resources are available to satisfy the electricity demand. Specific feasible mitigation measures in the previously adopted Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP have been identified as being applicable to Proposed Amended Rule 1111 and Proposed Amended Rule 1121; thus, the previously adopted Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP and these specified mitigation measures remain in effect and enforceable for Proposed Amended Rule 1111 and Proposed Amended Rule 1121. No further feasible mitigation measures were identified that would reduce these impact areas to less than significant levels. In addition, Findings pursuant to CEQA Guidelines Section 15091 and a Statement of Overriding Considerations pursuant to CEQA Guidelines Section 15093 were also prepared (see Attachment F of this Board Letter).

Socioeconomic Impact Assessment

The proposed project is expected to yield an overall savings, mainly due to a savings from reduced energy bill costs over the equipment lifetime. For some equipment

categories, upfront incremental costs associated with purchasing and installing zero-emission units will be incurred, but these upfront costs will be offset by energy-cost savings over time, resulting in an overall savings. The present value cost savings over the forecast period is estimated to be $5.14 billion and $2.68 billion, for a discount rate of 1 percent and 4 percent, respectively. The annual average savings are estimated to be $250.34 million and $191.25 million, for a 1 percent and 4 percent real interest rate, respectively. To explore cost- and job-impacts under different assumptions, a sensitivity analysis was performed which assumed no savings would occur from fuel switching when transitioning to zero-emission units. The sensitivity analysis estimated the cost of transitioning to zero-emission units at $174.03 million annually for a 4 percent real interest rate from 2027 to 2060.

When the costs and savings from implementing PAR 1111 and PAR 1121 are annualized by applying a 4 percent real interest rate, the analysis forecasts 580 net jobs gained annually in the four-county economy on average over the forecast period, relative to the baseline scenario, representing 0.0045 percent of total jobs in the region. The sensitivity analysis forecasts 500 jobs gained annually from 2027 to 2060, relative to the baseline scenario.

Over the analysis period from 2027 to 2053, the benefit of achieving 6.1 tpd of NOx emission reductions from implementing PAR 1111 and PAR 1121 is estimated to prevent 2,490 premature deaths, 10,200 cases of newly onset asthma, 170,000 school loss days, 2,484 emergency room visits, 1.17 million minor restricted activity days, and many other negative health outcomes. The present value of the monetized health benefits from implementing PAR 1111 and PAR 1121 would be about $25.43 billion when calculated at a 4 percent discount rate. The Final Socioeconomic Impact Assessment is included as an attachment to this Board Letter (see Attachment K).

AQMP and Legal Mandates

South Coast Air Basin has been classified as in “extreme” nonattainment for the 2015 federal 8-hour ozone standard and is subject to requirements of the federal Clean Air Act (CAA). Pursuant to Health and Safety Code Section 40460 (a), the South Coast AQMD is required to adopt an AQMP demonstrating compliance with all federal regulations and standards. The 2022 AQMP adopted on December 2, 2022, set forth a path for improving air quality and meeting federal air pollution standards by striving for zero-emission technologies across all sectors. The South Coast AQMD is required to adopt rules and regulations that carry out the objectives of the 2022 AQMP. The 2022 AQMP included Control Measures R-CMB-01 and R-CMB-02, which seek zero-NOx emission standards for residential water and space heating, wherever feasible; PAR 1111 and PAR 1121 will implement those control measures.

Implementation and Resource Impact

Resource impacts are expected in various divisions including Planning, Rule Development and Implementation, and Compliance and Enforcement; however, at this

time, no funds have been reserved for administration and implementation of PAR 1111 and PAR 1121, but additional resources or staffing might be requested in the future.

Attachments

A. Summary of Proposal
B. Key Issues and Responses
C. Rule Development Process
D. Key Contacts
E. Resolution
F. Attachment 1 to the Resolution – Findings and Statement of Overriding Considerations
G. PAR 1111
H. PAR 1121
I. Final Staff Report
J. Final Subsequent Environmental Assessment
K. Final Socioeconomic Impact Assessment
L. Board Meeting Presentation

ATTACHMENT A

SUMMARY OF PROPOSAL

Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces
and
Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters

Purpose

- PAR 1111:
  - Reduce NOx emissions from residential sized furnaces as defined
- PAR 1121:
  - Reduce NOx emissions from residential sized water heaters as defined

Applicability

- PAR 1111:
  - Manufacturers, distributors, retailers, resellers, and installers of natural gas-fired furnaces used for interior space heating with a rated heat input capacity less than 175,000 British thermal units (Btu) per hour, or, for combination heating and cooling units, a cooling rate of less than 65,000 Btu per hour
- PAR 1121:
  - Manufacturers, distributors, retailers, resellers, and installers of natural gas-fired NOx-emitting water heaters with a rated heat input capacity less than 75,000 Btu per hour

Requirements

- PAR 1111:
  - Unless the NOx-emitting furnace is included in the zero-NOx emission manufacturer alternative compliance option, on and after the applicable Table 2 compliance dates, a person shall only manufacture, supply, sell, resell, offer for sale, import, or install, for use in the South Coast AQMD, a zero-NOx emission unit, that emits zero ng/J of NOx, in place of a NOx-emitting furnace according to the Table 2 compliance schedule for each furnace equipment category.

Table 2 – Zero-NOx Emission Limit Compliance Schedule

Equipment Category	Building Type	Compliance Date
Residential Fan-Type Central Furnace[1]	New	January 1, 2027
	Existing	January 1, 2029
Mobile Home Furnace	New	January 1, 2027
Wall Furnace and Floor Furnace	New	January 1, 2027
	Existing	January 1, 2029

[1] Includes Condensing, Non-Condensing, and Weatherized Furnaces

- PAR 1121:
  - Unless the NOx-emitting water heater is included in the zero-NOx emission Manufacturer alternative compliance option, on and after the applicable Table 2 compliance dates, a person shall only manufacture, supply, sell, resell, offer for sale, import, or install, for use in the South Coast AQMD, a zero-NOx emission unit, that emits zero ng/J of NOx, in place of a NOx-emitting water heater according to the Table 2 compliance schedule.

Table 2 – Zero-NOx Emission Limit Compliance Schedule

Equipment Category	Building Type	Compliance Date
Water Heater[1]	New	January 1, 2027
	Existing	January 1, 2029
Mobile Home Water Heater	New	January 1, 2027

[1] Excluding Mobile Home Water Heater

Alternative Compliance Options

- PAR 1111:
  - Mobile home furnaces alternative compliance option
    - Removes the September 30, 2025 expirations date
    - On and after October 1, 2025, mitigation fee is reduced from $150 to $100 per unit
- PAR 1111 and PAR 1121:
  - Zero-NOx Emission Manufacturer (ZEM) alternative compliance option
    - Manufacturers can opt-in to ZEM option that allows for the sale of both zero-NOx emission and NOx-emitting units based on established sales targets
      - Submit an alternative compliance plan no later than November 1, 2026, or no later than 60 days prior to any sales into or within the South Coast AQMD for a new manufacturer
      - Submit a report no later than 90 days after the end of each calendar year utilizing this alternative compliance option for the specified sales information; and
      - Pay the mitigation fee
    - If a manufacturer meets the sales target for zero-NOx emission units, the under the target per unit mitigation fee of $100 for furnaces and $50 for water heaters will apply

- If a manufacturer does not meet the zero-NOx emission unit target, the over the target per unit mitigation fee of $500 for furnaces and $250 for water heaters will apply
- Mitigation fees for 2027 will be adjusted by the consumer price index, not exceeding 3 percent, for each subsequent calendar year after 2027

Informative Materials, Labeling, Recordkeeping, and Reporting

- PAR 1111 and PAR 1121
  - Includes informative materials requirements for mobile home units, downflow furnaces for high-altitude, and units under ZEM alternative compliance option
  - Includes annual reporting requirements for manufacturers electing to comply with the ZEM alternative compliance option
  - Includes recordkeeping requirements for manufacturers electing to comply with the ZEM alternative compliance option
  - Includes labeling requirements for furnaces and water heaters installed in new and existing building that apply between January 1, 2027 to January 1, 2029
  - Includes labeling requirements for units, other than mobile home units, that are sold in the region not using the ZEM alternative compliance option

Exemptions

- PAR 1111:
  - Exemption from zero-NOx emission limits
    - Mobile home furnaces in compliance with 14 ng/J NOx emissions limit, or by mitigation fee alternative compliance option, for installation in existing buildings
    - Mobile home furnace in compliance with 14 ng/J NOx emissions limit, or by mitigation fee alternative compliance option, for installation or use in a master-metered mobile home park
    - Furnaces in compliance with the 14 ng/J NOx emissions limit with a building permit issued prior to the date of rule adoption
- PAR 1121
  - Exemption from zero-NOx emission limits
    - Mobile home water heaters in compliance with the 40 ng/J emissions limit for installation in existing building
    - Mobile home water heaters in compliance with the 40 ng/J emissions limit for installation or use in master-metered mobile home parks
    - Water heaters in compliance with the 14 ng/J NOx emissions limit with a building permit issued prior to the date of rule adoption

ATTACHMENT B

KEY ISSUES AND RESPONSES

Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters
Throughout the rule development process, staff worked with stakeholders and revised PAR 1111 and PAR 1121 to address key issues such as consumer choice and individual affordability. The initial rule proposal included a mandate, which would have required applicable units to transition to zero-emission units on replacement. PAR 1111 initially also proposed to expand the applicability of natural gas-fired furnaces with heat input rated from 175,000 Btu/hr to 2 million Btu/hr. At the November 2024 Governing Board meeting, the Board directed staff to conduct more outreach for PAR 1111 and PAR 1121, with an emphasis on cities and local governments. Based on extensive stakeholder feedback, staff made significant revisions and released a revised proposal that allows manufacturers to sell zero-emission units (with no mitigation fee) and NOx-emitting gas units (with a mitigation fee). The revised rule concept for PAR 1111 and PAR 1121 was released on February 7, 2025, and presented at Working Group Meeting #8 on February 13, 2025, and numerous subsequent public meetings. There are four remaining key issues: 1) concerns for affordability and consumer choice, 2) cost of zero emission units is substantially higher than estimates in Draft Staff Report, 3) lower mitigation fees will ensure NOx-emitting gas units remain affordable, and 4) higher mitigation fees will encourage manufacturers to stay within targets. *Affordability and Consumer Choice* Staff has received more than 14,500 comments, many that opposed the proposed amended rules because they believe the proposed rules will require them to replace their existing NOx-emitting gas units with electric units, including their stoves. This is in large part due to misinformation provided by outside groups, implying the proposed rules are still a mandate and consumers will not be able to purchase NOx-emitting gas units. Each person who submitted a comment was added to the subscribers list if an email address was provided and now the subscribers list has over 17,000 email addresses. Staff sends all rule updates and outreach materials (e.g., infographic flyer Myths vs Facts) to that list of over 17,000 subscribers. Under the provisions of the proposed rules, manufacturers can still sell NOx-emitting units. While the proposed rules do contain a zero-NOx emission requirement for manufacturers that do not opt-in to the alternative compliance option, staff anticipates that all major space and water heating manufacturers will take advantage of the alternative compliance option. Staff

has also recommended a check-in for the third quarter of 2028 to assess the manufacturer targets and mitigation fee structure.

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The Cost of Living Council has developed a cost analysis that presents cost estimates of $47,800 for a single family home and $8.9 billion annually that has been widely distributed. This cost analysis overstates the cost impacts of the proposed rules with no supporting data. For instance, the Cost of Living Council reports cost estimate for a heat pump water heater installation is nearly five times greater than staff's cost estimates, which were developed using thousands of real-world installation costs. The Staff Report and Socioeconomic analysis includes cost data based on real installations of space and water heat pumps, public cost data, where cost estimates were presented to stakeholders at numerous public meetings, and fully disclosed how the cost effectiveness was calculated. On March 6th, staff presented an update on cost estimates to include more recent 2024 costs and presented the revised costs at the Public Consultation Meeting to address any questions on the proposed amended rules and cost analysis.

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Some stakeholders suggested that the mitigation fees would be passed down to consumers, making the NOx emitting appliances unaffordable. Under PAR 1111 and 1121, manufacturers are required to pay a mitigation fee of $100 for NOx-emitting furnaces and $50 for NOx-emitting water heaters, which is about one percent of the unit and installation cost. Space and water heating units are a major household expense, but these units have a long service life, meaning the upfront mitigation fee equates to less than $4.00 per year of the equipment life which should not change the level of affordability for the consumer. The "over the target" fee of $500 for furnaces and $250 for water heaters applies only to those NOx-emitting units sold *above* sales target and the targets were established to reflect current market trends. If the manufacturer stays within the target goals, no "over the target" fee is required. If the rules did not include "over the target" fees, the sales targets would not have any impact, i.e., the manufacturers would not be motivated to sell zero-emission units and it would remain business as usual for the region.

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Higher Mitigation Fees to Encourage Staying Within Sales Targets

Environmental stakeholders are advocating for a three-step tiered mitigation fee structure for units sold over the sales targets that would start at $500 and go up to $1,000 for space heating and would start at $250 and go up to $500 for water heating. Environmental stakeholders propose scaling the mitigation fees to increase depending on the percent of sales over the target: $500 per furnace that exceeds the target by 1 – 10 percent, $750 per furnace that

exceeds the target by 11 – 20 percent, and $1,000 per furnace that exceeds the target by over 21 percent. Environmental stakeholders have commented that a three-step tiered mitigation fee will encourage the manufacturers to meet the sales targets, and the tiered approach will encourage manufacturers to not go over 20 percent of the target.

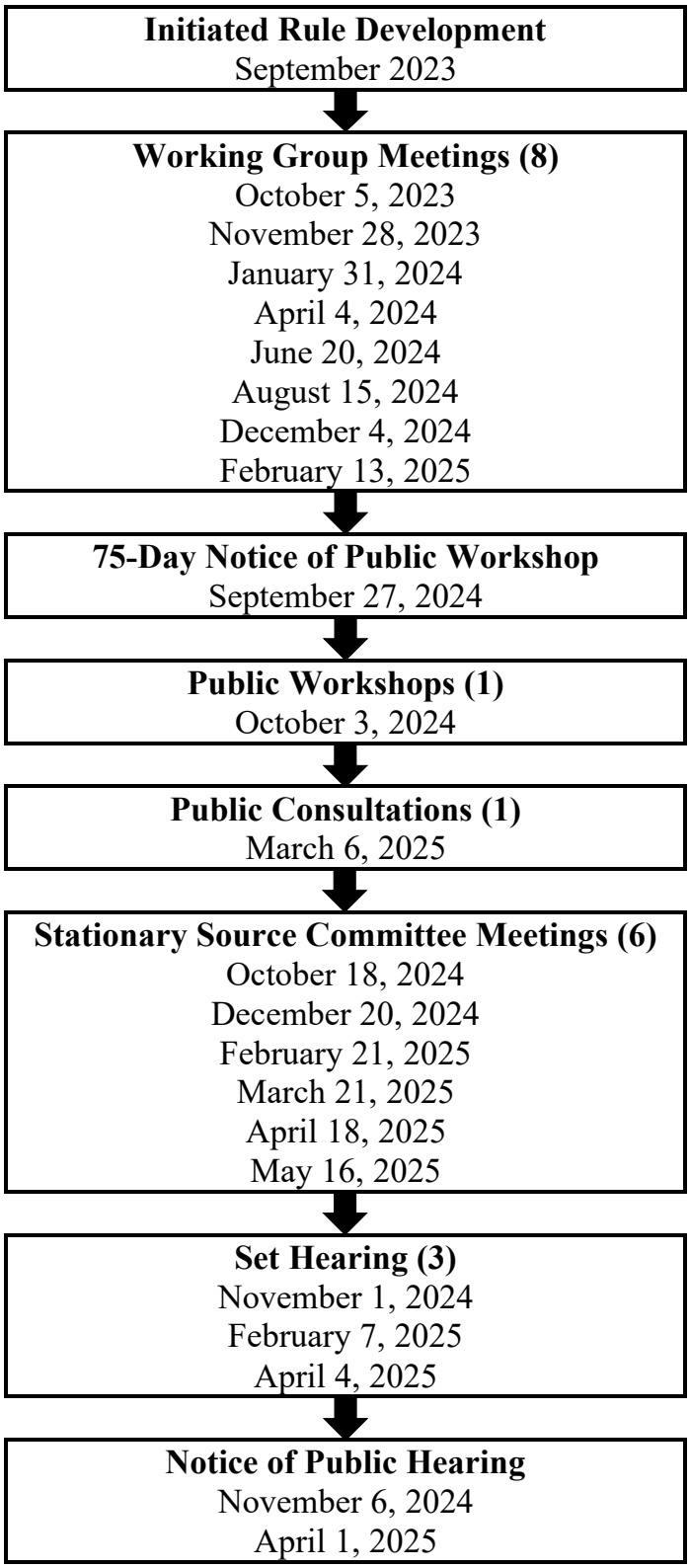
Manufacturers have commented that the current two-tier mitigation fee structure for under and above the sales target is complicated to implement, and manufacturers strongly prefer a flat fee.

Staff considered this tiered approach proposed by the Environmental stakeholders and the flat fee requested by the manufacturers and presented options at the Stationary Source Committee in March 2025. Staff recommended maintaining the proposed fee structure to balance affordability with NOx emission reduction goals. Staff will monitor the implementation of the rules and assess zero-emission unit market adoption.

ATTACHMENT C

RULE DEVELOPMENT PROCESS

Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters



April 17, 2025
April 29, 2025

Public Hearing
June 6, 2025

Twenty (20) months spent in rule development
One (1) Public Workshop Session
One (1) Public Consultation Meeting
Six (6) Stationary Source Committee Meetings
Eight (8) Working Group Meetings
40 Presentations to cities and Council of Governments (COG)
Over 100 stakeholder meetings

ATTACHMENT D

KEY CONTACTS LIST

Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces
and
Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters

Manufacturers

- A.O. Smith
- Bradford White Corporation
- Goodman (Daikin)
- Johnson Controls International
- Carrier
- Nortek
- Lennox
- Rheem Manufacturing Company
- Trane

Government Agencies

- California Air Resources Board (CARB)
- California Public Utilities Commission (CPUC)
- California Energy Commission (CEC)
- Bay Area Air District (BAAD)
- Southern California Association of Governments (SCAG)
- Orange County Council of Governments (OCCOG)
- San Bernardino County Council of Governments (SBCOG)
- Gateway Cities Council of Governments (Gateway Cities COG)
- San Gabriel Valley Council of Governments (SGVCOG)
- Coachella Valley Association of Governments (CVAG)
- Inland Regional Energy Network (IREN)
- City of Redlands
- City of Fountain Valley
- City of Fullerton
- City of Irvine
- Northeast States for Coordinated Air Use Management (NESCAUM)
- San Diego County Air Pollution Control District
- San Joaquin Valley Air Pollution Control District

Utilities

- Los Angeles Department of Water & Power

- Southern California Edison
- Southern California Gas Company
- Clean Power Alliance

Other Interested Parties

- Active SGV
- Air-Conditioning, Heating, & Refrigeration Institute
- Apartment Association of Orange County
- Building Owners & Managers Association of California
- California Apartment Association
- California Building Industry Association
- California Business Properties Association
- California Council for Environmental and Economic Balance
- California Manufacturers & Technology Association
- California Restaurant Association
- California State University Dominguez Hills
- Coalition for Clean Air
- Commercial Real Estate Development Association
- DAUM Commercial Real Estate Services
- Earthjustice
- Heating Air-Conditioning Refrigeration Distributors International (HARDI)
- Indoor Weather Inc.
- Industrious Labs
- Inland Empire Economic Partnership
- Latham and Watkins
- Los Angeles County Business Federation
- Ramboll
- Redwood Energy
- Regulatory Flexibility Group
- RMI
- Sierra Club
- Whittingham Public Affairs Advisors

ATTACHMENT E

RESOLUTION NO. 25-_____

A Resolution of the Governing Board of the South Coast Air Quality Management District (South Coast AQMD) certifying the Final Subsequent Environmental Assessment for Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces, and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters.

A Resolution of the South Coast AQMD Governing Board Amending Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces, and Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters.

WHEREAS, the South Coast AQMD Governing Board finds and determines that Proposed Amended Rule 1111 and Proposed Amended Rule 1121 are considered a "project" as defined by CEQA; and

WHEREAS, the South Coast AQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l), and has conducted a CEQA review and analysis of the proposed project pursuant to such program (South Coast AQMD Rule 110); and

WHEREAS, the South Coast AQMD Governing Board has determined that the requirements for a Subsequent Environmental Impact Report have been triggered pursuant to its certified regulatory program and CEQA Guidelines Section 15162(b), and that a Subsequent Environmental Assessment (SEA), a substitute document allowed pursuant CEQA Guidelines Section 15252 and South Coast AQMD's certified regulatory program, is appropriate; and

WHEREAS, the South Coast AQMD has prepared a SEA pursuant to its certified regulatory program and CEQA Guidelines Section 15187, which tiers off of the Final Program Environmental Impact Report (EIR) for the 2022 Air Quality Management Plan (AQMP) as allowed by CEQA Guidelines Sections 15152, 15162, 15168, and 15385 because Proposed Amended Rule 1111 and Proposed Amended Rule 1121 implement Control Measures R-CMB-01 – Residential Water Heating, and R-CMB-02 – Residential Space Heating, which were previously adopted in the 2022 AQMP. Because the SEA is a subsequent document to the Final Program EIR for the 2022 AQMP, the baseline is the project analyzed in the Final Program EIR for the 2022 AQMP. The SEA, in setting forth the potential environmental consequences of the proposed project, determined that substantial increases in the severity of the significant effects that were previously examined in the Final Program EIR for the 2022 AQMP would occur. [CEQA Guidelines Section 15162(a)(3)(B)]. The SEA concluded that the proposed project would have the potential to

generate significant adverse environmental impacts for the topics of air quality during construction, and energy associated with electricity and natural gas demand during operation even after mitigation measures are applied; and

WHEREAS, the Draft SEA was circulated for a 46-day public review and comment period from September 27, 2024 to November 12, 2024 and three comment letters were received; and

WHEREAS, the Draft SEA has been revised to include the comment letters received on the Draft SEA and the responses, so that it is now a Final SEA; and

WHEREAS, it is necessary that the South Coast AQMD Governing Board review the Final SEA prior to its certification, to determine that it provides adequate information on the potential adverse environmental impacts that may occur as a result of amending Rule 1111 and Rule 1121, including the responses to the comment letters received relative to the Draft SEA; and

WHEREAS, pursuant to CEQA Guidelines Section 15252(a)(2)(A), significant adverse impacts were identified such that alternatives and mitigation measures are required for project approval; however, the following mitigation measures in the previously adopted Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP have been identified in the Final SEA as being applicable to Proposed Amended Rule 1111 and Proposed Amended Rule 1121: AQ-1 through AQ-26 which address air quality construction impacts, E-1 to E-4 and E-7 which address electricity impacts, and E-8 and E-9 which address natural gas demand impacts; thus, the previously adopted Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP and these specified mitigation measures remain in effect and enforceable for Proposed Amended Rule 1111 and Proposed Amended Rule 1121 such that no new Mitigation, Monitoring, and Reporting Plan for Proposed Amended Rule 1111 and Proposed Amended Rule 1121 pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097 has been prepared or is required; and

WHEREAS, no new feasible mitigation measures have been identified that would reduce or eliminate the significant adverse impacts to less than significant levels beyond the aforementioned mitigation measures adopted in the Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP that were identified as being applicable to Proposed Amended Rule 1111 and Proposed Amended Rule 1121; and

WHEREAS, it is necessary that the South Coast AQMD prepare Findings pursuant to CEQA Guidelines Section 15091, and a Statement of Overriding Considerations pursuant to CEQA Guidelines Section 15093, regarding potentially significant adverse environmental impacts that cannot be mitigated to less than significant levels; and

WHEREAS, Findings and a Statement of Overriding Considerations have been prepared and are included in Attachment 1 to this Resolution (labeled as Attachment F in the Board letter), which is attached and incorporated herein by reference; and

WHEREAS, the Mitigation, Monitoring, and Reporting Plan that was adopted for the 2022 AQMP is also included in Attachment 1 to this Resolution (labeled as Attachment F in the Board letter), which is attached and incorporated herein by reference; and

WHEREAS, the South Coast AQMD Governing Board voting to amend Rule 1111 and Rule 1121, has reviewed and considered the information contained in the Final SEA, including responses to comments, the Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP, the Findings, the Statement of Overriding Considerations, and all other supporting documentation, prior to its certification, and has determined that the Final SEA, including responses to comments received, has been completed in compliance with CEQA; and

WHEREAS, the Final SEA reflects the independent judgment of the South Coast AQMD; and

WHEREAS, the South Coast AQMD Governing Board finds and determines that all changes made in the Final SEA after the public notice of availability of the Draft SEA, were not substantial revisions and do not constitute significant new information within the meaning of CEQA Guidelines Sections 15073.5 and 15088.5, because no new or substantially increased significant effects were identified, and no new project conditions or mitigation measures were added, and all changes merely clarify, amplify, or make insignificant modifications to the Draft SEA, and recirculation is therefore not required; and

WHEREAS, Proposed Amended Rule 1111 and Proposed Amended Rule 1121, and supporting documentation, including but not limited to, the Final Staff Report, Final SEA, the Findings and Statement of Overriding Considerations, and the Final Socioeconomic Impact Assessment for Proposed Amended Rule 1111 and Proposed Amended Rule 1121, and the Final Program EIR for the 2022 AQMP, and the Findings, Statement of Overriding Considerations, and the Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP, were presented to the South Coast AQMD Governing Board and the South Coast AQMD Governing Board has reviewed and considered this information, as well as has taken and considered staff testimony and public comment prior to approving the project; and

WHEREAS, the South Coast AQMD Governing Board finds and determines, taking into consideration the factors in Section (d)(4)(D) of the Governing Board Procedures (Section 30.5(4)(D)(i) of the Administrative Code), that the modifications to Proposed Amended Rule 1111 and Proposed Amended Rule 1121 since the latest Notice of Public Hearing was published through email notification on April 17,

2025, are changes that meet the same air quality objective and are not so substantial as to significantly affect the meaning of Proposed Amended Rule 1111 and Proposed Amended Rule 1121 within the meaning of Health and Safety Code Section 40726 because the removal of an obsolete definition for heat pump from Proposed Amended Rule 1111, reverting the definition name for residential fan-type central furnace to the existing name (fan-type central furnace) with no change to the definition content, adding "and" in the new and existing building labeling requirement, and adding subdivision (i) to both Proposed Amended Rule 1111 and Proposed Amended Rule 1121 to address severability regarding rule implementation in the event a lawsuit is filed after rule adoption, are clarifications or minor revisions and: (a) the changes do not impact emission reductions, (b) the changes do not affect the number or type of sources regulated by the rules, (c) the changes are not inconsistent with the information contained in the notice of public hearing, and (d) the effects of Proposed Amended Rule 1111 and Proposed Amended Rule 1121 do not exceed the effects of the range of CEQA alternatives analyzed in the Final SEA; and

WHEREAS, Health and Safety Code Section 40727 requires that prior to adopting, amending, or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the Final Staff Report; and

WHEREAS, the South Coast AQMD Governing Board has determined that a need exists to amend Rule 1111 and Rule 1121 to establish appropriate Best Available Retrofit Control Technology (BARCT) emission limits, implement the 2022 AQMP Control Measures R-CMB-01 and R-CMB-02, and address consumer choice and affordability; and

WHEREAS, the South Coast AQMD Governing Board has determined, pursuant to Health and Safety Code Section 40001(c), that there is a problem that the proposed amended rules will alleviate, namely nonattainment of several federal ozone standards, and the rule will help attain state and federal ambient air quality standards; and

WHEREAS, the South Coast AQMD Governing Board obtains its authority to adopt, amend or repeal rules and regulations from Health and Safety Code Sections 39002, 40000, 40001, 40440, 40702, 40725 through 40728.5, 40920.6, and 41508 as well as the federal Clean Air Act; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1111 and Proposed Amended Rule 1121 are written or displayed so that their meaning can be easily understood by the persons directly affected by them; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1111 and Proposed Amended Rule 1121 are in harmony with,

and not in conflict with or contradictory to, existing statutes, court decision, or state or federal regulations; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1111 and Proposed Amended Rule 1121 do not impose the same requirements as any existing state or federal regulations, and the proposed amended rules are necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD; and

WHEREAS, the South Coast AQMD Governing Board, in amending Rule 1111 and Rule 1121, references the following statutes which the South Coast AQMD hereby implements, interprets or makes specific: Health and Safety Code Sections 39002, 40000, 40001, 40406, 40702, 40440(a), 40725 through 40728.5, 40920.6, 41508 and federal Clean Air Act Sections 110, 172, and 182(e); and

WHEREAS, Health and Safety Code Section 40727.2 requires the South Coast AQMD to prepare a written analysis of existing federal air pollution control requirements applicable to the same source type being regulated whenever it adopts, or amends a rule, and that the South Coast AQMD's comparative analysis of Proposed Amended Rule 1111 and Proposed Amended Rule 1121 are included in the Final Staff Report; and

WHEREAS, the South Coast AQMD Governing Board finds that staff's proposed control options for Proposed Amended Rule 1111 and Proposed Amended Rule 1121 are being adopted because they constitute BARCT, and there are no other control options that meet BARCT and the air quality objectives; and

WHEREAS, the South Coast AQMD Governing Board has determined that the Final Socioeconomic Impact Assessment is consistent with the March 17, 1989, Governing Board Socioeconomic Resolution for rule adoption; and

WHEREAS, the South Coast AQMD Governing Board has determined that the Final Socioeconomic Impact Assessment is consistent with the provisions of Health and Safety Code Sections 40440.8, 40728.5, and 40920.6; and

WHEREAS, the South Coast AQMD Governing Board has determined that the Final Socioeconomic Impact Assessment concludes that Proposed Amended Rule 1111 and Proposed Amended Rule 1121 will result in an overall cost saving and net jobs gained in the South Coast AQMD jurisdiction; and

WHEREAS, the South Coast AQMD Governing Board has determined that the Final Socioeconomic Impact Assessment concludes that the anticipated NOx emission reductions of 6.1 tons per day from implementing Proposed Amended Rule 1111 and Proposed Amended Rule 1121 will result in substantial health benefits within the South Coast AQMD jurisdiction by preventing approximately 2,490 premature deaths, 10,200

cases of newly onset asthma, 170,000 school loss days, 2,484 emergency room visits, and many other negative health outcomes at a monetized worth of approximately $25.43 billion; and

WHEREAS, the South Coast AQMD Governing Board has actively considered the Final Socioeconomic Impact Assessment, and has made a good faith effort to minimize adverse impacts, if any; and

WHEREAS, the South Coast AQMD staff conducted a Public Workshop on October 3, 2024, and a Public Consultation on March 6, 2025; and

WHEREAS, the Public Hearing has been properly noticed in accordance with the provisions of Health and Safety Code Sections 40725 and 40440.5; and

WHEREAS, the South Coast AQMD Governing Board has held a Public Hearing in accordance with all provisions of state and federal law; and

WHEREAS, the South Coast AQMD Governing Board specifies the Planning, Rule Development and Implementation Manager overseeing the rule development for Proposed Amended Rule 1111 and Proposed Amended Rule 1121 as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of this proposed project is based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California; and

NOW, THEREFORE, BE IT RESOLVED, that the South Coast AQMD Governing Board has considered the Final SEA for Proposed Amended Rule 1111 and Proposed Amended Rule 1121, together with all comments received during the public review period, and, on the basis of the whole record before it, the South Coast AQMD Governing Board: 1) finds that the Final SEA, including the responses to the comment letters, was completed in compliance with CEQA and the South Coast AQMD's certified regulatory program, 2) finds that the Final SEA and all supporting documents were presented to the South Coast AQMD Governing Board, whose members exercised their independent judgment and reviewed, considered, and approved the information therein prior to acting on Proposed Amended Rule 1111 and Proposed Amended Rule 1121, and 3) certifies the Final SEA; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board does hereby adopt Findings for Proposed Amended Rule 1111 and Proposed Amended Rule 1121 pursuant to CEQA Guidelines Section 15091, a Statement of Overriding Considerations for Proposed Amended Rule 1111 and Proposed Amended Rule 1121 pursuant to CEQA Guidelines Section 15093, and affirms that the Mitigation, Monitoring, and Reporting Plan adopted for the 2022 AQMP pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097 remains in effect and applicable to Proposed Amended Rule 1111 and Proposed Amended Rule 1121 for the

specified mitigation measures, as required by CEQA and which are included as Attachment F (Attachment 1 to the Resolution) and incorporated herein by reference; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board directs the South Coast AQMD to limit the use of mitigation fees collected from the implementation of Proposed Amended Rule 1111 and Proposed Amended Rule 1121 to funding the installation of zero-NOx emission appliances, associated equipment, and related activities, including, but not limited to, installer training, public outreach for installations in residential and commercial buildings, and administrative costs of implementing the program; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board directs staff to conduct a status update and technology check-in by examining annual reports submitted by manufacturers and to report to the Stationary Source Committee by the third quarter of 2028 on sales of NOx-emitting and zero-NOx emission units, mitigation fees collected, deviations from sales targets, and if any changes are needed to the manufacturer targets or mitigation fee structure; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board does hereby adopt, pursuant to the authority granted by law, Proposed Amended Rule 1111 and Proposed Amended Rule 1121 as set forth in the attached, and incorporated herein by reference.

DATE: _____

CLERK OF THE BOARDS

ATTACHMENT F

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Attachment 1 to the Governing Board Resolution for:

Final Subsequent Environmental Assessment for Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces, and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters

Findings, and Statement of Overriding Considerations

June 2025

State Clearinghouse No. 2022050287
South Coast AQMD No. 20240924JA/05122022KN

Executive Officer
Wayne Nastri

Deputy Executive Officer
Planning, Rule Development and Implementation
Sarah Rees, Ph.D.

Assistant Deputy Executive Officer
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	Heather Farr	Planning and Rules Manager
	Josephine Lee	Principal Deputy District Counsel
	Kathryn Roberts	Principal Deputy District Counsel
	Barbara Baird	Chief Deputy Counsel

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
GOVERNING BOARD

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Senator (Ret.)
Senate Rules Committee Appointee

Vice Chair: MICHAEL A. CACCIOTTI
Council Member, South Pasadena
Cities of Los Angeles County/Eastern Region

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Cities of Los Angeles County/Western Region

VERONICA PADILLA-CAMPOS
Speaker of the Assembly Appointee

V. MANUEL PEREZ
Supervisor, Fourth District
County of Riverside

NITHYA RAMAN
Councilmember, Fourth District
City of Los Angeles Representative

CARLOS RODRIGUEZ
Mayor Pro Tem, Yorba Linda
Cities of Orange County

VACANT
Governor's Appointee

EXECUTIVE OFFICER:

WAYNE NASTRI

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Appendix A: Findings, Statement of Overriding Considerations, and Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Attachment 1 to the Governing Board Resolution for:

Final Subsequent Environmental Assessment for Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces, and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters

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Findings, and Statement of Overriding Considerations

Introduction

California Environmental Quality Act Provisions Regarding Findings

Summary of the Proposed Project

Potentially Significant Adverse Impacts That Cannot Be Reduced Below A Significant Level

Findings Regarding Potentially Significant Environmental Impacts

Statement of Overriding Considerations

Mitigation

Record of Proceedings

1.0 Introduction

Proposed Amended Rule (PAR) 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces, and PAR 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters, are considered a "project" as defined by the California Environmental Quality Act (CEQA). [Public Resources Code Section 21000 et seq.]. Specifically, CEQA requires: 1) the potential adverse environmental impacts of proposed project to be evaluated; and 2) feasible methods to reduce or avoid any identified significant adverse environmental impacts of this project to also be evaluated. Public Resources Code Section 21061.1 and CEQA Guidelines Section 15364 define "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."

Since the South Coast AQMD has developed PAR 1111 and PAR 1121, the South Coast AQMD has the greatest responsibility for carrying out or approving the project as a whole and as such, is the most appropriate public agency to act as lead agency. [Public Resources Code Section 21067 and CEQA Guidelines Section 15051(b)].[1]

Rule 1111 regulates NOx emissions from natural gas-fired fan-type central furnaces with rated heat input capacity of less than 175,000 British thermal units per hour (Btu/hr), or for units with combined heating and cooling (package units), a cooling rate of less than 65,000 Btu/hr. The rule was first adopted in December 1978, and amended in November 2009 to lower the NOx emission limit from 40 to 14 nanograms per Joule (ng/J). The rule was later amended several times to provide an alternative compliance option and extend the option that allows the manufacturer to pay a per-unit mitigation fee, in lieu of meeting the lower NOx emission limit. All furnace types have transitioned to 14 ng/J, except for mobile home furnaces for which the existing mitigation fee alternative compliance option will end by September 30, 2025.

Rule 1121 regulates NOx emissions from natural gas-fired water heaters with a rated heat input capacity of less than 75,000 Btu/hr. The rule was also first adopted in December 1978. It was amended in 1999 to reduce the NOx emission limit from 40 ng/J stepwise to 10 ng/J, and amended again in 2004 to extend the compliance dates of 10 ng/J limit for some categories. Currently, all Rule 1121 water heaters are meeting the NOx emission limit of 10 ng/J, except for mobile home water heaters that are subject to a NOx emission limit of 40 ng/J.

PAR 1111 proposes to: 1) expand rule applicability to include previously unregulated wall furnaces and floor furnaces with a rated heat input capacity less than 175,000 British Thermal Units per hour (Btu/hr); 2) establish three categories for the applicable units, each with zero-NOx emission limits for new installations based on future effective dates. PAR 1121 proposes to include zero-NOx emission limits for new installations based on future effective dates. PAR 1111 and PAR 1121 propose to: 1) differentiate the zero-NOx emission compliance dates for units installed in new or existing buildings; 2) provide Zero-NOx Manufacturer (ZEM) alternative compliance option that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances; 3) introduce informative materials, labeling, recordkeeping, and reporting requirements; 4) provide an exemption from zero-NOx emission requirements for mobile homes

[1] CEQA Guidelines refers to California Code of Regulations, Title 14, Section 15000 et seq.

in a master-metered mobile home park, existing homes, and units for new buildings with building permit issued prior to the date of rule adoption; and 5) update and clarify rule language. Replacements of furnaces and water heaters are expected to occur at the end of the existing equipment's useful life, although some replacements could occur prior to the end of useful life with the availability of incentive funding.

Space and water heating appliances for existing mobile homes and any mobile home in master-metered mobile home parks will be exempt from the zero-NOx emission standards, and mobile home appliances will transition to zero-NOx emission appliances in new mobile homes or when existing mobile homes are replaced with new mobile homes. Space and water heating appliances that will be installed or used in new buildings with building permit issued prior to the date of rule adoption are also exempted from zero-NOx emission standards. Downflow space heating furnaces for high-altitude installation are exempted from 14 ng/J NOx limit and zero-NOx emission standards.

A Zero-NOx Manufacturer (ZEM) alternative compliance option is provided that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances. The targets change over time to transition the market to zero-NOx emission appliances. The ZEM alternative compliance option also includes fees for the sale of all NOx-emitting appliances, with higher fees for the NOx-emitting appliances sold over the NOx-emitting unit sales target. The fees increase annually to reflect the consumer price index after 2027.

PAR 1111 and PAR 1121 will each affect the manufacturers, distributors, retailers, resellers, and installers of space and water heating systems used in over five million buildings. Upon full implementation by 2061, incorporating the ZEM alternative compliance option, PAR 1111 will reduce NOx emissions by 4.05 tons per day (tpd), and PAR 1121 will reduce NOx emissions by 2.07 tpd.

The South Coast AQMD, as Lead Agency for the proposed project, prepared a Subsequent Environmental Assessment (SEA) with significant impacts to conduct an environmental review of PAR 1111 and PAR 1121 pursuant to CEQA Guidelines Section 15187. The SEA is a substitute CEQA document prepared in lieu of a Subsequent Environmental Impact Report (EIR) with significant impacts [CEQA Guidelines Section 15162], pursuant to the South Coast AQMD's Certified Regulatory Program [Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l); codified in South Coast AQMD Rule 110]. Pursuant to CEQA Guidelines Sections 15152, 15162, 15168, and 15385, the SEA tiers off of and is a subsequent document to the Final Program Environmental Impact Report for 2022 AQMP which was certified on December 2, 2022 (referred to herein as the Final Program EIR for 2022 AQMP).

Because this is a subsequent document, the baseline is the project analyzed in the Final Program EIR for 2022 AQMP. The SEA was prepared because PAR 1111 and PAR 1121 contain new information of substantial importance which was not known and could not have been known at the time the Final Program EIR for 2022 AQMP was certified, and the project is expected to substantially increase the severity of the significant effects that were previously examined [CEQA Guidelines Section 15162(a)(3)(B)].

The goal of Control Measures R-CMB-01 and R-CMB-02 in the 2022 AQMP is to reduce NOx emissions from residential heating sources. These control measures committed to: 1) developing rules to require zero-NOx emission heating units for installations in both new and existing residential buildings; 2) allowing low NOx technologies as a transitional alternative when installing a zero-NOx emission unit is determined to be infeasible; and 3) providing incentive funds to facilitate the transition to zero-NOx emission technologies and promotion of further emission reductions earlier than required. The Final Program EIR for the 2022 AQMP determined that implementation of Control Measures R-CMB-01 and R-CMB-02 has the potential to generate significant adverse environmental impacts to four topic areas: air quality and GHG emissions, energy, noise, and solid and hazardous waste. More specifically, the Final Program EIR for the 2022 AQMP evaluated the impacts from installation and operation of replacement zero-NOx emission and low NOx technologies potentially resulting in construction air quality and GHG emissions, operational air quality and GHG emissions from production of electricity, increased electricity and natural gas demand, construction noise, and generation of solid waste from construction and disposal of old equipment. The Final Program EIR for the 2022 AQMP also determined that implementation of the other control measures in the 2022 AQMP had the potential to generate adverse environmental impacts to the topic areas of hazards and hazardous materials, and hydrology and water, in addition to the four topic areas previously stated. For the entirety of all of the control measures which comprise the 2022 AQMP, the analysis in the Final Program EIR for the 2022 AQMP concluded that significant and unavoidable adverse environmental impacts were expected to occur after implementing mitigation measures for the following environmental topic areas: 1) air quality during construction; 2) energy due to increased electricity, natural gas, and hydrogen demand; 3) hazards and hazardous materials due to accidental release of ammonia, natural gas via pipeline, and liquified natural gas via on-road trucks; 4) hydrology (water demand and water supply) and water quality; 5) construction noise and vibration at roadways; and 6) solid and hazardous waste from construction and early retirement of equipment. Since significant adverse environmental impacts were identified, feasible mitigation measures were identified and applied. However, the Final Program EIR for the 2022 AQMP concluded that the 2022 AQMP would have significant and unavoidable adverse environmental impacts even after the application of mitigation measures. As such, mitigation measures were made a condition of project approval and a Mitigation, Monitoring, and Reporting Plan was adopted. Findings were made and a Statement of Overriding Considerations was prepared and adopted. A copy of the Findings, Statement of Overriding Considerations, and Mitigation Monitoring Plan previously adopted for the Final Program EIR for the 2022 AQMP is provided in Appendix A.

When comparing the types of activities and associated environmental impacts with implementing Control Measures R-CMB-01 and R-CMB-02 that were previously analyzed in the Final Program EIR for the 2022 AQMP, to the currently proposed changes associated with the NOx limits and compliance dates presented in PAR 1111 and PAR 1121, the types of physical changes are expected to be similar and will cause similar secondary adverse environmental impacts for the same environmental topic areas that were identified and analyzed in the Final Program EIR for the 2022 AQMP. However, regarding the scope of the affected equipment universe, Control Measure R-CMB-02 was estimated to affect two million residential space heaters, whereas PAR 1111 is estimated to affect over five million space heaters. Similarly, Control Measure R-CMB-01 was estimated to affect two million residential water heaters, whereas PAR 1121 is estimated to affect over five million water heaters. Thus, while the proposed project, PAR 1111 and PAR 1121, is

expected to have similar secondary adverse environmental impacts for the environmental topic areas of construction air quality and GHG emissions, operational air quality and GHG emissions from the production of electricity, increased electricity and natural gas demand, construction noise, and generation of solid waste from construction and disposal of old equipment that were previously analyzed in the Final Program EIR for the 2022 AQMP, the impacts will be more severe. Of these environmental topic areas identified as having secondary adverse environmental impacts, only the topics of air quality during construction, and energy associated with electricity and natural gas demand during operation would be potentially significant for PAR 1111 and PAR 1121.

The Final Program EIR for the 2022 AQMP, relative to the implementation of Control Measures R-CMB-01 and R-CMB-02, also concluded less than significant impacts to operational air quality, greenhouse gas emissions, noise, and solid and hazardous waste, and the analysis in the Final SEA confirms that these impacts will remain less than significant if PAR 1111 and PAR 1121 are implemented.

The Draft SEA was released and circulated for a 46-day public review and comment period from September 27, 2024 to November 12, 2024 and three comment letters were received during the comment period. None of the comment letters identified other potentially significant adverse impacts from the proposed project that should be analyzed and mitigated in the SEA. The comments and responses relative to the Draft SEA are included in Appendix B of the Final SEA.

In addition to incorporating the comment letters and the responses to comments, some modifications have been made to the Draft SEA to make it a Final SEA which include updates to reflect changes made to PAR 1111 and PAR 1121 after the public notice of availability of the Draft SEA. Of the modifications made to PAR 1111 and PAR 1121 after the release of the Draft SEA for public review and comment, none of the revisions constitute significant new information, because: 1) no new significant environmental impacts would result from the proposed project; 2) there is no substantial increase in the severity of an environmental impact; 3) no other feasible project alternative or mitigation measure was identified that would clearly lessen the environmental impacts of the project and was considerably different from others previously analyzed, and 4) the Draft SEA did not deprive the public from meaningful review and comment. In addition, revisions to PAR 1111 and PAR 1121 and the analysis in response to verbal or written comments during the rule development process would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the Draft SEA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Therefore, the Draft SEA has been revised to include the aforementioned modifications such that it is now the Final SEA. The Final SEA will be presented to the Governing Board prior to its June 6, 2025 public hearing (see Attachment J of the Governing Board package).

When considering for approval a proposed project that has one or more significant adverse environmental effects, a public agency must make one or more written findings for each significant adverse effect, accompanied by a brief rationale for each finding [Public Resources Code Section 21081 and CEQA Guidelines Sections 15065 and 15091]. The analysis in the Final SEA concluded that the proposed project has the potential to generate significant adverse environmental impacts which are more severe than what was previously analyzed in the Final Program EIR for 2022

AQMP for: 1) air quality during construction; and 2) energy associated with electricity and natural gas demand during operation.

For a proposed project with significant adverse environmental impacts, CEQA requires the lead agency to balance the economic, legal, social, technological, or other benefits of a proposed project against its significant unavoidable environmental impacts when determining whether to approve the proposed project. Under CEQA Guidelines Section 15093(a), "If the specific economic, legal, social, technological, or other benefits of a project outweigh the unavoidable significant adverse environmental effects, the adverse environmental effects may be considered 'acceptable.'" Thus, after adopting findings, the lead agency must also adopt a "Statement of Overriding Considerations" to approve a proposed project with significant adverse environmental effects.

South Coast AQMD's certified regulatory program does not impose any greater requirements for making written findings for significant environmental effects than is required for an EIR under CEQA. When a lead agency adopts measures to mitigate or avoid significant adverse environmental effects, a mitigation, monitoring and reporting plan is required pursuant to CEQA Guidelines Section 15097 and Public Resources Code Section 21081.6.

For PAR 1111 and PAR 1121, significant adverse impacts were identified such that alternatives and mitigation measures are required for project approval as set forth in CEQA Guidelines Section 15252(a)(2)(A). However, specific feasible mitigation measures in the previously adopted Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP have been identified in the Final SEA as being applicable to PAR 1111 and PAR 1121. In addition, no new feasible mitigation measures have been identified that would reduce or eliminate the significant adverse impacts to less than significant levels beyond the specified mitigation measures adopted in the Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP that were identified as being applicable to PAR 1111 and PAR 1121. Thus, the previously adopted Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP and these specified mitigation measures remain in effect and enforceable for PAR 1111 and PAR 1121 such that no new Mitigation, Monitoring, and Reporting Plan for PAR 1111 and PAR 1121 has been prepared or is required. The Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP is incorporated by reference and included in Appendix A of this document.

2.0 CEQA Provisions Regarding Findings

CEQA generally requires agencies to make certain written findings before approving a proposed project with significant environmental impacts. South Coast AQMD is exempt from some of CEQA's requirements pursuant to its Certified Regulatory Program, but complies with its provisions where required or otherwise appropriate.

Relative to making Findings, CEQA Guidelines Section 15091 provides:

(a) No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those

significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

1. Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.
2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
3. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

(b) The findings required by subdivision (a) shall be supported by substantial evidence in the record.

(c) The finding in subdivision (a)(2) shall not be made if the agency making the finding has concurrent jurisdiction with another agency to deal with identified feasible mitigation measures or alternatives. The finding in subdivision (a)(3) shall describe the specific reasons for rejecting identified mitigation measures and project alternatives.

(d) When making the findings required in subdivision (a)(1), the agency shall also adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to avoid or substantially lessen significant environmental effects. These measures must be fully enforceable through permit conditions, agreements, or other measures.

(e) The public agency shall specify the location and custodian of the documents or other material which constitute the record of the proceedings upon which its decision is based.

(f) A statement made pursuant to Section 15093 does not substitute for the findings required by this section.

The "changes or alterations" referred to in CEQA Guidelines Section 15091(a)(1) may include a wide variety of measures or actions as set forth in CEQA Guidelines Section 15370, including:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

(c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

(e) Compensating for the impact by replacing or providing substitute resources or environments.

3.0 Summary of the Proposed Project

The proposed project involves amendments to South Coast AQMD Rule 1111 and Rule 1121, which were originally adopted in December 1978 to reduce NOx emissions from fan-type central furnaces and natural gas-fired residential water heaters, respectively. Rule 1111 has been amended nine times, with the most recent amendment occurring in September 2023, while Rule 1121 has been amended three times, with the latest revision in September 2004.

The proposed amendments, PAR 1111 and PAR 1121, were developed to implement Control Measures R-CMB-01 and R-CMB-02 of the 2022 AQMP. PAR 1111 proposes to: 1) expand rule applicability to include previously unregulated wall furnaces and floor furnaces with a rated heat input capacity less than 175,000 British Thermal Units per hour (Btu/hr); 2) establish three categories for the applicable units, each with zero-NOx emission limits for new installations based on future effective dates. PAR 1121 proposes to include zero-NOx emission limits for new installations based on future effective dates. PAR 1111 and PAR 1121 propose to: 1) differentiate the zero-NOx emission compliance dates for units installed in new or existing buildings; 2) provide Zero-NOx Manufacturer (ZEM) alternative compliance option that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances; 3) introduce informative materials, labeling, recordkeeping, and reporting requirements; 4) provide an exemption from zero-NOx emission requirements for mobile homes in a master-metered mobile home park, existing homes, and units for new buildings with building permit issued prior to the date of rule adoption; and 5) update and clarify rule language. Replacements of furnaces and water heaters are expected to occur at the end of the existing equipment's useful life, although some replacements could occur prior to the end of useful life with the availability of incentive funding. Upon full implementation by 2061, PAR 1111 and PAR 1121 are expected to reduce NOx emissions by up to 4.05 tons per day, and 2.07 tons per day, respectively.

When comparing the type of physical activities and environmental impacts resulting from the implementation of Control Measures R-CMB-01 and R-CMB-02 that were previously analyzed in the Final Program EIR for the 2022 AQMP, to the currently proposed changes associated with the NOx limits and compliance dates presented in PAR 1111 and PAR 1121, the types of physical changes are expected to be similar and will cause similar secondary adverse environmental impacts for the same environmental topic areas that were identified and analyzed in the Final Program EIR for the 2022 AQMP. However, due to the larger scope of the affected equipment under proposed project, the secondary adverse environmental impacts will be more significant and more severe than what was previously analyzed in the Final Program EIR for the 2022 AQMP. Specifically, Control Measure R-CMB-02 was estimated to affect two million residential space heaters, whereas PAR 1111 is expected to affect over five million space heaters. Similarly, Control Measure R-CMB-01 was estimated to affect two million residential water heaters, while PAR 1121 is projected to impact over five million water heaters. Consequently, the proposed project, PAR 1111 and PAR 1121, is expected to result in increased secondary adverse environmental impacts to the environmental topic areas of construction air quality and GHG emissions, operational air quality and GHG emissions from electricity production, increased electricity and natural gas demand, construction noise, and the generation of solid waste from the construction and disposal of old equipment.

Despite these increased impacts, the proposed project is expected to achieve significant environmental benefits. Upon full implementation by 2061, NOx emission reductions are expected from PAR 1111 and PAR 1121 by up to 4.05 tons per day and 2.07 tons per day, respectively.

4.0 Potentially Significant Adverse Impacts That Cannot be Reduced to Below a Significant Level

The Final SEA for PAR 1111 and PAR 1121 identified the topics of air quality impacts during construction and energy impacts from electricity and natural gas demand as the areas in which the proposed project may make the significant adverse impacts previously analyzed in the Final Program EIR for 2022 AQMP more severe. The Final SEA for the proposed project did not identify any new significant impact areas.

A. Air Quality Impacts During Construction

The South Coast AQMD air quality significance thresholds for construction-related emissions are: 75 pounds per day of VOC; 100 pounds per day of NOx; 550 pounds per day of CO; 150 pounds per day of SOx; 150 pounds per day of PM10; and 55 pounds per day of PM2.5.

While the implementation of Control Measures R-CMB-01 and R-CMB-02 in PAR 1111 and PAR 1121 is expected to result in emission reductions of 6.12 tons per day of NOx, a direct air quality benefit, the required installation of zero-NOx emission heating units especially in larger residential buildings requiring electrical service upgrades could lead to construction-related emissions. For larger residential buildings, electrical service upgrades may require the use of construction equipment, such as backhoes, cranes, forklifts, concrete saws, or welders, depending on the existing infrastructure. In smaller residential settings, space expansions for units and service panel upgrades are typically accomplished with hand tools. In addition, while replacement of furnaces and water heaters will occur at the end of the current equipment's useful life, a number of replacements could occur prior to the end of useful life due to the availability of incentive funding.

For comparison, the Final Program EIR for the 2022 AQMP determined that demolition and replacement activities associated with residential control measures were not expected to require construction equipment. Household appliances, water heaters, and heaters are typically maneuvered using hand trucks, so no construction emissions were expected. For larger residential developments (e.g., apartment complexes with central boilers), the need for construction equipment was anticipated to be minimal compared to industrial projects, due to the less extensive nature of the modifications required. The Final Program EIR for the 2022 AQMP therefore estimated construction emissions from a small construction project (one crane operating four hours and one backhoe operating eight hours per day) which showed that a project utilizing minimal construction equipment would not exceed the South Coast AQMD air quality significance thresholds for construction. Nonetheless, because an individual project could occur concurrently alongside other large construction projects resulting from implementation of other control measures in the 2022 AQMP, the Final Program EIR for the 2022 AQMP concluded significant adverse air quality impacts due to construction.

Similarly, as anticipated in the Final Program EIR for the 2022 AQMP, the implementation of

PAR 1111 and PAR 1121 for the majority of the affected equipment replacements is not expected to require construction equipment beyond hand tools for installing zero-NOx emission heaters in residences. However, if electrical service panel upgrades for larger residential buildings are necessary, construction equipment may be needed depending on the existing conditions of the building. Upgrading an electrical panel may need to be accomplished in two steps: work by the utility provider to deliver power from the transformer to the building, and work by the property owner on the electrical panel(s) and building wiring system. As electricity is provided to buildings through overhead or underground lines, work by utility providers in a service upgrade may involve use of a backhoe or crane (both were assumed in the estimation for a small construction project in the Final Program EIR for the 2022 AQMP), and also potentially a forklift, concrete saw, and/or welder. However, the type and complexity of the work that may be conducted by the property owners can widely vary by property. For example, one building may only require use of hand tools, while another may require trenching with a backhoe, laying new conduit with a forklift, and back-filling with soil and pouring cement. Multi-story and large residential buildings will involve more construction compared to a single-story building. Due to the highly variable conditions of different buildings, it is difficult to form a representative construction scenario. For these reasons, similar to the conclusions reached in the Final Program EIR for the 2022 AQMP, the Final SEA for PAR 1111 and PAR 1112 concluded significant adverse air quality impacts due to construction.

Therefore, air quality mitigation measures for project-specific construction impacts from the Final Program EIR for the 2022 AQMP, AQ-1 through AQ-26, have been identified in the Final SEA as being applicable to PAR 1111 and PAR 1121.

While implementation of these air quality mitigation measures would reduce construction emissions to the maximum extent feasible from construction equipment other than hand tools needed for equipment installations and electrical service panel upgrades at multi-story and large residential buildings, none of these mitigation measures will avoid the significant air quality impacts during construction or reduce the construction-related air quality impacts to less than significant levels. No other feasible mitigation measures have been identified that would reduce project-specific or cumulative construction air quality impacts to less than significant levels. Therefore, PAR 1111 and PAR 1121 is considered to have significant and unavoidable project-specific and cumulative air quality impacts during construction, after mitigation is applied.

B. Energy Impacts Due to Increased Electricity and Natural Gas Demand

Electricity Demand

Relative to energy demand, the "worst-case" scenario involves the simultaneous, concurrent replacement of all affected space and water heating units across residential buildings. This scenario assumes that all the units subject to PAR 1111 and PAR 1121 will be replaced at the same time, resulting in a peak electricity demand. Specifically, this would include the large-scale installation of zero-NOx emission heating units in both new and existing buildings, driving a significant increase in electricity consumption. For larger residential buildings, electrical service upgrades could require the use of construction equipment, such as backhoes, cranes, forklifts, concrete saws, or welders, depending on the existing infrastructure.

The Final Program EIR for the 2022 AQMP estimated potential electricity use associated with various equipment/source categories, such as residential water and space heating, where sufficient data was not available to make reasonable estimates. In that analysis, the California Energy Commission (CEC) reported that statewide electricity consumption exceeded 279,000 GWh in 2020, with approximately 118,200 GWh (42 percent) of that occurring in the South Coast Air Basin. The CEC projected an annual increase in electricity demand of about 1.6 percent through 2035, which would bring total statewide electricity use to about 354,000 GWh by 2035, with roughly 150,000 GWh (42 percent) in the South Coast Air Basin. The 2022 AQMP forecasted that implementation of all control measures would increase electricity demand by 13,429 GWh, or approximately 11 percent over 2020 consumption, by 2035. This increase did not account for additional electricity that may be needed to operate air pollution control equipment or convert combustion equipment to fully electric systems, meaning the overall increase could be higher.

By comparison, the analysis in the SEA for PAR 1111 and PAR 1121 projected a larger number of affected units than was originally estimated in the Final Program EIR for the 2022 AQMP for Control Measures R-CMB-01 and R-CMB-02 such that an increase in electricity demand was expected to be more severe than what was analyzed in the Final Program EIR for the 2022 AQMP.

PAR 1111 and PAR 1121 will require zero-NOx emission heating units for installations in new residences and zero-NOx and/or low NOx emission heating units in existing residences; the rules will affect 5,237,000 and 5,128,000 space and water heaters, respectively while Control Measures R-CMB-01 and R-CMB-02 were initially estimated to affect two million space heaters and two million water heaters, respectively.

While the number of affected units attributed to PAR 1111 and PAR 1121 is substantially larger when compared to what was previously estimated for Control Measures R-CMB-01 and R-CMB-02, PAR 1111 and PAR 1121 do not require the installation of 100 percent zero-NOx equipment. For context, the electricity demand for implementing Control Measures R-CMB-01 and R-CMB-02 was estimated in the Final Program EIR for the 2022 AQMP at 6,600 GWh/year while the electricity demand attributable to PAR 1111 and PAR 1121 would be 30,519 GWh/year.

After updating the total affected units from implementing PAR 1111 and PAR 1121, the total electricity demand from implementing all 2022 AQMP control measures combined will increase from the original baseline 13,429 GWh to 37,348 GWh. For context, the portion of the electricity increase attributable to Control Measures R-CMB-01 and R-CMB-02 in the 2022 AQMP was estimated at 6,660 GWh while the portion of the electricity increase attributable to PAR 1111 and PAR 1121 was estimated at 30,519 GWh. Thus, the electricity demand for PAR 1111 and PAR 1121 when compared to the initial estimates for Control Measures R-CMB-01 and R-CMB-02 in the Final Program EIR for the 2022 AQMP is much larger due to the higher number of affected units.

As a result, the electricity demand impacts from implementing PAR 1111 and PAR 1121 are expected to be potentially significant and more severe than what was initially projected for Control Measures R-CMB-01 and R-CMB-02 in the Final Program EIR for the 2022 AQMP.

Energy mitigation measures pertaining to electricity generation, referred to as E-1 to E-4, and E-7 in the Final Program EIR for the 2022 AQMP, were intended to be applied to electricity producers (e.g., utilities) and the projects that would be implemented to provide sufficient electricity in support of the 2022 AQMP Control Measures R-CMB-01 and R-CMB-02. The SEA for PAR 1111 and PAR 1121 also included these electricity-specific energy mitigation measures since the changes that utility providers may employ would help provide electricity for the operation of the zero-NOx units installed as a result of PAR 1111 and PAR 1121. Thus, for PAR 1111 and PAR 1121, electricity-specific energy mitigation measures E-1 to E-4, and E-7 will remain in effect and enforceable. [CEQA Guidelines Section 15168 (c)(3)].

While these mitigation measures are expected to reduce electricity demand impacts to the greatest extent feasible from modifications proposed by electricity providers in their efforts to produce more electricity to its customers' demands, the overall increase in electricity demand from the end-users needing the electricity to operate zero-NOx units as a result of implementing PAR 1111 and PAR 1121 is expected to remain significant and unavoidable even after mitigation is applied.

Natural Gas Demand

Relative to natural gas demand, natural gas is generally widely available within the South Coast Air Basin, and supplies are not expected to be limited if the proposed project is implemented. However, the shift to zero-NOx emission heating units under PAR 1111 and PAR 1121 will result in a decreased reliance on natural gas appliances for residential buildings. While this transition may reduce long-term natural gas consumption, the short-term impacts on natural gas demand are expected to be significant, especially during the installation phase when gas-powered appliances are still in use and electricity demand surges since natural gas is also utilized to produce electricity at the utilities.

In the short term, as the zero-NOx emission heating units are phased in, there will be increased electricity demand, which may lead to greater natural gas consumption for power generation, as electricity generation in the South Coast Basin still relies on natural gas plants to some extent. Additionally, the proposed project may involve the continued use of natural gas appliances in some existing buildings until all affected equipment is fully replaced with either zero-NOx or low-NOx emission alternatives. The combination of these factors is expected to result in significant adverse energy impacts related to natural gas demand during the transition period. Comparatively, the analysis in the Final Program EIR for the 2022 AQMP also acknowledged the potential for an increase in natural gas demand due to electricity generation and the transition from gas-powered to more efficient zero-NOx and low-NOx emission heating equipment. However, the 2022 AQMP analysis estimated that any increase in natural gas demand due to electricity generation could be somewhat offset by the reduced demand for natural gas in residential buildings over time as the switch to electric heating systems progresses.

However, implementation of PAR 1111 and PAR 1121 will have a longer transition period of replacing existing units which means that buildings will continue to use their existing natural gas appliances while the infrastructure to provide electricity to consumers with zero-NOx emission heating units is being updated to increase generation capacity. The SEA for PAR 1111 and PAR 1121 notes that the demand for natural gas is expected to remain high in the short-term due to the large number of existing space and water heaters that will continue to rely on natural gas until the

end of the equipment's useful life. In the event that existing units are replaced with low-NOx units, natural gas use will continue but the demand at individual residences will be less than the existing setting since low-NOx units will be more efficient than the older units being replaced. Nonetheless, the increased natural gas that may be needed by the utilities to generate sufficient electricity will exacerbate the natural gas demand at residences operating existing units or low-NOx units. As a result, the natural gas impacts from implementing PAR 1111 and PAR 1121 are expected to be potentially significant and more severe than what was initially projected for Control Measures R-CMB-01 and R-CMB-02 in the Final Program EIR for the 2022 AQMP.

Energy mitigation measures specific to natural gas, referred to as E-8 and E-9 in the Final Program EIR for the 2022 AQMP, were intended to be applied to electricity producers that utilize natural gas to generate electricity and the natural gas providers (e.g., utilities) and the projects that would be implemented that would utilize natural gas to generate the additional electricity needed to support of the 2022 AQMP Control Measures R-CMB-01 and R-CMB-02. The SEA for PAR 1111 and PAR 1121 also included these natural gas-specific energy mitigation measures in anticipation of the modifications that electricity producers and natural gas providers may employ to help provide increased supplies of electricity for the operation of zero-NOx and low-NOx units installed as a result of PAR 1111 and PAR 1121. Thus, for PAR 1111 and PAR 1121, the natural gas-specific energy mitigation measures E-8 and E-9 will remain in effect and enforceable. [CEQA Guidelines Section 15168 (c)(3)].

While these mitigation measures are expected to reduce the natural gas demand impacts to the greatest extent feasible from modifications proposed by either electricity providers in their efforts to produce more electricity to its customers' demands or by natural gas providers to supply sufficient quantities of natural gas, the overall increase in natural gas demand as a result of implementing PAR 1111 and PAR 1121 is expected to remain significant and unavoidable even after mitigation is applied.

5.0 Findings Regarding Potentially Significant Environmental Impacts

Public Resources Code Section 21081(a) and CEQA Guidelines Section 15091(a) provide that a public agency shall not approve or carry out a project with significant environmental effects unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. Additionally, the findings must be supported by substantial evidence in the record. [CEQA Guidelines Section 15091(b)]. Three potential findings can be made for potentially significant impacts:

> **Finding 1:** Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final SEA. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].
>
> **Finding 2:** Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency. [Public Resources Code Section 21081(a)(2) and CEQA Guidelines Section 15091(a)(2)].

Finding 3: Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or project alternatives identified in the Final SEA. [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

As identified in the Final SEA and summarized in Section 4.0 of this attachment, PAR 1111 and PAR 1121 have the potential to create significant adverse air quality impacts during construction and energy impacts due to increased electricity and natural gas demand. The South Coast AQMD Governing Board, therefore, makes the following findings regarding the proposed project. The Findings are supported by substantial evidence in the record as explained in each finding. These Findings will be included in the record of project approval and will also be noted in the Notice of Decision. The Findings made by the South Coast AQMD Governing Board are based on the following significant adverse impacts identified in the Final SEA for PAR 1111 and PAR 1121:

A. Potential project-specific and cumulative construction air quality impacts exceed the South Coast AQMD's applicable significance air quality thresholds and cannot be mitigated to less than significant levels.

Finding and Explanation:
When comparing the types of activities and environmental impacts resulting from the implementation of control measures that were previously analyzed in the Final Program EIR for 2022 AQMP, to the currently proposed project, implementation of PAR 1111 and PAR 1121 will result in construction air quality impacts similar to those analyzed in the Final Program EIR for the 2022 AQMP.

The Final Program EIR for the 2022 AQMP determined that demolition and replacement activities associated with residential control measures were not expected to require construction equipment. Household appliances, water heaters, and heaters are typically maneuvered using hand trucks, so no construction emissions were expected. For larger residential developments (e.g., apartment complexes with central boilers), the need for construction equipment was anticipated to be minimal due to the less extensive nature of the modifications required and space limitations. The Final Program EIR for the 2022 AQMP estimated construction emissions from a small construction project (one crane operating four hours and one backhoe operating eight hours per day) which showed that replacement of equipment in response to PAR 1111 and PAR 1121 would utilize minimal construction equipment and the associated emissions would not exceed the South Coast AQMD air quality significance thresholds for construction. Nonetheless, because modifications at an individual site could occur concurrently alongside other larger projects resulting from implementation of other control measures in the 2022 AQMP, the Final Program EIR for the 2022 AQMP concluded significant adverse air quality impacts due to construction.

Similar to what was anticipated in the Final Program EIR for the 2022 AQMP regarding implementation of residential control measures, implementation of PAR 1111 and PAR 1121 is not expected require construction equipment beyond hand tools for installation of zero-NOx or low-NOx emission heaters in residences. Electrical service panel upgrades, if necessary, may require the use of construction equipment according to the existing conditions of the building. Upgrading an electrical panel may need to be accomplished in

two steps: work by the utility provider to deliver power from the transformer to the building, and work by the property owner on the electrical panel(s) and building wiring system. As electricity is provided to buildings through overhead or underground lines, work by utility providers in a service upgrade may involve use of a backhoe or crane (both were assumed in the estimation for a small construction project in the Final Program EIR for the 2022 AQMP), and also potentially a forklift, concrete saw, and/or welder. However, the type and complexity of the work that may be conducted by the property owners can widely vary by property. For example, one building may only require use of hand tools, while another may require trenching with a backhoe, laying new conduit with a forklift, and back-filling with soil and pouring cement. Large residential buildings will involve more construction compared to a single-story building. Due to the highly variable conditions of different buildings, it is difficult to form a representative construction scenario. Nonetheless, similar to the Final Program EIR for the 2022 AQMP, the Final SEA for PAR 1111 and PAR 1112 concluded significant adverse air quality impacts due to construction.

The Final Program EIR for the 2022 AQMP concluded that construction air quality impacts from implementing 2022 AQMP control measures would be potentially significant. As a result, feasible mitigation measures that can substantially lessen the impacts were required and were included in the Final Program EIR for the 2022 AQMP. Implementation of PAR 1111 and PAR 1121 will result in construction air quality impacts similar to those analyzed in the Final Program EIR for the 2022 AQMP, and the mitigation measures proposed in the Final Program EIR for the 2022 AQMP will also apply to the proposed project. However, similar to the Final Program EIR for the 2022 AQMP, while implementation of these air quality mitigation measures would reduce construction emissions to the maximum extent feasible, they will neither avoid the significant air quality impacts during construction nor reduce the construction-related air quality impacts to less than significant levels. No additional feasible mitigation measures have been identified beyond those previously adopted in the Final Program EIR for the 2022 AQMP and the corresponding Mitigation, Monitoring and Reporting Plan for the 2022 AQMP. **Thus, Finding 1 is applicable to the significant adverse air quality impacts during construction.**

The Governing Board finds that changes or alterations have been required in, or incorporated into, the project which substantially lessen the project-level and cumulative significant adverse construction air quality impacts identified in the Final SEA, though the impacts will ultimately remain significant and unavoidable. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

Implementation of all mitigation measures specific to construction air quality which are identified in the Final SEA may be within the authority of either the South Coast AQMD or other public agencies, as applicable if air permits are not required, to adopt or implement, depending on the individual facility projects that will occur in the future. **Thus, Finding 2 is applicable to the construction air quality mitigation measures**.

The Governing Board finds that, for project-level activities that do not require air permits from the South Coast AQMD, changes or alterations which avoid or

substantially lessen the significant construction air quality impacts as identified in the Final PEA are within the responsibility and jurisdiction of another public agency and not South Coast AQMD. Such changes, if feasible, can and should be adopted by such other agency as details of project-level actions become known. [Public Resources Code Section 21081(a)(2) and CEQA Guidelines Section 15091(a)(2)].

The construction air quality mitigation measures identified in the Final SEA are feasible. As such, there are no specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures identified in the Final SEA. **Thus, Finding 3 is not applicable to the construction air quality mitigation measures.** [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

B. Potential project-specific and cumulative energy impacts from increased electricity demand exceed the South Coast AQMD significance threshold for electricity; impacts from increased natural gas demand are expected to be significant in the short-term; and energy impacts from increased demand for electricity and natural gas cannot be mitigated to less than significant levels.

Findings and Explanation:
PAR 1111 and PAR 1121 are implementing Control Measures R-CMB-01 and R-CMB-02 from the 2022 AQMP and rely on the deployment of zero-NOx and low-NOx technologies to be utilized in residential settings. The Final Program EIR for 2022 AQMP estimated that implementation of all control measures would increase the electricity demand by 11 percent over 2020 consumption and nine percent over the CEC projected growth. However, the analysis in the Final SEA for PAR 1111 and PAR 1121 concluded that implementation of Control Measures R-CMB-01 and R-CMB-02 could increase the electricity demand originally projected in the Final Program EIR for the 2022 AQMP by approximately 31.6 percent over 2020 consumption and 30.3 percent over 2022 consumption (greater than the South Coast AQMD significance threshold of one percent).

Natural gas is generally widely available through existing infrastructure and expected to be used for producing electricity and hydrogen. Short-term natural gas demand is expected to be significant, although its use may be offset by a long-term decrease in overall demand for natural gas appliances in residential settings. Therefore, increases in electricity, and natural gas demand were concluded in the Final Program EIR for the 2022 AQMP to have potentially significant adverse energy impacts. Due to the potential for significant adverse energy impacts, feasible mitigation measures that can substantially lessen the impacts were required and were adopted in the Final Program EIR for the 2022 AQMP. However, none of the feasible mitigation measures were capable of avoiding or reducing the significant adverse energy impacts to less than significant levels.

The Final SEA concluded that the implementation of PAR 1111 and PAR 1121 will result in similar impacts as would occur for implementing control measures R-CMB-01 and R-CMB-02 of the 2022 AQMP. In addition, the mitigation measures E-1 to E-4, and E-7 specific to electricity providers and mitigation measures E-8 and E-9 specific to natural gas providers that were adopted in the Final Program EIR for the 2022 AQMP were determined

to be applicable to the proposed project. However, similar to the Final Program EIR for the 2022 AQMP, none of these feasible mitigation measures are capable of avoiding or reducing the significant adverse energy impacts from increased electricity and natural gas demand to less than significant levels. No additional feasible mitigation measures have been identified beyond those previously adopted in the Final Program EIR for the 2022 AQMP and the corresponding Mitigation, Monitoring and Reporting Plan for the 2022 AQMP. **Thus, Finding 1 is applicable to the significant adverse energy impacts.**

The Governing Board finds that changes or alterations have been required in, or incorporated into, the project which substantially lessen the project-level and cumulative significant adverse energy impacts identified in the Final SEA, though the impacts will ultimately remain significant and unavoidable. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

Implementation of these aforementioned mitigation measures for energy which are identified in the Final SEA may be within the authority of either the South Coast AQMD or other public agencies, as applicable if air permits are not required, to adopt or implement, depending on the individual facility projects that will occur in the future. **Thus, Finding 2 is applicable to the energy mitigation measures.**

The Governing Board finds that changes or alterations which avoid or substantially lessen the significant energy impacts as identified in the Final SEA are within the responsibility and jurisdiction of another public agency and not South Coast AQMD. Such changes, if feasible, can and should be adopted by such other agency as details of project-level actions become known. [Public Resources Code Section 21081(a)(2) and CEQA Guidelines Section 15091(a)(2)].

The energy mitigation measures identified in the Final SEA are feasible. As such, there are no specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures identified in the Final SEA. **Thus, Finding 3 is not applicable to the energy mitigation measures.** [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

5.1 Findings For Alternatives to the Proposed Project

A. Alternative A: No Project

Finding and Explanation:
The Final SEA analyzes a No Project Alternative, referred to as Alternative A, which contemplates a scenario where the proposed project is not approved or adopted. Under Alternative A, both new and existing residential fan-type central furnaces, mobile home furnaces, and wall and floor furnaces would need to comply with the September 2023 version of Rule 1111. Additionally, new and existing residential, commercial, and mobile home water heaters would need to comply with the September 2004 version of Rule 1121. Currently, all furnaces subject to Rule 1111 meet the NOx emission limit of 14 nanograms per Joule (ng/J), except for mobile home furnaces which have a mitigation fee alternative

compliance option that will end on September 30, 2025. For Rule 1121, all water heaters currently meet the NOx emission limit of 10 ng/J, except for mobile home water heaters, which are subject to a higher NOx emission limit of 40 ng/J.

Under Alternative A, while existing furnaces and water heaters would continue to comply with these older, less stringent NOx emission standards, the failure to adopt PAR 1111 and PAR 1121 would prevent achieving NOx emission reductions that are required by the 2022 AQMP in order to reach attainment with the National Ambient Air Quality Standards for ozone, for which NOx is a precursor. The continuation of the existing NOx emission levels would prevent making any progress toward achieving the federal air quality standards. Alternative A would not align with the goals of the 2022 AQMP, which aims to meet federal air quality standards through effective emission reductions by transitioning to zero-NOx and low-NOx emission technologies.

In terms of air quality, the No Project Alternative would not result in any reductions of NOx emissions from residential water heaters. These water heaters, which continue to rely on natural gas combustion, would continue to generate NOx emissions that contribute to air pollution. The NOx emission reductions from the proposed project would not occur, and the associated co-benefits related to greenhouse gas (GHG) reductions would also be lost. This would mean that current adverse air quality impacts would persist, with no reductions in combustion emissions.

Furthermore, under Alternative A, no additional construction-related air quality impacts would occur since no new installations of zero-NOx emission technologies would be required. As a result, the air quality impacts associated with construction under the proposed project, such as emissions from construction equipment, would be avoided. However, the existing, long-term adverse air quality impacts would remain unchanged and ongoing, as the continued use of gas-fired space and water heaters would not lead to the desired improvements in air quality.

Regarding energy use, the No Project Alternative would result in the continuation of existing energy consumption patterns. The current use of gas-fired space and water heaters would persist, meaning no reduction in natural gas consumption would occur over the long term. The implementation of zero-NOx and low-NOx emission technologies in the proposed project would have led to energy savings and a shift away from a dominant reliance on natural gas use in residential settings. In contrast, under Alternative A, the demand for energy, particularly natural gas, would remain the same, as would the associated GHG emissions from these energy sources.

Additionally, the No Project Alternative would not contribute to meeting California's energy efficiency goals or the objectives of the 2022 AQMP, which seeks to transition to zero-emission technologies and reduce reliance on fossil fuels. The continuation of the use of gas-fired heaters would delay the achievement of the state's air quality and energy efficiency goals, particularly those related to NOx emissions and the reduction of GHGs.

Furthermore, the No Project Alternative is infeasible because it neither meets the objectives of the proposed project nor takes into consideration the 2022 AQMP's objective to meet

the 2015 federal ozone standard through further NOx emission reductions by transitioning to zero-emission technologies wherever feasible. In comparison to the Proposed Project, Alternative A would not achieve any of the projected NOx emission reductions, which are anticipated to be up to 6.12 tpd by 2061. The No Project Alternative would also fail to reduce electricity and natural gas demand as proposed, which would result in a missed opportunity to transition to cleaner energy sources and improve energy efficiency. Hence, Alternative A would also not meet the objectives of transitioning to zero-NOx or low-NOx emission technologies as outlined in the proposed project.

Based on proceeding discussion, Alternative A is not environmentally superior to the proposed project. Because Alternative A is not environmentally superior to PAR 1111 and PAR 112 and does not achieve the basic project objectives, the Governing Board finds that the No Project Alternative is infeasible. [Public Resources Code 21081(a)(3); *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1000- 1001 (upholding finding of infeasibility where agency determined alternative failed to achieve the project objectives)].

B. Alternative B: More Stringent Than The Proposed Project

Finding and Explanation:

1. The Final SEA analyzes Alternative B, which is more stringent than PAR 1111 and PAR 1121. Making the project more stringent would involve imposing additional requirements, lowering the emission standards, or providing less flexibility or relief to those subject to PAR 1111 and PAR 1121. Under Alternative B, equipment in new buildings would need to meet the proposed NOx emission limits 12 months earlier than specified in the proposed project. Equipment in existing buildings would be required to be replaced by the compliance date listed in the proposed project, as opposed to being replaced at the end of useful life after the compliance date. This means that new buildings would feature zero-NOx emission equipment a year sooner and existing buildings would feature zero-NOx emission space heaters 25 years sooner and water heaters 15 years sooner than the proposed project. Overall, Alternative B proposes a more stringent approach by requiring emission reductions for specific categories of equipment to occur by a set date.

Alternative B proposes earlier effective dates for installation of zero-NOx emission technology in new and existing buildings compared to the proposed project (PAR 1111 and PAR 1121). Alternative B may be challenging to implement due to the accelerated timeframes for zero-NOx emission heater replacement. Alternative B is anticipated to achieve substantial NOx emission reductions along with the resulting co-benefit of operational GHG emission reductions, sooner than the proposed project. However, since the number of affected units remains unchanged, but the timeframe for implementation is condensed, the construction-related air quality impacts are expected to be greater than those of the proposed project since more replacements would occur on a peak day. Under Alternative B the electricity demand impacts will remain potentially significant, same as the proposed project. However, the long-term benefits of reduced natural gas usage and enhanced energy efficiency from the accelerated deployment of zero-NOx emission technologies are expected to yield the same substantial reduction on electricity and natural

gas consumption over the long-term. Similarly, significant adverse short-term natural gas demand impacts could be created by the implementation of Alternative B because of the potential increase in natural gas needed to produce electricity until renewable energy resources are available to utilities to satisfy the electricity demand.

Of the alternatives analyzed, Alternative B will achieve greater NOx emission reductions sooner since all equipment in existing buildings would be required to be replaced by the compliance dates specified per category. Thus, Alternative B was chosen as the lowest toxic alternative. In addition, Alternative B is the environmentally superior alternative due to the greatest quantity of equipment replacements occurring at earlier compliance dates, which are projected to result in corresponding, substantial reductions in harmful emissions and a significant positive impact on air quality compared to the other alternatives. However, it should be noted that this approach will also involve increased construction activity occurring sooner than proposed project.

The Governing Board finds that there are no feasible mitigation measures that would eliminate or reduce the project-level or cumulative significant adverse construction air quality impacts and increase in energy demands for electricity and natural gas to less than significant levels, if Alternative B is implemented. As such, the Governing Board finds that Alternative B will not avoid or substantially lessen the significant construction air quality impacts and increase in energy demands for electricity and natural gas as identified in the Final SEA. [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)]. However, Alternative B will achieve greater NOx emission reductions sooner since all equipment in existing buildings would be required to be replaced by the compliance dates specified per category.

C. Alternative C: Less Stringent Than The Proposed Project

Finding and Explanation:
Alternative C proposes a less stringent approach compared to the proposed project by adjusting the requirements in PAR 1111 and PAR 1121, increasing allowable NOx emission limits, and offering more flexibility for compliance. Under this alternative, equipment installed in new buildings would still meet the NOx emission limits as outlined in the proposed project. However, for existing buildings, equipment replacement would include both zero-NOx emission heaters and low-NOx heaters, with 50 percent of replacements being zero-NOx emission and 50 percent low-NOx. This approach aligns with assumptions in the 2022 AQMP and is expected to reduce NOx emissions to a lesser extent than Alternatives B and D, which mandate only zero-NOx emission technologies.

Regarding air quality impacts, Alternative C may result in fewer NOx emission reductions compared to the proposed project and Alternatives B and D, which mandate only zero-NOx emission technologies. However, it will still provide co-benefits by reducing operational GHG emissions, though to a lesser extent. Since Alternative C does not introduce additional construction activities beyond those in the proposed project, construction-related air quality impacts are expected to remain significant, similar to those of the proposed project.

Under Alternative C, energy demand is expected to increase, but to a lesser extent than the proposed project, as most low-NOx technologies predominantly rely on natural gas, though they are more efficient than the equipment being replaced. The shift to zero-NOx emission technologies will be smaller, resulting in a less consumption of natural gas and electricity when consumption compared to the proposed project and Alternative B. While this alternative allows for some reduction in NOx emissions, the slower transition to zero-NOx emission technologies limits the long-term benefits in energy savings. The mix of low-NOx and zero-NOx emission technologies means that the potential for energy efficiency improvements will not be fully realized. Additionally, the increased reliance on low-NOx appliances will result in continued demand for natural gas, although at a reduced level. While Alternative C will increase electricity demand for the portion of equipment replaced by zero-NOx emission technologies, but the overall impact on energy usage will be less pronounced than for the proposed project due to the continued use of low-NOx appliances alongside zero-NOx emission technologies. Nonetheless, significant impacts on operational electricity demand are anticipated, and since Alternative C does not alter the compliance deadlines, it will also have substantial impacts on the demand for electricity and natural gas needed to generate electricity until renewable energy resources are available to meet the demand.

While Alternative C offers a reduction in NOx emissions, the slower transition to zero-NOx emission technologies, combined with the continued reliance on low-NOx appliances, limits the full potential for achieving long-term improvements in air quality and energy efficiency when compared to the proposed project. This alternative does not align with the state's targets for reducing GHG emissions and the reliance on fossil fuels, as outlined in the 2022 AQMP. Additionally, the continued use of gas-fired appliances in many existing buildings would delay the transition to zero-NOx emission technologies, thereby hindering progress toward meeting federal air quality standards. Furthermore, the mixed approach of combining low-NOx with zero-NOx emission technologies does not achieve the same level of energy savings or NOx emission reductions as the proposed project, making it less effective in addressing the urgent need for comprehensive air quality improvements and a shift to cleaner energy sources.

The Governing Board finds that there are no feasible mitigation measures that would eliminate or reduce the project-level or cumulative significant adverse construction air quality impacts and increase in energy demands for electricity and natural gas, if Alternative C is implemented. As such, the Governing Board finds that Alternative C will not avoid or substantially lessen the significant construction air quality impacts and increase in energy demands for electricity and natural gas as identified in the Final SEA. [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

D. Alternative D: Additional Incentive Funding

Finding and Explanation:

Alternative D proposes the same compliance deadlines for the installation of zero-NOx emission technologies as the proposed project (PAR 1111 and PAR 1121) but introduces additional incentive funding. This is expected to result in one percent of equipment being

replaced before the end of its useful lifetime, compared to 0.5 percent under the proposed project.

Regarding air quality impacts, Alternative D is anticipated to achieve substantial NOx emission reductions along with the resulting co-benefit of GHG emission reductions, sooner than the proposed project. However, since the number of affected units remains unchanged, though more units could be replaced sooner than the end of useful life, the construction-related air quality impacts are expected to be greater than the proposed project, as more replacements could occur on a peak day.

The incentive funding will have the potential to increase the rate of replacing equipment with zero-NOx emission technologies earlier than the proposed project, leading to an increased demand in electricity and natural gas over the short-term until renewable energy resources are available to utilities to satisfy the electricity demand, in a similar but greater amount when compared to the proposed project. Over the long-term, the accelerated deployment of zero-NOx emission technology will decrease the use of natural gas needed to operate the affected equipment. Relative to construction, the additional incentives are likely to lead to more construction occurring earlier than for the proposed project.

Since the analysis concluded that there would be potentially significant impacts related to operational electricity and natural gas demand for PAR 1111 and PAR 1121, and considering that Alternative D accelerates the installation of zero-NOx emission technologies earlier through incentive funding without altering compliance deadlines or introducing new construction activities, it is anticipated that Alternative D would also have significant impacts related to operational electricity and natural gas demand.

Furthermore, the acceleration of installations in the short-term could create substantial impacts on both energy demand and construction-related air quality impacts, which would not be fully mitigated by the incentive funding. The increase in energy demand during this accelerated transition may further strain existing infrastructure, particularly if renewable energy sources are not yet available in sufficient quantities to meet the growing electricity demand. Additionally, the existing air quality setting could be exacerbated by increased emissions from additional construction activities that would result from the faster replacement of units, further compounding the overall adverse air quality impacts.

Therefore, the Governing Board finds that there are no feasible mitigation measures that would eliminate or reduce the project-level or cumulative significant adverse operational air quality impacts for NOx emissions, and energy impacts to less than significant levels, if Alternative D is implemented. As such, the Governing Board finds that Alternative D will not avoid or substantially lessen the significant environmental effect as identified in the Final SEA. [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

5.2 Conclusion of Findings

The Governing Board makes the following findings:

1) The feasible mitigation measures identified to minimize the potentially significant adverse impacts related to the environmental topics of air quality during construction (e.g., mitigation measures AQ-1 through AQ-26) and energy due to increase in electricity (e.g., mitigation measures E-1 to E-4 and E-7) and natural gas demand (e.g., mitigation measures E-8 and E-9), which were adopted by the South Coast AQMD Governing Board at its December 2, 2022, public hearing for the project analyzed in the Final Program EIR for the 2022 AQMP, also apply to PAR 1111 and PAR 1121 as analyzed in the Final SEA. Thus, mitigation measures AQ-1 through AQ-26, E-1 to E-4, and E-7 to E-9 and the corresponding Mitigation, Monitoring and Reporting Plan for the 2022 AQMP will remain in effect and enforceable. [CEQA Guidelines Section 15168 (c)(3)].
2) No additional feasible mitigation measures have been identified in the Final SEA that would eliminate or reduce the project-level or cumulative significant adverse air quality impacts during construction, and energy impacts due to increase in electricity and natural gas demand. However, the use of energy to comply with ambient air quality standards and climate change goals, while contributing to overall electricity and natural gas demand, does not result in the wasteful, unnecessary, or inefficient use of energy.
3) Alternative A, the No Project alternative, is infeasible because it would continue to contribute to the health risks associated with NOx emissions, neither meeting the objectives of the proposed project nor aligning with the 2022 AQMP's goals of transitioning to zero-emission technologies. Because Alternative A is not environmentally superior to PAR 1111 and PAR 1121 and does not achieve the basic project objectives, the Governing Board finds that the No Project Alternative is infeasible. [Public Resources Code 21081(a)(3); California Native Plant Society v. City of Santa Cruz (2009) 177 Cal.App.4th 957, 1000-1001 (upholding finding of infeasibility where agency determined alternative failed to achieve project objectives)].
4) For Alternatives C and D, the Governing Board finds that there are no feasible mitigation measures that would eliminate or reduce the project-level or cumulative significant adverse air quality impacts during construction, and energy due to increase in electricity and natural gas demand to less than significant levels. As such, the Governing Board finds that neither Alternative C nor Alternative D will avoid or substantially lessen the significant air quality during construction and energy due to increase in electricity and natural gas demand impacts as identified in the Final SEA. [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].
5) Alternative B was identified in the Final SEA as the environmentally superior alternative. However, the Governing Board finds that there are no feasible mitigation measures that would eliminate or reduce the project-level or cumulative significant adverse air quality impacts during construction, and energy due to increase in electricity and natural gas demand to less than significant levels when meeting the proposed NOx emission limits. Therefore, Alternative B will not avoid or substantially lessen the significant air quality impacts during construction, and energy impacts due to increase in electricity and natural

gas demand identified in the Final SEA. [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." [Public Resources Code Section 21061.1].

The Governing Board further finds that the Final SEA considered alternatives pursuant to CEQA Guidelines Section 15126.6, but there is no alternative to the proposed project that would reduce to insignificant levels the significant impacts to the topics of air quality during construction, and energy due to increased electricity and natural gas demand identified for PAR 1111 and PAR 1121.

The Governing Board further finds that the findings required by CEQA Guidelines Section 15091(a) are supported by substantial evidence in the record.

6.0 Statement of Overriding Considerations

If significant adverse impacts of a proposed project remain after incorporating mitigation measures, or no measures or alternatives to mitigate the adverse impacts are identified, the lead agency must make a determination that the benefits of the project outweigh the unavoidable adverse environmental effects if it is to approve the project. CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project. [CEQA Guidelines Section 15093(a)]. If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered “acceptable” [CEQA Guidelines Section 15093(a)]. Accordingly, a Statement of Overriding Considerations regarding potentially significant adverse impacts to air quality during construction, and energy impacts due to increased electricity and natural gas demands resulting from PAR 1111 and PAR 1121 has been prepared. This Statement of Overriding Considerations is included as part of the record of the project approval for PAR 1111 and PAR 1121. Pursuant to CEQA Guidelines Section 15093(c), the Statement of Overriding Considerations will also be noted in the Notice of Decision for PAR 1111 and PAR 1121.

Despite the inability to incorporate changes into PAR 1111 and PAR 1121 that will mitigate potentially significant adverse impacts to air quality during construction, and energy impacts due to increase electricity and natural gas demands to a level of insignificance when meeting the proposed NOx emission limits, the South Coast AQMD Governing Board finds that the following benefits and considerations outweigh the significant unavoidable adverse environmental impacts:

1. The analysis of potential adverse environmental impacts incorporates a “worst-case” approach. This entails the premise that whenever the analysis requires that assumptions be made, those assumptions that result in the greatest adverse impacts are typically chosen. This method likely overestimates the actual adverse environmental impacts from PAR 1111 and PAR 1121.

2. The 2022 AQMP identifies ambient air pollutant levels relative to federal and state ambient air quality standards (AAQS), establishes baseline and future emissions, and develops control measures to ensure attainment of the AAQS. Construction is a continuous activity within South Coast AQMD's jurisdiction which has been previously addressed in the 2022 AQMP. Thus, any changes in air quality as a result of construction emissions from the proposed project are accounted for in the 2022 AQMP and would not be expected to interfere with the attainment demonstrations.

3. The proposed project supports the implementation of 2022 AQMP control measure R-CMB-01 – Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Water Heating, and R-CMB-02– Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Space Heating, committed to: 1) developing rules to require zero-NOx emission heating units for installations in both new and existing residential buildings; 2) allowing low-NOx technologies as a transitional alternative when installing a zero-NOx emission unit is determined to be infeasible; and 3) providing incentive funds to facilitate the transition to zero-NOx emission technologies and promote further NOx emission reductions earlier than required.

4. The Final SEA considered alternatives pursuant to CEQA Guidelines Section 15126.6, but there is no alternative to the proposed project, other than Alternative A: No Project Alternative, that would reduce the significant impacts of environmental topic areas of air quality during construction, and energy due to increase in electricity and natural gas demand to less than significant levels. However, Alternative A is not a legally viable alternative and was rejected as infeasible because it continues to maintain existing adverse air quality impacts and fails to meet the goals of the 2022 AQMP. [Public Resources Code 21081(a)(3) and CEQA Guidelines Section 15091(a)(3); California Native Plant Society v. City of Santa Cruz (2009) 177 Cal.App.4th 957, 1000- 1001 (upholding finding of infeasibility where agency determined alternative failed to achieve project objectives)].

5. Alternatives B, C and D were crafted to have varying parameters when compared to the proposed project in an attempt to lessen or eliminate the potentially significant impacts to air quality during construction, and energy from increased demand for electricity and natural gas while satisfying the project objectives. Nonetheless, the analysis in the Final SEA concluded that Alternatives B, C and D would not be able to avoid or substantially lessen the significant air quality during construction and energy due to increase in electricity and natural gas demand impacts even after the project parameters were modified.

6. Although the proposed project will not incrementally achieve NOx emission reductions the quickest as compared to the more stringent alternative, it is considered to provide the best balance between achieving NOx emission reductions, the practicability and reasonableness of implementation, and the adverse air quality impacts due to construction and energy impacts due to electricity and natural gas demand while meeting the overall project objectives.

7. Implementing the proposed project will result in an overall net reduction of NOx emissions by 4.05 tons per day for PAR 1111 and by 2.07 tons per day for PAR 1121 by 2061.

Therefore, cumulative air quality impacts from the proposed project and all other AQMP control measures when considered together, are not expected to be significant because implementation of all AQMP control measures, and in particular, this project, is expected to result in net NOx emission reductions and overall air quality improvement over the long-term.

The South Coast AQMD Governing Board finds that the above-described considerations outweigh the unavoidable significant effects to the environment as a result of PAR 1111 and PAR 1121.

7.0 Mitigation

For PAR 1111 and PAR 1121, significant adverse impacts were identified such that alternatives and mitigation measures are required for project approval as set forth in CEQA Guidelines Section 15252(a)(2)(A). However, specific feasible mitigation measures in the previously adopted Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP have been identified in the Final SEA as being applicable to PAR 1111 and PAR1121. In particular, feasible mitigation measures were identified to minimize the potentially significant adverse impacts related to the environmental topics of air quality during construction (e.g., mitigation measures AQ-1 through AQ-26) and energy due to increase in electricity (e.g., mitigation measures E-1 to E-4 and E-7) and natural gas demand (e.g., mitigation measures E-8 and E-9). These aforementioned mitigation measures, as adopted by the South Coast AQMD Governing Board at its December 2, 2022, public hearing for the project analyzed in the Final Program EIR for the 2022 AQMP, also apply to PAR 1111 and PAR 1121 as analyzed in the Final SEA. Thus, mitigation measures AQ-1 through AQ-26, E-1 to E-4, and E-7 to E-9 and the corresponding components of the Mitigation, Monitoring and Reporting Plan for the 2022 AQMP applicable to these aforementioned mitigation measures will remain in effect and enforceable. [CEQA Guidelines Section 15168 (c)(3)].

In addition, no new feasible mitigation measures have been identified that would reduce or eliminate the significant adverse impacts to less than significant levels beyond the specified mitigation measures adopted in the Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP that were identified as being applicable to PAR 1111 and PAR 1121. Thus, the previously adopted Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP and these specified mitigation measures remain in effect and enforceable for PAR 1111 and PAR 1121 such that no new Mitigation, Monitoring, and Reporting Plan for PAR 1111 and PAR 1121 has been prepared or is required. The Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP is incorporated by reference and included in Appendix A of this document.

8.0 Record of Proceedings

For purposes of CEQA, including the Findings and Statement of Overriding Considerations for PAR 1111 and PAR 1121, and the Mitigation, Monitoring and Reporting Plan for the 2022 AQMP, the Record of Proceedings for the proposed project consists of the following documents and other evidence, at a minimum:

- The Final SEA for PAR 1111 and PAR 1121, including appendices and technical studies included or referenced in the Final SEA, and all other public notices issued by South Coast AQMD for the Final SEA.

- The Draft SEA for the proposed project including appendices and technical studies included or referenced in the Draft SEA, and all other public notices issued by South Coast AQMD for the Draft SEA.
- The Preliminary Draft, Draft and Final versions of the rule language and associated staff report.
- The Draft and Final versions of the Socioeconomic Impact Assessment.
- All written and verbal public testimony presented during a noticed public hearing for PAR 1111 and PAR 1121.
- All documents, studies, CEQA documents including but not limited to the the Final Program EIR for the 2022 AQMP and the Mitigation, Monitoring and Reporting Plan for the 2022 AQMP, or other materials incorporated by reference and tiered-off in the Draft SEA and Final SEA.
- The Resolution adopted by South Coast AQMD in connection with the proposed project, and all documents incorporated by reference therein, including comments received after the close of the public review and comment period and responses thereto.
- Matters of common knowledge to South Coast AQMD, including but not limited to federal, state, and local laws and regulations.
- Any documents expressly cited in the Findings and Statement of Overriding Considerations.
- Any other relevant materials required to be in the record of proceedings by Public Resources Code Section 21167.6(e).
- The Notice of Decision, prepared in compliance with Public Resources Code Section 21080.5(d)(2)(E), CEQA Guidelines Section 15252(b), and South Coast AQMD Rule 110(f), if the Governing Board certifies the Final SEA and approves PAR 1111 and PAR 1121.

To comply with CEQA Guidelines Section 15091(e), the South Coast AQMD specifies the Deputy Executive Officer of the Planning, Rule Development, and Implementation Division as the custodian of the administrative record for PAR 1111 and PAR 1121, which includes the documents or other materials which constitute the record of proceedings upon which the South Coast AQMD's actions related to the proposed project is based, and which are located at the South Coast AQMD headquarters, 21865 Copley Drive, Diamond Bar, California 91765. Copies of these documents, which constitute the record of proceedings, are and at all relevant times have been and will be available upon request. This information is provided in accordance with Public Resources Code Section 21081.6(a)(2) and CEQA Guidelines Section 15091(e).

APPENDIX A

FINDINGS, STATEMENT OF OVERRIDING CONSIDERATIONS, AND MITIGATION, MONITORING, AND REPORTING PLAN FOR 2022 AQMP

ATTACHMENT B

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Attachment 1 to the Governing Board Resolution for: Final Program Environmental Impact Report (EIR) for the 2022 Air Quality Management Plan (AQMP)

Findings, Statement of Overriding Considerations, and Mitigation, Monitoring, and Reporting Plan

State Clearinghouse No: 2022050287

November 2022

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ATTACHMENT 1 TO THE GOVERNING BOARD RESOLUTION FOR: FINAL PROGRAM ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE 2022 AIR QUALITY MANAGEMENT PLAN (AQMP)

FINDINGS, STATEMENT OF OVERRIDING CONSIDERATIONS, AND MITIGATION, MONITORING, AND REPORTING PLAN

Introduction

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1.0 INTRODUCTION

The 2022 Air Quality Management Plan (AQMP) is considered a "project" as defined by the California Environmental Quality Act (CEQA). [Public Resources Code Section 21000 et seq.]. Specifically, CEQA requires: 1) the potential adverse environmental impacts of proposed projects to be evaluated; and 2) feasible methods to reduce or avoid any identified significant adverse environmental impacts of these projects to also be evaluated. CEQA Guidelines Section 15364 defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

The 2022 AQMP is the planning document that sets forth policies and measures to achieve federal and state air quality standards in the region. Specifically, the 2022 AQMP is comprised of an assortment of control measures and strategies designed to bring the region into attainment with the federal 2015 8-hour ozone standard of 70 parts per billion (ppb) by 2037 for the South Coast Air Basin (Basin) and the Coachella Valley. The 2022 AQMP control measures and strategies were developed to achieve this National Ambient Air Quality Standard (NAAQS) by focusing on reducing emissions of nitrogen oxides (NOx) and volatile organic compounds (VOC), which are precursors to the formation of ozone, and other air pollutants. The 2022 AQMP is comprised of control measures which address stationary point and area sources and mobile sources. As such, the South Coast Air Quality Management District (South Coast AQMD) has the greatest responsibility for carrying out or approving the project as a whole, which may have a significant effect upon the environment, and is the most appropriate public agency to act as lead agency. [Public Resources Code Section 21067 and CEQA Guidelines Section 15051(b)].[1]

To fulfill the purpose and intent of CEQA, the South Coast AQMD, as lead agency, has prepared a Program Environmental Impact Report (EIR) to address the potential environmental impacts associated with the proposed 2022 AQMP. The purpose of the Program EIR is to describe the proposed project and to identify, analyze, and evaluate any potentially significant adverse environmental impacts that may result from adopting and implementing the proposed 2022 AQMP.

The proposed project is estimated to reduce NOx emissions by approximately 124 tons per day beyond implementation of existing regulations. The analysis in the Draft Program EIR concluded that impacts to the following environmental topic areas would be significant: 1) air quality during construction; 2) energy due to increased electricity, natural gas, and hydrogen demand; 3) hazards and hazardous materials due to accidental release of ammonia or liquified natural gas; 4) hydrology (water demand and water supply) and water quality; 5) construction noise and vibration at roadways; and 6) solid and hazardous waste from construction and early retirement of equipment. No other significant adverse impacts were identified. Where feasible, mitigation measures were identified to mitigate or lessen to the maximum extent feasible the potentially significant adverse impacts. However, even after all feasible mitigation measures are implemented, impacts to all of these environmental topic areas would remain significant and unavoidable.

[1] CEQA Guidelines refers to California Code of Regulations, Title 14, Section 15000 et seq.

The Draft Program EIR was circulated for a 46-day public review and comment period from September 16, 2022 to November 1, 2022 and six comment letters were received. None of the comment letters identified other potentially significant adverse impacts from the proposed project that should be analyzed and mitigated in the Program EIR. The comments and responses relative to the Draft Program EIR are included in Appendix C of the Final Program EIR.

In addition to incorporating the comment letters and the responses to comments, some modifications have been made to the Draft Program EIR to make it a Final EIR. South Coast AQMD staff evaluated the modifications made to the proposed project after the release of the Draft Program EIR for public review and comment and concluded that none of the revisions constitute significant new information, because: 1) no new significant environmental impacts would result from the proposed project; 2) there is no substantial increase in the severity of an environmental impact; 3) no other feasible project alternative or mitigation measure was identified that would clearly lessen the environmental impacts of the project and was considerably different from others previously analyzed; and 4) the Draft Program EIR did not deprive the public from meaningful review and comment. In addition, revisions to the proposed project and analysis in response to verbal or written comments during the plan development process would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the Draft Program EIR pursuant to CEQA Guidelines Section 15088.5. Therefore, the Draft Program EIR has been revised to include the aforementioned modifications such that it is now the Final Program EIR. The Final Program EIR will be presented to the Governing Board prior to its December 2, 2022 public hearing (see Attachment E of the Governing Board package).

When considering for approval a proposed project that has one or more significant adverse environmental effects, a public agency must make one or more written findings for each significant adverse effect, accompanied by a brief rationale for each finding. [Public Resources Code Section 21081 and CEQA Guidelines Sections 15065 and 15091].

In addition, for a proposed project with significant adverse environmental impacts, CEQA requires the lead agency to balance the economic, legal, social, technological, or other benefits of a proposed project against its significant unavoidable environmental impacts when determining whether to approve the proposed project. Under CEQA Guidelines Section 15093(a), "If the specific economic, legal, social, technological, or other benefits of a project outweigh the unavoidable significant adverse environmental effects, the adverse environmental effects may be considered 'acceptable.'" Thus, in addition to making Findings, the lead agency must also adopt a "Statement of Overriding Considerations" to approve a proposed project with significant adverse environmental effects.

When a lead agency adopts measures to mitigate or avoid significant adverse environmental effects, a mitigation, monitoring, and reporting plan is required pursuant to CEQA Guidelines Section 15097 and Public Resources Code Section 21081.6. The Final Program EIR identified CEQA mitigation measures within the authority of South Coast AQMD or other agencies and utilities, as applicable to adopt or implement.

In light of these aforementioned CEQA requirements, this document includes Findings, a Statement of Overriding Considerations, and a Mitigation, Monitoring, and Reporting Plan.

2.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT PROVISIONS REGARDING FINDINGS

CEQA generally requires agencies to make certain written findings before approving a proposed project with significant environmental impacts. Relative to making Findings, CEQA Guidelines Section 15091 provides:

(a) No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

1. Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.

2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

3. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

(b) The findings required by subsection (a) shall be supported by substantial evidence in the record.

(c) The finding in subdivision (a)(2) shall not be made if the agency making the finding has concurrent jurisdiction with another agency to deal with identified feasible mitigation measures or alternatives. The finding in subsection (a)(3) shall describe the specific reasons for rejecting identified mitigation measures and project alternatives.

(d) When making the findings required in subdivision (a)(1), the agency shall also adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to avoid or substantially lessen significant environmental effects. These measures must be fully enforceable through permit conditions, agreements, or other measures.

(e) The public agency shall specify the location and custodian of the documents or other material which constitute the record of the proceedings upon which its decision is based.

(f) A statement made pursuant to Section 15093 does not substitute for the findings required by this section.

The "changes or alterations" referred to in CEQA Guidelines Section 15091(a)(1) may include a wide variety of measures or actions as set forth in CEQA Guidelines Section 15370, including:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

(c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

(e) Compensating for the impact by replacing or providing substitute resources or environments.

3.0 SUMMARY OF THE PROPOSED PROJECT

Implementation of the 2022 AQMP control strategies requires a cooperative partnership of governmental agencies at the federal, state, regional, and local level. At the federal level, the United States Environmental Protection Agency (U.S. EPA) is charged with regulating on-road motor vehicle standards; trains, airplanes, and ships; and certain non-road engines. At the state level, the California Air Resources Board (CARB) oversees on-road emission standards, fuel specifications, some off-road sources, and consumer product standards. At the regional level, the South Coast AQMD is responsible for regulating stationary sources and some mobile sources as well as indirect sources. In addition, South Coast AQMD has lead responsibility for the development of the 2022 AQMP. Furthermore, at the local level, the Southern California Association of Governments (SCAG) has a dual role of leader and coordinator. In their leadership role, they, in cooperation with local jurisdictions and sub-regional associations, develop strategies for these jurisdictions to implement. As a coordinator, they facilitate the implementation of these strategies (i.e., transportation control measures).

In 2015, the U.S. EPA strengthened the 8-hour NAAQS for ground-level ozone by lowering the primary and secondary ozone standard levels to 70 ppb. The Basin is classified as an "extreme" nonattainment area and the Coachella Valley is classified as a "severe-15" nonattainment area for the 2015 ozone NAAQS. The South Coast AQMD is requesting a voluntary reclassification of the Coachella Valley Portion of the Salton Sea Air Basin from "severe-15" to "extreme" nonattainment for the 2015 8-hour ozone standard, with an extension of the ozone attainment date from August 3, 2033 to August 3, 2038. The Coachella Valley is also pending a voluntary reclassification from "severe" to "extreme" nonattainment for the 2008 8-hour ozone standard which was approved by the South Coast AQMD Governing Board at the November 4, 2022 public hearing. The 2022 AQMP focuses on attaining the 2015 8-hour ozone NAAQS by 2037, and addressing the state Clean Air Act requirements.

The 2022 AQMP is designed to reduce emissions from existing emission sources and to promote the use of the cleanest available new emission sources. The proposed control measures in the 2022 AQMP focus on maximizing the implementation of existing zero emission and low NOx technologies. It also recognizes that new low NOx and zero emitting technologies and ultra-low NOx technologies may still need to be invented or may not yet be commercially available to achieve the necessary reductions in order to achieve the ambient air quality standards for ozone (e.g., 70 ppb for both the federal and state standards). Because NOx emissions are a precursor to

the formation of ozone and a key component to reduce ozone levels low enough to meet the standard, the 2022 AQMP primarily focuses on achieving NOx emission reductions in order to attain the ozone standard. Preliminary analyses indicate that in order to achieve the ozone standards by 2037, approximately 67 percent of additional NOx emission reductions will be needed, above and beyond the previously adopted measures in the 2016 AQMP.

VOC emissions are also a precursor to the formation of ozone such that achieving emission reductions of VOCs can help contribute to the overall goal of attaining the ozone standard and reduce exposure to harmful air pollutants. As such, some of the proposed control measures in the 2022 AQMP focus on achieving VOC emission reductions. However, VOC emission reductions are much less effective at reducing ozone at the low NOx levels needed for attainment.

Traditional air quality planning relies on a combination of controlling emissions at the tailpipe or exhaust stack, new engine technologies, and improvements to existing fuels. These traditional approaches are effective to an extent but since most affected sources are already equipped with NOx control equipment, traditional approaches are not expected to be able to achieve the additional 67 percent reduction needed to achieve the ozone standard. Under the 2022 AQMP, the proposed control measures would:

- accelerate the replacement of high-emitting mobile sources with zero emission or low NOx technologies;
- encourage the use of lower-emitting alternative fuels;
- affect stationary sources at existing commercial/industrial facilities and residential developments;
- develop incentives to remove/replace higher-emitting equipment;
- establish greater control of industrial stationary sources;
- control indirect sources of emissions;
- improve detection and procedures; and
- establish educational and outreach programs.

In order to attain the ozone standards, the majority of NOx emission reductions must come from mobile sources, including ships, aircraft, and locomotive engines, all of which are primarily regulated by federal and international laws, depending on the applicable jurisdiction, with limited authority by CARB at the state level and the South Coast AQMD at the local level. Attainment is not possible without significant reductions from these sources. The South Coast AQMD will continue to work closely with CARB in their efforts to further control mobile source emissions where federal or state actions do not meet regional needs.

The overall control strategy for the 2022 AQMP is designed to assist in the attainment of the 2015 federal 8-hour ozone standard (70 ppb) via reductions in emissions of NOx and VOC. The 2022 AQMP control measures consist of three main components: 1) the stationary and mobile source control measures that would be implemented by the South Coast AQMD; 2) CARB-developed control measures and strategies from CARB's 2022 Strategy for the SIP which include state and

federal mobile source control measures; and 3) SCAG-developed TCMs from SCAG's 2020 RTP/SCS (also called Connect SoCal).

A control measure is an emission reduction program based on specific technologies and methods identified for potential implementation to achieve reductions in air pollutant emissions to attain an air quality standard. The proposed stationary source ozone measures are designed to assist to attain the 2015 8-hour ozone standard (70 ppb) via reductions in emissions of NOx and VOC. These measures target a number of source categories, including Combustion Sources (CMB), Energy and Climate Change Programs (ECC), Petroleum Operations and Fugitive VOC Emissions (FUG), Coatings and Solvents (CTS), Compliance Flexibility Programs and Public Outreach (FLX), Multiple Component Sources (MCS), and Biogenic Sources (BIO). Combustion Sources are further divided into Residential Combustion Sources (R-CMB), Commercial Combustion Sources (C-CMB), and Large Combustion Sources (L-CMB). Each control measure may rely on several control methods. For the 2022 AQMP, the South Coast AQMD proposed a total of 48 control measures. Out of the 48 proposed control measures, 30 target reductions from stationary sources with the majority anticipated to be developed in the next several years and implemented prior to 2037.

4.0 POTENTIALLY SIGNIFICANT IMPACTS WHICH CANNOT BE REDUCED BELOW A SIGNIFICANT LEVEL

The Final Program EIR for the 2022 AQMP concluded that the following environmental topic areas would have significant and unavoidable adverse impacts, after feasible mitigation measures are applied: 1) air quality during construction; 2) energy due to increased electricity, natural gas, and hydrogen demand; 3) hazards and hazardous materials due to accidental release of ammonia, natural gas via pipeline, or liquified natural gas via on-road truck; 4) hydrology (water demand and water supply) and water quality; 5) construction noise and vibration at roadways; and 6) solid and hazardous waste from construction and early retirement of equipment. The analysis in the Final Program EIR is conservative as it makes the significance determinations assuming that almost all activities that will be undertaken to implement the various control measures and strategies will overlap, which may be unlikely once individual rules are developed and adopted with varying implementation schedules. Thus, the analysis in the Final Program EIR likely overestimates the potentially significant adverse impacts that cannot be reduced below a significant level for the following environmental topic areas.

A. Air Quality Impacts During Construction

Implementation of control measures in the 2022 AQMP is expected to result in emission reductions of 124 tons per day of NOx, a direct air quality benefit. However, implementation may also require construction activities involving: 1) the demolition or removal of components from existing buildings, or structures, such as equipment, mechanical systems, cooking devices, clothes dryers, water and/or space heating systems, and pool heaters; 2) the installation of new energy efficient equipment, mechanical systems, cooking devices, clothes dryers, water and/or space heating systems; and pool heaters; 3) the construction of additional infrastructure to produce more alternative fuels to support alternative-fueled vehicles (e.g., electric, hydrogen, natural gas); 4) the construction of additional infrastructure to produce more electricity to support electric

vehicles and the electrification of new sources (e.g., additional on-road vehicles and marine vessels, "wayside" electric power such as catenary lines); 5) the construction of air pollution control equipment at stationary sources (e.g., SCRs), the retrofit of existing equipment with low NOx technology (e.g., low or ultra-low NOx burners) or the use of cleaner stationary sources (e.g., Tier 4 engines and newer boilers); and 6) construction for the replacement of higher emitting combustion equipment with low NOx equipment. Analysis concluded that the emissions generated during construction activities would exceed the air quality significance thresholds for construction.

The 2022 AQMP control measures would result in significant adverse air quality impacts during construction and, when combined with past, present, and reasonably foreseeable activities, in particular with transportation projects projected in SCAG's Connect SoCal Plan and CARB's Proposed 2022 State SIP Strategy, would contribute to cumulatively considerable impacts to air quality related to criteria pollutant emissions during construction, a significant adverse and unavoidable cumulative impact.

Air quality mitigation measures for project-specific construction impacts are identified in the Mitigation Monitoring and Reporting Plan Section of this document (e.g., AQ-1 through AQ-26). While implementation of these air quality mitigation measures would reduce construction emissions to the maximum extent feasible, none will neither avoid the significant air quality impacts during construction nor reduce the construction-related air quality impacts to less than significant levels. No other feasible mitigation measures have been identified to reduce project-specific or cumulative construction air quality impacts to less than significant levels. Therefore, the 2022 AQMP is considered to have significant and unavoidable project-specific and cumulative air quality impacts during construction, after mitigation is applied.

B. Energy Impacts Due to Increased Electricity, Natural Gas, and Hydrogen Demand

Implementation of control measures in the 2022 AQMP could increase the electricity demand up to an estimated 11 percent by year 2037 due to an increased penetration of near-zero and zero emission technologies into market, combined with operating new air pollution control equipment. Because the projected increase in electricity demand would be expected to exceed the baseline by more than one percent of supply, the electricity demand impacts were concluded to have significant energy impacts. Feasible mitigation measures for reducing impacts related to potential electricity demand are required and have been identified in the 2022 AQMP Program EIR as E-1 through E-7.

Relative to the demand for natural gas, natural gas is generally widely available and supplies are not expected to be limited if the proposed project is implemented. Further, the combined increase in natural gas demand needed for producing electricity and hydrogen and for fueling vehicles may be somewhat offset over the long-term by a decrease in demand for natural gas appliances in commercial and residential settings. However, over the short-term, the natural gas demand is expected to increase, and the proposed project may result in significant adverse energy impacts relating to natural gas demand. Natural gas demand impacts would remain significant after mitigation. Feasible mitigation

measures for reducing impacts related to potential natural gas demand are required and have been identified in the 2022 AQMP Program EIR as E-8 through E-9.

Also, implementation of control measures in the 2022 AQMP could result in an increase in hydrogen demand and use that cannot be currently met by existing producers. In the short-term, hydrogen production would be expected to be produced through steam methane reforming of natural gas, resulting in potentially significant impacts on natural gas demand. Little excess hydrogen capacity is available to meet the increase in hydrogen demand and additional hydrogen production facilities will be necessary. Thus, the increased demand impacts for hydrogen fuel are expected to be significant. Feasible mitigation measures for reducing impacts related to potential hydrogen demand are required and have been identified in the 2022 AQMP Program EIR as E-10 through E-12.

Implementation of the 2022 AQMP control measures, the TCMs in SCAG's Connect SoCal Plan, CARB's Proposed 2022 State SIP Strategy, and other state policies, when combined with other past, present, and reasonably foreseeable activities, would result in a significant increase in electricity, natural gas, and hydrogen demand which may not currently be available and would contribute to cumulatively considerable impacts. As electricity, natural gas, and hydrogen are expected to be used instead of petroleum fuels and other alternative fuels, the use of these alternative fuels is expected to decrease and impacts on these energy resources would be less than significant. The same feasible mitigation measures that were identified to reduce significant adverse energy impacts from electricity, natural gas, and hydrogen demand at the project level were also concluded to reduce the significant and cumulatively considerable energy impacts.

Energy mitigation measures for project-specific impacts are identified in the Mitigation Monitoring and Reporting Plan Section of this document (e.g., E-1 through E-7 for electricity demand, E-8 through E-9 for natural gas demand, and E-10 through E-12 for hydrogen demand). However, while implementation of mitigation measures E-1 through E-12 would reduce the identified energy impacts, the overall energy impacts after mitigation are expected to remain significant. No other feasible mitigation measures have been identified that would reduce project-specific or cumulative energy impacts to less than significant levels. Therefore, the proposed project is considered to have significant and unavoidable project-specific and cumulatively considerable energy impacts, after mitigation is applied.

C. Hazards and Hazardous Materials Impacts Due to Accidental Release of Ammonia, Natural Gas via Pipeline, or Liquified Natural Gas (LNG) via On-Road Trucks; and Reformulation of Coatings, Solvents, Adhesives and Lubricants

Implementation of control measures in the 2022 AQMP could result in increased use of ammonia in some air pollution control equipment such as selective catalytic reduction (SCR) technology. Use of SCR technology would require each affected facility to have deliveries and storage of ammonia at their site. There is potential for accidental release during routine transport of ammonia and through tank rupture from ammonia storage. Because sensitive receptors have the potential to be located within the toxic endpoint from both scenarios, potential hazards and hazardous materials impacts from accidental release

of ammonia are concluded to be significant. Feasible mitigation measures for reducing impacts related to potential hazards and hazardous materials impacts from accidental release of ammonia are required and have been identified in the 2022 AQMP Program EIR as HZ-1 through HZ-6.

Implementation of control measures in the 2022 AQMP could result in increased transmission of natural gas for hydrogen production, and the transport and use of LNG as an alternative fuel. It is expected that natural gas is transmitted for hydrogen production via new or existing pipeline and LNG by tanker truck via public roads. With a new natural gas pipeline as well as during the routine transport of LNG, there is a potential for an accidental release, and because sensitive receptors have the potential to be located within the toxic endpoint of such an event, potential hazards and hazardous materials impacts from accidental release of natural gas via pipeline or LNG via tanker truck are concluded to be significant. While mitigation measures for reducing impacts related to potential hazards and hazardous materials impacts from accidental release of natural gas via pipeline or LNG via tanker truck are required, no feasible mitigation measures have been identified in the 2022 AQMP Program EIR for this environmental impact area beyond the extensive state and federal requirements applicable to new and existing natural gas pipelines and LNG transport.

Implementation of control measures in the 2022 AQMP could result in the reformulation of coatings, solvents, adhesives, and lubricants with less toxic, but more flammable solvents. Without knowing how many facilities currently using water-based products would switch to using reformulated solvent-based products, significant impacts on fire hazards associated with some reformulated coatings, solvents, adhesives, and lubricants could potentially occur if the products are reformulated with more flammable materials. Therefore, hazards and hazardous materials impacts associated with increased flammability of potential replacement solvents are concluded to be significant. However, feasible mitigation measures for reducing impacts related to potential hazards and hazardous materials impacts from flammable reformulations, if any, are required and have been identified in the 2022 AQMP Program EIR as HZ-7 through HZ-8. After applying these mitigation measures, the potential hazards and hazardous materials impacts from flammable reformulations would be reduced to less than significant levels.

Implementation of the 2022 AQMP control measures, the TCMs in SCAG's Connect SoCal Plan, CARB's Proposed 2022 State SIP Strategy, and other state policies, when combined with other past, present, and reasonably foreseeable activities, would result in a significant increase in the use of hazards and hazardous materials. Feasible mitigation measures have been developed to reduce the significant hazard impacts. No additional feasible mitigation measures have been identified to further reduce the cumulative hazard impacts to less than significant levels. Therefore, cumulative impacts to hazards and hazardous materials would remain significant and unavoidable.

Six mitigation measures are identified in the Mitigation Monitoring and Reporting Plan Section of this document (e.g., HZ-1 through HZ-6) to address the transportation and storage impacts associated with ammonia. However, none of these mitigation measures

will reduce all the significant hazard and hazardous materials impacts relating to ammonia transportation and storage to less than significant levels.

Relative to potential hazards and hazardous materials impacts from accidental release of natural gas via pipeline or LNG via tanker truck, no feasible mitigation measures have been identified in the 2022 AQMP Program EIR for this environmental impact area that would reduce the significant impacts beyond the extensive state and federal requirements applicable to new and existing natural gas pipelines and LNG transport.

Relative to potential fire hazards that may be associated with using reformulated products that may have increased flammability, two mitigation measures are identified in the Mitigation Monitoring and Reporting Plan Section of this document (e.g., HZ-7 and HZ-8). They were crafted to require the to-be-developed rule language to inform consumers about any potential for increased flammability and they were identified as effective at informing consumers about the potential fire hazards associated with reformulated coatings, solvents, adhesives and lubricants. Thus, after mitigation, no remaining significant impacts on fire hazards would be expected from reformulated products. Therefore, after implementation of mitigation measures HZ-7 through HZ-8, no remaining significant impacts on fire hazards relating to reformulated products are expected.

Therefore, the proposed project is considered to have significant and unavoidable project-specific and cumulatively considerable hazards and hazardous materials impacts, after mitigation is applied.

D. Hydrology (Water Demand and Water Supply) and Water Quality Impacts

Implementation of control measures in the 2022 AQMP could result in the increased use of water during operational activities. For control measures where water demand can be estimated, the increase in daily water demand would exceed the 262,820 gallons per day significance threshold for potable water. Additional water use is required for construction activities and also may be required for the manufacture of alternative fuels. Due to the extreme drought conditions and uncertainty about future water supplies, implementation of the control measures in the 2022 AQMP as a whole may have a significant impact on both water demand and water supplies. Feasible mitigation measures for reducing water demand and water supply impacts are required and have been identified in the 2022 AQMP Program EIR as HWQ-1 through HWQ-4. While generally the mitigation measures could help minimize some of the water demand and water supply impacts on an individual facility-basis, the availability of water supplies varies throughout the region. Thus, not all mitigation measures will be applied in all situations. For this reason, the mitigation measures are not expected to fully eliminate the significant water demand and water supply impacts. Therefore, water demand and water supply impacts that may result from the proposed project are expected to remain significant and unavoidable.

Relative to the topic of water quality, in the absence of facility-specific information regarding the potential increased amounts of wastewater that could be generated in order to determine whether a revision to an Industrial Waste Discharge Permit and/or a NPDES permit would be needed, and whether a relocation or construction of new or expanded

wastewater or storm water treatment facility would be needed; out of an abundance of caution, the analysis in the Program EIR concludes that implementation of the 2022 AQMP has the potential to require or result in the relocation or construction of new or expanded wastewater treatment or storm water drainage facilities. Thus, the proposed project could result in significant adverse wastewater impacts associated with the quantity of effluent to be treated and discharged, and the potential lack of existing capacity in the existing wastewater and stormwater treatment systems to handle the potential increases. Therefore, significant water quality impacts due to the potential for increased discharges of wastewater are expected. One feasible mitigation measure for reducing wastewater discharge has been identified in the 2022 AQMP Program EIR as HWQ-5. While the issuance of facility-specific industrial wastewater permits or NPDES permits, by their regulatory nature, would likely minimize the water quality impacts to fullest extent possible, this mitigation measure is not expected to fully eliminate the significant water quality impacts. Therefore, water quality impacts that may result from the proposed project are expected to remain significant and unavoidable, after mitigation is applied.

Implementation of the 2022 AQMP control measures, the TCMs in SCAG's Connect SoCal Plan, CARB's Proposed 2022 State SIP Strategy, and other state policies, when combined with other past, present, and reasonably foreseeable activities, are expected to result in additional pollutant loading over the wastewater that is currently discharged. Because of permit limits, physical modifications to wastewater treatment and stormwater collection systems may be needed and therefore, would be expected to contribute to cumulative water quality impacts.

California has been hit with extreme drought conditions and a Tier 2 water shortage has been declared for the Colorado River and surrounding states. Therefore, the measures that are currently being taken by agencies involved with developing measures to comply with the 70 ppb 8-hour ozone standard, along with the population growth identified in SCAG's Connect SoCal Plan, are expected to result in cumulatively considerable water demand and water supply impacts. No additional feasible mitigation measures have been identified to further reduce cumulative water demand, water supply, and water quality impacts. Therefore, cumulative impacts to water demand, water supply, and water quality would remain significant and unavoidable.

Four mitigation measures are identified in the Mitigation Monitoring and Reporting Plan Section of this document (e.g., HWQ-1 through HWQ-4) to address the project-specific water demand impacts. While these mitigation measures could help minimize some of the water demand on an individual facility-basis, the availability of water supplies varies throughout the region; thus, all mitigation measures may not be applied in all situations. However, none of these mitigation measures will fully eliminate the water demand and water supply impacts or reduce these impacts to less than significant levels. One mitigation measure was identified to reduce water quality impacts (HWQ-5). No other feasible mitigation measures have been identified that would avoid or reduce the project-specific or cumulative water demand, water supply, and water quality impacts to less than significant levels. Therefore, even after implementation of mitigation measures HWQ-1 through HWQ-5, the 2022 AQMP is considered to have significant and unavoidable

project-specific and cumulatively considerable hydrology (water demand and water supply) and water quality impacts.

E. Noise and Vibration Impacts During Construction of Roadway Infrastructure

Implementation of control measures in the 2022 AQMP is expected to require construction activities that include: 1) installation of new equipment or devices; 2) removal of older equipment or devices; 3) modification or retrofit of existing equipment and facilities; and 4) modification of existing roadways to install new equipment and roadway infrastructure. The potential noise impact of construction activities would vary depending on the existing noise levels in the environment and the location of sensitive receptors (e.g., residences, hotels, hospitals, etc.) with respect to construction activities. While some of the control measures could result in minor construction activities that could create minimal noise, the construction of roadway infrastructure would result in additional construction noise sources near transportation corridors, and it is not uncommon for residences and other sensitive receptors to be located within several hundred feet of the existing roadways. Therefore, the noise and vibration impacts during construction activities are considered significant. Feasible mitigation measures for reducing the construction noise and vibration impacts are required and have been identified in the 2022 AQMP Program EIR as NS-1 through NS-14. However, none of these mitigation measures will reduce all the construction noise and vibration impacts to less than significant levels. Therefore, construction noise and vibration impacts that may result from the proposed project are expected to remain significant and unavoidable after mitigation is applied.

Implementation of the 2022 AQMP control measures, the TCMs in SCAG's Connect SoCal Plan, CARB's Proposed 2022 State SIP Strategy, and other state policies, when combined with other past, present, and reasonably foreseeable activities, would result in additional potentially significant noise and vibration impacts associated with construction activities, and would contribute to cumulatively considerable impacts to noise and vibration.

14 mitigation measures are identified in the Mitigation Monitoring and Reporting Plan Section of this document (e.g., NS-1 through NS-14) to address construction noise and vibration impacts. While these mitigation measures could minimize some of the noise and vibration impacts during construction activities, the South Coast AQMD cannot predict how a lead agency or responsible agency might choose to mitigate the significant construction noise and vibration impacts for a future project. Further, none of these mitigation measures will avoid the construction noise and vibration impacts or reduce these impacts to less than significant levels. No other feasible mitigation measures have been identified that would reduce the project-specific or cumulative construction noise and vibration impacts to less than significant levels. Therefore, even after implementation of mitigation measures NS-1 through NS-14, the 2022 AQMP is considered to have significant and unavoidable project-specific and cumulatively considerable noise and vibration impacts during construction.

F. Solid and Hazardous Waste Impacts from Construction and Early Retirement of Equipment

Installation of air pollution control equipment (e.g., low NOx burners, SCR systems, electrification of sources); replacement of existing equipment; installation of roadway infrastructure (wayside power and catenary lines or other similar technologies); installation of battery charging infrastructure; and installation of alternative fuel infrastructure are expected to generate solid and hazardous waste associated with construction activities. The extent of solid and hazardous waste impacts from early retirement of equipment is difficult to quantify, but concluded to generate significant adverse impacts because available landfill space is limited to approximately 100,000 tons per day with only four solid waste landfills in Southern California having capacity past 2039. Feasible mitigation measures for reducing the solid and hazardous waste impacts are required and have been identified in the 2022 AQMP Program EIR as SHW-1 through SHW-3. However, because it is difficult to quantify the construction and demolition waste, and waste from early retirement of equipment generated by implementing control measures from the 2022 AQMP, solid and hazardous waste impacts from construction are concluded to remain significant after mitigation is applied.

Implementation of the 2022 AQMP control measures, the TCMs in SCAG's Connect SoCal Plan, CARB's Proposed 2022 State SIP Strategy, and other state policies, when combined with other past, present, and reasonably foreseeable activities, would result in a significant increase in solid and hazardous waste, and would contribute to cumulatively considerable impacts to solid and hazardous waste. Feasible mitigation measures to reduce significant adverse cumulative solid waste impacts were identified in the Program EIR for SCAG's Connect SoCal Plan. No other feasible mitigation measures have been identified that would reduce the project-specific or cumulatively considerable solid and hazardous waste impacts to less than significant levels. Therefore, the 2022 AQMP is considered to have significant and unavoidable project-specific and cumulatively considerable solid and hazardous waste impacts from construction and early retirement of equipment.

5.0 FINDINGS REGARDING POTENTIALLY SIGNIFICANT ENVIRONMENTAL IMPACTS

Public Resources Code Section 21081(a) and CEQA Guidelines Section 15091(a) provide that a public agency shall not approve or carry out a project with significant environmental effects unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. Additionally, the findings must be supported by substantial evidence in the record. [CEQA Guidelines Section 15091(b)]. Three potential findings can be made for potentially significant impacts:

Finding 1: Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final Program EIR. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

Finding 2: Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency. [Public Resources Code Section 21081(a)(2) and CEQA Guidelines Section 15091(a)(2)].

Finding 3: Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or project alternatives identified in the Final Program EIR. [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

As identified in the Final Program EIR and summarized in Section 4.0 of this document, the 2022 AQMP has the potential to create significant adverse impacts for the following environmental topic areas: air quality during construction; energy due to increased electricity, natural gas, and hydrogen demand; hazards and hazardous materials due to accidental release of ammonia, natural gas via pipeline, or liquified natural gas via on-road truck, and potential fire hazard from reformulated coatings, solvents, adhesives and lubricants; hydrology (water demand and water supply) and water quality; construction noise and vibration at roadways; and solid and hazardous waste from construction and early retirement of equipment. The South Coast AQMD Governing Board, therefore, makes the following findings regarding the 2022 AQMP. The findings are supported by substantial evidence in the record as explained in each finding. These findings will be included in the record of project approval and will also be noted in the Notice of Determination. The findings made by the South Coast AQMD Governing Board are based on the following significant adverse impacts identified in the Final Program EIR:

A. Potential construction air quality impacts exceed the South Coast AQMD's applicable significance air quality thresholds and cannot be mitigated to less than significant levels.

Findings and Explanation:
Implementation of control measures in the 2022 AQMP may require construction activities such as: 1) the demolition or removal of components from existing buildings, or structures, such as equipment, mechanical systems, cooking devices, clothes dryers, water and/or space heating systems, and pool heaters; 2) the installation of new energy efficient equipment, mechanical systems, cooking devices, clothes dryers, water and/or space heating systems; and pool heaters; 3) the construction of additional infrastructure to produce more alternative fuels to support alternative-fueled vehicles (e.g., electric, hydrogen, natural gas); 4) the construction of additional infrastructure to produce more electricity to support electric vehicles and the electrification of new sources (e.g., additional on-road vehicles and marine vessels, "wayside" electric power such as catenary lines); 5) the construction of air pollution control equipment at stationary sources (e.g., SCRs), the retrofit of existing equipment with low NOx technology (e.g., low or ultra-low NOx burners) or the use of cleaner stationary sources (e.g., Tier 4 engines and newer boilers); and 6) construction for the replacement of higher emitting combustion equipment with low NOx equipment. On an individual facility basis, the construction activities may not be expected to have emissions that exceed the South Coast AQMD's air quality significance thresholds for construction. However, over the extended timeline of implementing the 2022 AQMP, on any given day, it is possible for multiple facilities to have construction activities concurrently occur. Based on the size of any single project, or if more than one facility

undergoes construction on any given day, the emissions could exceed the South Coast AQMD's air quality significance construction threshold for NOx, VOC and particulate matter (PM), including diesel PM. Therefore, construction emissions are considered potentially significant.

Due to the potential for significant adverse air quality impacts during construction, feasible mitigation measures that can substantially lessen the impacts were required and are included in the Final Program EIR. However, none of the identified feasible mitigation measures are capable of avoiding or reducing the significant adverse construction air quality impacts to less than significant levels. **Thus, Finding 1 is applicable to the significant adverse air quality impacts during construction.**

The Governing Board finds that changes or alterations have been required in, or incorporated into, the project which substantially lessen the project-level and cumulative significant adverse construction air quality impacts identified in the Final Program EIR, though the impacts will ultimately remain significant and unavoidable. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

Implementation of all of the mitigation measures for construction air quality which are identified in the Final Program EIR may be within the authority of either the South Coast AQMD or other public agencies, as applicable if air permits are not required, to adopt or implement, depending on the individual facility projects that will occur in the future. **Thus, Finding 2 is applicable to the construction air quality mitigation measures.**

The Governing Board finds that, for project-level activities that do not require air permits from the South Coast AQMD, changes or alterations which avoid or substantially lessen the significant construction air quality impacts as identified in the Final Program EIR are within the responsibility and jurisdiction of another public agency and not South Coast AQMD. Such changes, if feasible, can and should be adopted by such other agency as details of project-level actions become known. [Public Resources Code Section 21081(a)(2) and CEQA Guidelines Section 15091(a)(2)].

The construction air quality mitigation measures identified in the Final Program EIR are feasible. As such, there are no specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures identified in the Final Program EIR. **Thus, Finding 3 is not applicable to the construction air quality mitigation measures.** [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

B. Potential energy impacts from increased electricity demand exceed the South Coast AQMD significance threshold for electricity; impacts from increased natural gas demand are expected to be significant in the short-term; impacts from increased hydrogen demand would be unable to be met by existing capacity; and energy impacts from increased electricity, natural gas, and hydrogen demand cannot be mitigated to less than significant levels.

Findings and Explanation:
The majority of the control measures in the 2022 AQMP predominantly rely on electric-powered technologies for both stationary and mobile sources to be utilized in residential, commercial, and industrial settings. The analysis in the Final Program EIR concluded that implementation of some control measures could increase the electricity demand by approximately 11 percent over 2020 consumption (greater than the South Coast AQMD significance threshold of 1%) and this amount does not take into account the electricity that may be needed to operate additional air pollution control equipment or to convert combustion equipment to fully electric. Natural gas is generally widely available through existing infrastructure and expected to be used for producing electricity and hydrogen. Short-term natural gas demand is expected to be significant, although offset by long-term decrease in demand for natural gas appliances in commercial and residential setting. Hydrogen fuel cells are proven technology, but more work is needed to make them cost-effective for use in cars, trucks, homes, or businesses. Existing hydrogen plants currently operate at full capacity, largely to produce petroleum fuels. With little excess hydrogen capacity available to meet the increase in hydrogen demand, additional hydrogen production facilities will be necessary. Therefore, increases in electricity, natural gas, and hydrogen demand were concluded in the Final Program EIR to have potentially significant adverse energy impacts.

Due to the potential for significant adverse energy impacts, feasible mitigation measures that can substantially lessen the impacts were required and are included in the Final Program EIR. However, none of the identified feasible mitigation measures are capable of avoiding or reducing the significant adverse energy impacts to less than significant levels. **Thus, Finding 1 is applicable to the significant adverse energy impacts.**

The Governing Board finds that changes or alterations have been required in, or incorporated into, the project which substantially lessen the project-level and cumulative significant adverse energy impacts identified in the Final Program EIR, though the impacts will ultimately remain significant and unavoidable. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

Implementation of all of the mitigation measures for energy which are identified in the Final Program EIR may be within the authority of either the South Coast AQMD or other public agencies, as applicable if air permits are not required, to adopt or implement, depending on the individual facility projects that will occur in the future. **Thus, Finding 2 is applicable to the energy mitigation measures.**

The Governing Board finds that changes or alterations which avoid or substantially lessen the significant energy impacts as identified in the Final Program EIR are within the responsibility and jurisdiction of another public agency and not South Coast AQMD. Such changes, if feasible, can and should be adopted by such other agency as details of project-level actions become known. [Public Resources Code Section 21081(a)(2) and CEQA Guidelines Section 15091(a)(2)].

The energy mitigation measures identified in the Final Program EIR are feasible. As such, there are no specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures identified in the Final Program EIR. **Thus, Finding 3 is not applicable to the energy mitigation measures.** [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

C. 1. Potential hazards and hazardous materials impacts due to accidental release of ammonia could affect sensitive receptors within their respective toxic endpoint distances and cannot be mitigated to less than significant levels.

Findings and Explanation:
Implementation of the control measures in the 2022 AQMP could result in the use of SCR technology to reduce NOx emissions from commercial and industrial combustion sources. Operation of SCR requires the transport, storage, and use of ammonia. Three accidental release scenarios for ammonia were evaluated for: 1) routine transport; 2) use at non-RECLAIM facilities; and 3) use at RECLAIM facilities. Each scenario was concluded to generate significant adverse hazards and hazardous materials impacts (sensitive receptors potentially located within 0.4 mile of a transport release, or 0.1 mile of a facility release).

Due to the potential for significant adverse hazards and hazardous materials impacts pertaining to accidental release of ammonia, feasible mitigation measures that can substantially lessen the impacts were required and are included in the Final Program EIR. However, none of the identified feasible mitigation measures are capable of avoiding or reducing the for significant adverse hazards and hazardous materials impacts pertaining to the accidental release of ammonia to less than significant levels. **Thus, Finding 1 is applicable to the significant adverse hazards and hazardous materials impacts pertaining to the accidental release of ammonia.**

The Governing Board finds that changes or alterations have been required in, or incorporated into, the project which substantially lessen the project-level and cumulative significant adverse hazards and hazardous materials impacts pertaining to the accidental release of ammonia as identified in the Final Program EIR, though the impacts will ultimately remain significant and unavoidable. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

Implementation of all of the mitigation measures for hazards and hazardous materials impacts pertaining to the accidental release of ammonia which are identified in the Final Program EIR are within the authority of the South Coast AQMD to adopt or implement, depending on the individual facility projects that will occur in the future. **Thus, Finding 2 is not applicable to the mitigation measures for hazards and hazardous materials impacts pertaining to the accidental release of ammonia.** [Public Resources Code Section 21081(a)(2) and CEQA Guidelines Section 15091(a)(2)].

The mitigation measures identified for hazards and hazardous materials impacts pertaining to the accidental release of ammonia in the Final Program EIR are feasible. As such, there are no specific economic, legal, social, technological, or other considerations make

infeasible the mitigation measures identified in the Final Program EIR. **Thus, Finding 3 is not applicable to the mitigation measures for hazards and hazardous materials impacts pertaining to the accidental release of ammonia.** [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

C. 2. Potential hazards and hazardous materials impacts due to the accidental release of natural gas via pipeline and/or LNG via on-road trucks could affect sensitive receptors within their respective toxic endpoint distances and cannot be mitigated to less than significant levels.

Findings and Explanation:
Implementation of the control measures in the 2022 AQMP may result in need to construct additional hydrogen production facilities and new pipelines to deliver natural gas for the purpose of hydrogen production. Natural gas pipelines pose a potential torch fire risk to surroundings located within 183 feet of a release, and sensitive receptors may be located within this radius. Extensive state and federal requirements on new and existing natural gas pipelines are expected to be implemented and enforced; no mitigation measures have been identified.

In addition, implementation of control measures in the 2022 AQMP could result in increased transmission of natural gas for hydrogen production and the transport and use of LNG as an alternative fuel. It is expected that natural gas is transmitted for hydrogen production via new or existing pipeline, and LNG by tanker truck via public roads. For a new natural gas pipeline or during the routine transport of LNG, there is a potential for an accidental release, and because sensitive receptors have the potential to be located within the toxic endpoint of such an event, potential hazards and hazardous materials impacts from accidental release of natural gas via pipeline or LNG via tanker truck are concluded to be significant. Four transport release scenarios were considered, and the furthest adverse impact distance was calculated to be 0.3 mile from point of release. Sensitive receptors may be located within this radius. While mitigation measures for reducing impacts related to potential hazards and hazardous materials impacts from accidental release of natural gas via pipeline or LNG via tanker truck are required, no feasible mitigation measures have been identified in the 2022 AQMP Program EIR for this environmental impact area beyond the extensive state and federal requirements applicable to new and existing natural gas pipelines and LNG transport. **Thus, Finding 1 is not applicable to the significant adverse hazards and hazardous materials impacts pertaining to the accidental release of natural gas or LNG.**

The Governing Board finds that there are no mitigation measures specific to the accidental release of natural gas or LNG that would avoid or substantially lessen the project-level and cumulative significant adverse hazards and hazardous materials impacts pertaining to the accidental release of natural gas or LNG to less than significant levels. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

Since there are no feasible mitigation measures for hazards and hazardous materials impacts pertaining to the accidental release of natural gas or LNG identified in the Final Program EIR, **Findings 2 and 3 are not applicable to the hazards and hazardous materials impacts pertaining to the accidental release of natural gas or LNG.** [Public Resources Code Section 21081(a)(2)-(a)(3) and CEQA Guidelines Section 15091(a)(2)-(a)(3)].

C. 3. Potentially significant hazards and hazardous materials impacts due to the increased risk of fire hazard from reformulating coatings, solvents, adhesives, and lubricants can be mitigated to less than significant levels.

Findings and Explanation:
Implementation of Control Measure CTS-01 would remove the VOC exemption status for parachlorobenzotriflouride (PCBTF) and tert-butyl acetate (tBAc) to address toxicity concerns and could require reformulation of certain coatings, adhesives, and lubricants to meet lower future VOC content limits. The reformulations could have widely varying flammability and health effects depending on the chemical characteristics of the replacement solvents chosen. Without knowing how many facilities currently using water-based products would switch to using reformulated solvent-based products as a result of implementing the 2022 AQMP control measures, significant impacts on fire hazards associated with reformulated coatings, solvents, and consumer products could occur.

Feasible mitigation measures were required in the Final Program EIR to minimize the significant adverse hazards and hazardous materials impacts due to reformulation of coatings, solvents, adhesives, and lubricants. Implementation of these mitigation measures is expected to reduce the significant adverse impacts to less than significant levels. **Thus, Finding 1 is applicable to the significant adverse hazards and hazardous materials impacts pertaining to the increased risk of fire hazard from reformulating coatings, solvents, adhesives, and lubricants.**

The Governing Board finds that changes or alterations have been required in, or incorporated into, the project specific to reformulating coatings, solvents, adhesives, and lubricants that would avoid or substantially lessen the project-level and cumulative significant adverse fire hazard impacts as identified in the Final Program EIR to less than significant levels. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

Implementation of the mitigation measures for hazards and hazardous materials impacts pertaining to the increased risk of fire hazard from reformulating coatings, solvents, adhesives, and lubricants which are identified in the Final Program EIR are within the authority of the South Coast AQMD to adopt or implement. **Thus, Finding 2 is not applicable to the mitigation measures for hazards and hazardous materials impacts pertaining to the increased risk of fire hazard from reformulating coatings, solvents, adhesives, and lubricants.** [Public Resources Code Section 21081(a)(2) and CEQA Guidelines Section 15091(a)(2)].

The mitigation measures identified for hazards and hazardous materials impacts pertaining to the increased risk of fire hazard from reformulating coatings, solvents, adhesives, and lubricants in the Final Program EIR are feasible. As such, there are no specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures identified in the Final Program EIR. **Thus, Finding 3 is not applicable to the mitigation measures for hazards and hazardous materials impacts pertaining to fire hazard.** [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

D. 1. Potential hydrology (water demand and water supply) impacts exceed the South Coast AQMD significance threshold for potable water and cannot be mitigated to less than significant levels.

Findings and Explanation:
Implementation of the control measures in the 2022 AQMP is expected to increase operational water demand from 338,137 to 438,137 gallons per day. Additional water use is required for construction activities and also may be required for the manufacture of alternative fuels. This increased water demand does not exceed the South Coast AQMD significance threshold of 5,000,000 gallons per day of total water (comprised of potable, recycled and groundwater) demand, but it exceeds the 262,820 gallons per day significance threshold for potable water.

Due to the potential for significant adverse hydrology (water demand and water supply) impacts, feasible mitigation measures that can substantially lessen the impacts were required in the Final Program EIR. However, none of the identified feasible mitigation measures are capable of avoiding or reducing the significant adverse hydrology impacts pertaining to water demand and water supply to less than significant levels. **Thus, Finding 1 is applicable to the significant adverse hydrology impacts for hydrology (water demand and water supply).**

The Governing Board finds that changes or alterations have been required in, or incorporated into, the project which substantially lessen the project-level and cumulative significant adverse hydrology impacts pertaining to hydrology (water demand and water supply) as identified in the Final Program EIR, though the impacts will ultimately remain significant and unavoidable. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

Implementation of all of the mitigation measures for hydrology impacts pertaining to water demand and water supply which are identified in the Final Program EIR may be within the authority of other public agencies, as applicable, to adopt or implement, depending on the individual facility projects that will occur in the future. **Thus, Finding 2 is applicable to the hydrology (water demand and water supply) mitigation measures.**

The Governing Board finds that changes or alterations which avoid or substantially lessen the significant hydrology impacts due to hydrology (water demand and water supply) as identified in the Final Program EIR are within the responsibility and

jurisdiction of another public agency and not South Coast AQMD. Such changes, if feasible, can and should be adopted by such other agency as details of project-level actions become known. [Public Resources Code Section 21081(a)(2) and CEQA Guidelines Section 15091(a)(2)].

The hydrology (water demand and water supply) mitigation measures identified in the Final Program EIR are feasible. As such, there are no specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures identified in the Final Program EIR. **Thus, Finding 3 is not applicable to the hydrology mitigation measures.** [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

D. 2. Potential water quality impacts may require revision to an Industrial Waste Discharge Permit and/or a National Pollutant Discharge Elimination System (NPDES) permit, and cannot be mitigated to less than significant levels.

Findings and Explanation:
In general, for industrial operations, a 25 percent increase in wastewater discharged above an individual facility's industrial discharge permit limit would trigger a permit revision, and this would be considered a significant adverse wastewater impact. In the absence of facility-specific information regarding the potential increased amounts of wastewater that could be generated, the analysis in this Program EIR concludes that implementation of the 2022 AQMP has the potential for one or more facilities to increase the amount of wastewater to be discharged by 25 percent above the current discharge permit limit such that permit revision would be necessary.

Due to the potential for significant adverse water quality impacts, a feasible mitigation measure can substantially lessen the impacts was required in the Final Program EIR. However, the identified feasible mitigation measure is not capable of avoiding or reducing the significant adverse water quality impacts to less than significant levels. **Thus, Finding 1 is applicable to the significant adverse water quality impacts.**

The Governing Board finds that changes or alterations have been required in, or incorporated into, the project which substantially lessen the project-level and cumulative significant adverse water quality impacts as identified in the Final Program EIR, though the impacts will ultimately remain significant and unavoidable. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

Implementation of the mitigation measure for water quality which is identified in the Final Program EIR may be within the authority of other public agencies, as applicable, to adopt or implement, depending on the individual facility projects that will occur in the future. **Thus, Finding 2 is applicable to the water quality mitigation measure.**

The Governing Board finds that changes or alterations which avoid or substantially lessen the significant water quality impacts as identified in the Final Program EIR are within the responsibility and jurisdiction of another public agency and not South

Coast AQMD. Such changes, if feasible, can and should be adopted by such other agency as details of project-level actions become known. [Public Resources Code Section 21081(a)(2) and CEQA Guidelines Section 15091(a)(2)].

The water quality mitigation measure identified in the Final Program EIR is feasible. As such, there are no specific economic, legal, social, technological, or other considerations make infeasible the mitigation measure identified in the Final Program EIR. **Thus, Finding 3 is not applicable to the water quality mitigation measure.** [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

E. Potential construction noise impacts at roadways exceed three decibels above the existing noise level; vibration impacts at roadways exceed Federal Transit Administration threshold; and construction noise and vibration impacts at roadways cannot be mitigated to less than significant levels.

Findings and Explanation:
Implementation of Control Measures MOB-01, MOB-02A, and MOB-02B could require the installation of roadway infrastructure within or adjacent to existing roadways, streets, freeways, and/or transportation corridors. As specific construction projects are not currently proposed, the types and quantities of construction equipment necessary to implement these proposed control measures are not currently known. Construction equipment noise sources range from 76 decibels (dBA) to over 100 dBA; a typical construction site would be expected to generate noise levels of about 85 dBA at 50 feet from the center of construction activity, decreasing to about 61 dBA at about 800 feet from construction activities. It is not uncommon for residences and other sensitive receptors to be located within several hundred feet of the existing roadways so noise levels associated with construction activities could be in the range of 65-75 dBA, which could result in noise increases of three dBA or greater and generate potentially significant noise impacts, although temporary. Using the Federal Transit Administration quantitative construction vibration analysis methodology, predicted vibration during construction activities can be compared to the significance threshold of 72 vibration decibels. Vibration from construction activities could exceed the threshold for structures and sensitive receptors within 200 feet of construction activities if certain types of construction equipment are used.

Due to the potential for significant adverse construction noise and vibration impacts, feasible mitigation measures that can substantially lessen the impacts were required and are included in the Final Program EIR. However, none of the identified feasible mitigation measures are capable of avoiding or reducing the significant adverse construction noise and vibration impacts to less than significant levels **Thus, Finding 1 is applicable to the significant adverse construction noise and vibration impacts.**

The Governing Board finds that changes or alterations have been required in, or incorporated into, the project which substantially lessen the project-level and cumulative significant adverse construction noise and vibration impacts identified in the Final Program EIR, though the impacts will ultimately remain significant and

unavoidable. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

Implementation of all of the mitigation measures for construction noise and vibration which are identified in the Final Program EIR may be within the authority of other public agencies, as applicable, to adopt or implement, depending on the individual facility projects that will occur in the future. **Thus, Finding 2 is applicable to the construction noise and vibration mitigation measures.**

The Governing Board finds that changes or alterations which avoid or substantially lessen the significant construction noise and vibration impacts as identified in the Final Program EIR are within the responsibility and jurisdiction of another public agency and not South Coast AQMD. Such changes, if feasible, can and should be adopted by such other agency as details of project-level actions become known. [Public Resources Code Section 21081(a)(2) and CEQA Guidelines Section 15091(a)(2)].

The construction noise and vibration mitigation measures identified in the Final Program EIR are feasible. As such, there are no specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures identified in the Final Program EIR. **Thus, Finding 3 is not applicable to the construction noise and vibration mitigation measures.** [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

F. Potential solid and hazardous waste impacts from construction and early retirement of equipment are significant because Southern California landfill capacity is limited, and solid and hazardous waste impacts from construction and early retirement of equipment cannot be mitigated to less than significant levels.

Findings and Explanation:
Implementation of the control measures in the 2022 AQMP is expected to involve the installation of air pollution control equipment (e.g., low NOx/ultra-low NOx burners and SCR systems), the electrification of existing sources, and the replacement of existing equipment with construction activities generating solid waste due to demolition and site preparation, grading, and excavating. Solid and hazardous waste impacts from early retirement of equipment are difficult to quantify, but concluded to generate significant adverse impacts because available landfill space is limited to approximately 100,000 tons per day with only four solid waste landfills in Southern California having the capacity to accept waste after 2039.

Due to the potential for significant adverse solid and hazardous waste impacts from construction and early retirement of equipment, feasible mitigation measures that can substantially lessen the impacts were required and are included in the Final Program EIR. However, none of the identified feasible mitigation measures are capable of avoiding or reducing the significant adverse solid and hazardous waste impacts to less than significant levels **Thus, Finding 1 is applicable to the significant adverse solid and hazardous waste impacts.**

The Governing Board finds that changes or alterations have been required in, or incorporated into, the project which substantially lessen the project-level and cumulative significant adverse solid and hazardous waste impacts identified in the Final Program EIR, though the impacts will ultimately remain significant and unavoidable. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

Implementation of all of the mitigation measures for solid and hazardous waste which are identified in the Final Program EIR may be within the authority of other public agencies, as applicable, to adopt or implement, depending on the individual facility projects that will occur in the future. **Thus, Finding 2 is applicable to the solid and hazardous waste mitigation measures.**

The Governing Board finds that changes or alterations which avoid or substantially lessen the significant adverse solid and hazardous waste impacts as identified in the Final Program EIR are within the responsibility and jurisdiction of another public agency and not South Coast AQMD. Such changes, if feasible, can and should be adopted by such other agency as details of project-level actions become known. [Public Resources Code Section 21081(a)(2) and CEQA Guidelines Section 15091(a)(2)].

The solid and hazardous waste mitigation measures identified in the Final Program EIR are feasible. As such, there are no specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures identified in the Final Program EIR. **Thus, Finding 3 is not applicable to the solid and hazardous waste mitigation measures.** [Public Resources Code Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3)].

5.1 FINDINGS FOR ALTERNATIVES TO THE PROPOSED PROJECT

A. Alternative 1: No Project Alternative

Finding and Explanation:
The Final Program EIR analyzes a No Project Alternative, referred to as Alternative 1, which consists of what would occur if the proposed project is not approved; in this case, not adopting the 2022 AQMP with continued implementation of the 2016 AQMP. The 2016 AQMP was adopted by the South Coast AQMD Governing Board in March 2017 and submitted to U.S. EPA in April 2017. The ozone portion and the 24-hour PM2.5 standard elements of the 2016 AQMP have been approved by the U.S. EPA into the SIP. Although Alternative 1 would not generate any additional significant adverse impacts to any environmental topic areas beyond those identified for the 2016 AQMP, neither would Alternative 1 provide any of the air quality benefits, or meet any project objectives, including the primary project objective of complying with the 2015 federal 8-hour ozone standard (70 ppb). All remaining necessary emission reductions to demonstrate attainment would be obtained through implementing CAA Section 182(e)(5), the methods of which are currently unknown.

The federal and state Clean Air Acts require the South Coast AQMD to revise the AQMP and implement the 2022 AQMP in order to attain the applicable ozone national ambient air quality standards. Continued implementation of the 2016 AQMP without additional reduction measures would not be a feasible alternative because the South Coast AQMD is required to submit to U.S. EPA an AQMP that demonstrates attainment of the 8-hour ozone NAAQS by 2037.

Because Alternative 1 does not achieve the primary project objectives, **Finding 3 is applicable to Alternative 1. Therefore, the Governing Board finds that the No Project Alternative is infeasible.** [Public Resources Code 21081(a)(3) and CEQA Guidelines Section 15091(a)(3); California Native Plant Society v. City of Santa Cruz (2009) 177 Cal.App.4th 957, 1000- 1001 (upholding finding of infeasibility where agency determined alternative failed to achieve project objective)].

B. Alternative 2: Mobile Source Reductions Only

Finding and Explanation:
The Final Program EIR analyzes Alternative 2, which consists of implementing mobile source control measures proposed by both CARB and the South Coast AQMD, but no stationary source control measures. The analysis of potential impacts from each of the project alternatives concludes that Alternative 2 is the environmentally superior alternative. When not considering the environmental benefits, this conclusion is based on the fact that removing the stationary source control measures would reduce the potentially significant hazard impacts associated with the storage and transportation of ammonia and eliminate further hazards from reformulated coatings and products. Other impacts would be less than the proposed project, although still significant, including construction emissions, short-term GHG emissions, construction noise, and solid and hazardous waste impacts associated with construction debris and the early retirement of equipment. Alternative 2 would achieve over 90 tons per day of NOx emission reductions, but additional emission reductions through implementing federal CAA Section 182(e)(5) measures (an estimated 37 pounds to achieve the carrying capacity of the Basin) would be needed to comply with the federal 8-hour ozone standard (70 ppb). Alternative 2 would meet some of the project objectives with the exception that it would not attain the 2015 federal 8-hour ozone standard unless other control measures are implemented; and would not achieve widespread adoption of zero emission and low NOx technologies across all stationary sources.

The federal and state CAAs require the South Coast AQMD to revise the AQMP in order to attain the applicable ozone national ambient air quality standards. Alternative 2 would not be feasible because the South Coast AQMD is required to submit to U.S. EPA an AQMP that demonstrates attainment of the 8-hour ozone NAAQS by 2037.

Because Alternative 2 does not achieve the primary project objectives, **Finding 3 is applicable to Alternative 2. Therefore**, **the Governing Board finds that Alternative 2 is infeasible.** [Public Resources Code 21081(a)(3) and CEQA Guidelines Section 15091(a)(3); California Native Plant Society v. City of Santa Cruz (2009) 177 Cal.App.4th

957, 1000- 1001 (upholding finding of infeasibility where agency determined alternative failed to achieve project objective)].

C. Alternative 3: Early Implementation of Control Measures

Finding and Explanation:
The Final Program EIR analyzes Alternative 3, in which the proposed control measures identified in the project description would be unchanged, but the timeframe for implementing the proposed control measures would occur three years earlier so that all measures would be fully implemented by 2034. Alternative 3 would achieve all of the project objectives, including attainment of the 2015 federal 8-hour ozone standard (70 ppb) and would reduce ozone and its precursors on the faster implementation schedule.

Early implementation of Alternative 3 means that construction activities, including the removal and replacement of equipment (e.g., installation of new appliances and fleet turnovers) would occur over a shorter period of time. Alternative 3 would be expected to generate equivalent impacts to the proposed project in all environmental topic areas because it would implement the same control measures in a faster manner. Air quality, noise, and solid waste impacts could be greater under Alternative 3 as they would be more concentrated in time. Alternative 3 would provide greater air quality and health benefits by complying with the federal 8-hour ozone standard three years sooner than the proposed project or other alternatives and would achieve all of the project objectives. For the environmental topic areas that are identified in Alternative 3 as having potentially significant impacts, the same mitigation measures as the proposed project would also apply to Alternative 3.

Except for the feasible mitigation measures identified for the potentially significant hazards and hazardous materials impacts due to the increased risk of fire hazard from reformulating coatings, solvents, adhesives, and lubricants which can be mitigated to less than significant levels, no feasible mitigation measures were identified that would eliminate or reduce the project-level and cumulative significant adverse environmental impacts to less than significant levels if Alternative 3 is implemented for the following environmental topic areas: 1) air quality during construction; 2) energy due to increased electricity, natural gas, and hydrogen demand; 3) hazards and hazardous materials due to accidental release of ammonia, natural gas via pipeline, or liquified natural gas via on-road truck; 4) hydrology (water demand and water supply) and water quality; 5) construction noise and vibration at roadways; and 6) solid and hazardous waste from construction and early retirement of equipment.

Because Alternative 3 will have greater significant impacts over a shorter-period of time without reducing the potentially significant impacts to less than significant levels, the Governing Board finds that Alternative 3, if implemented in lieu of the proposed project, will not avoid or substantially lessen the significant environmental effects. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

D. Alternative 4: All Regulatory/Non-Incentive Alternative

Finding and Explanation:
The Final Program EIR analyzes Alternative 4, which consists of implementing only control measures that could be directly implemented by the South Coast AQMD or CARB, and for which the South Coast AQMD has the authority to regulate or for which CARB has the authority to regulate; incentive measures would be eliminated. Omitting these incentive measures from Alternative 4 would mean that 6.8 tons per day of additional emission reductions would need to be achieved through other control measures in order to attain the 70 ppb 8-hour ozone standard. The additional emission reductions needed to compensate for the omitted incentive measures could come from any of the stationary source measures through implementing federal CAA Section 182(e)(5) measures, which are currently unknown. The emission reduction goals from any or all of the stationary source measures would need to be increased in order to compensate for the loss of the emission reductions from the incentive measures. Because Alternative 4 would not include incentive funding, this alternative would achieve most of the other project objectives with the exception of: "seeking substantial funding for incentives to implement early deployment and commercialization of low NOx and zero emission and technologies," and "prioritizing distribution of incentive funding to environmental justice areas."

The federal and state CAAs require the South Coast AQMD to revise the AQMP in order to attain the applicable ozone national ambient air quality standards. Alternative 4 would not be feasible because the South Coast AQMD is required to submit to U.S. EPA an AQMP that demonstrates attainment of the 8-hour ozone NAAQS by 2037.

Because Alternative 4 does not achieve the primary project objectives, **Finding 3 is applicable to Alternative 4. Therefore, the Governing Board finds that Alternative 4 is infeasible.** [Public Resources Code 21081(a)(3) and CEQA Guidelines Section 15091(a)(3); California Native Plant Society v. City of Santa Cruz (2009) 177 Cal.App.4th 957, 1000- 1001 (upholding finding of infeasibility where agency determined alternative failed to achieve project objective)].

5.2 FINDINGS CONCLUSION

The following contains a summary of the findings:

1) Feasible mitigation measures have been identified in the Final Program EIR to help minimize potentially significant adverse impacts but no feasible mitigation measures have been identified that would eliminate or reduce the significant adverse environmental impacts to less than significant levels for the following environmental topic areas of: 1) air quality during construction; 2) energy due to increased electricity, natural gas, and hydrogen demand; 3) hazards and hazardous materials due to accidental release of ammonia, natural gas via pipeline, or liquified natural gas via on-road truck; 4) hydrology (water demand and water supply) and water quality; 5) construction noise and vibration at roadways; and 6) solid and hazardous waste from construction and early retirement of equipment.

2) Feasible mitigation measures have been identified in the Final Program EIR that would reduce the significant adverse hazards and hazardous materials impacts due to reformulation of coatings, solvents, adhesives, and lubricants to less than significant levels.

3) The Final Program EIR considered alternatives pursuant to CEQA Guidelines Section 15126.6, but there is no alternative to the proposed project, other than Alternative 1: No Project Alternative, that would reduce the significant impacts to less than significant levels for all of the aforementioned environmental topic areas. Alternative 1 is not a legally viable alternative and was rejected as infeasible because it does not achieve the basic project objective that South Coast AQMD is required to submit to U.S. EPA an AQMP that demonstrates attainment of the 8-hour ozone NAAQS by 2037. [Public Resources Code 21081(a)(3) and CEQA Guidelines Section 15091(a)(3); California Native Plant Society v. City of Santa Cruz (2009) 177 Cal.App.4th 957, 1000- 1001 (upholding finding of infeasibility where agency determined alternative failed to achieve project objective)].

4) Alternative 2: Mobile Source Reductions Only and Alternative 4: All Regulatory/Non-Incentive Alternative do not achieve the basic project objectives that South Coast AQMD submit to U.S. EPA an AQMP that demonstrate attainment of the 8-hour ozone NAAQS by 2037. Alternatives 2 and 4 remove some proposed control measures which eliminate emission reductions necessary to demonstrate attainment through implementing CAA Section 182(e)(5), the methods of which are currently unknown. Therefore Alternatives 2 and 4 were rejected due to infeasibility. [Public Resources Code 21081(a)(3) and CEQA Guidelines Section 15091(a)(3); California Native Plant Society v. City of Santa Cruz (2009) 177 Cal.App.4th 957, 1000- 1001 (upholding finding of infeasibility where agency determined alternative failed to achieve project objective)].

5) Alternative 3: Early Implementation of Control Measures would be expected to generate equivalent benefits but more intense significant adverse impacts over a shorter period of time when compared to the proposed project for all environmental topic areas. However, Alternative 3 will not avoid or substantially lessen the significant environmental effects as identified in the Final Program EIR. [Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1)].

The Governing Board further finds that a Mitigation, Monitoring, and Reporting Plan pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097 needs to be prepared and is included herein (see Section 7.0 of this document) because feasible mitigation measures were identified for the topics of: air quality during construction; energy; hazards and hazardous materials; hydrology (water demand and water supply) and water quality; noise and vibration; and solid and hazardous waste.

The Governing Board specifies that the findings required by CEQA Guidelines Section 15091(a) are supported by substantial evidence in the record.

6.0 STATEMENT OF OVERRIDING CONSIDERATIONS

If significant adverse impacts of a proposed project remain after incorporating mitigation measures, or no measures or alternatives to mitigate the adverse impacts are identified, the lead agency must make a determination that the benefits of the project outweigh the unavoidable adverse environmental effects if it is to approve the project. CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project. [CEQA Guidelines Section 15093(a)]. If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable" [CEQA Guidelines Section15093(a)]. Accordingly, a Statement of Overriding Considerations regarding potentially significant adverse impacts to 1) air quality during construction; 2) energy due to increased electricity, natural gas, and hydrogen demand; 3) hazards and hazardous materials due to accidental release of ammonia, natural gas via pipeline, or liquified natural gas via on-road truck; 4) hydrology (water demand and water supply) and water quality; 5) construction noise and vibration at roadways; and 6) solid and hazardous waste from construction and early retirement of equipment that may result from the proposed project has been prepared. This Statement of Overriding Considerations is included as part of the record of the project approval for the proposed project. Pursuant to CEQA Guidelines Section 15093(c), the Statement of Overriding Considerations will also be noted in the Notice of Determination for the proposed project.

Having reduced the potential effects of the 2022 AQMP through all feasible mitigation measures as described previously in this attachment, and balancing the benefits of the proposed project against its potential unavoidable adverse impacts on 1) air quality during construction; 2) energy due to increased electricity, natural gas, and hydrogen demand; 3) hazards and hazardous materials due to accidental release of ammonia, natural gas via pipeline, or liquified natural gas via on-road truck; 4) hydrology (water demand and water supply) and water quality; 5) construction noise and vibration at roadways; and 6) solid and hazardous waste from construction and early retirement of equipment, the South Coast AQMD finds that the following legal requirements and benefits of the 2022 AQMP outweigh the potentially significant and unavoidable impacts for the following reasons:

1. Failure to submit an AQMP, comply with required AQMP provisions, or implement an approved AQMP to meet health-based standards within the required timeframes could result in sanctions from the federal government including restrictions on funds granted for transportation/highway projects, increased offset ratio, and a Federal Implementation Plan pursuant to the CAA Section 179.
2. Failure to attain the 2015 federal 8-hour ozone standard (70 ppb) could result in stationary sources paying a fee as a penalty pursuant to federal CAA Section 185.
3. The analysis of potential adverse environmental impacts incorporates a "worst-case" approach. This entails the premise that whenever the analysis requires that assumptions be made, those assumptions that result in the greatest adverse impacts are typically chosen. This method likely overestimates the actual significant adverse environmental impacts from the proposed project.

4. The proposed project would reduce ozone to attain the 2015 8-hour ozone standard by reducing its precursors, including NOx emissions by 124 tons per day, on an expeditious implementation schedule, which would result in a public health benefit.
5. The proposed project demonstrates attainment of the 2015 federal 8-hour ozone standard (70 ppb) by 2037, as required by the federal CAA.
6. The proposed project would result in an overall reduction in toxic air contaminants, including a reduction in carcinogenic diesel PM emissions from engine exhaust, as well as a reduction in toxic air contaminants from gasoline such as benzene and 1,3-butadiene through the replacement of vehicles or equipment with more efficient, zero emission or alternative fuel vehicles or equipment.
7. The proposed project's 8-hour ozone attainment strategy will assist in meeting the federal and state 1-hour ozone standard, and federal 1997 and 2008 8-hour ozone standards.
8. The proposed project's NOx control strategy will assist in reducing PM2.5 emissions and move towards attainment of the PM2.5 air quality standards.
9. The proposed project would reduce population exposure to ozone through the progress towards attaining the federal 8-hour ozone standard by 2037.
10. The proposed project includes all feasible measures and an expeditious adoption schedule.
11. The proposed project will demonstrate compliance with the federal CAA requirements such as RACM evaluation, the RFP demonstration for interim milestone and attainment year, and transportation conformity budget.
12. The proposed project would update planning assumptions and the best available information such as SCAG's 2020 Connect SoCal Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).
13. The proposed project would update emission inventories using 2018 as the base year and incorporate emission reductions achieved from all applicable rules and regulations and the latest demographic forecasts.
14. The proposed project would update any remaining control measures from the 2016 AQMP, as appropriate.
15. The proposed project would commit to demonstrate compliance with federal contingency measure requirements as soon as U.S. EPA releases guidance on the contingency measure development.
16. The proposed project would calculate and take credit for co-benefits from other planning efforts (e.g., GHG reduction targets, energy efficiency, and transportation control measures).
17. The proposed project would prioritize distribution of incentive funding in environmental justice areas and implement opportunities to focus air quality benefits on the most disadvantaged communities.
18. The proposed project would implement Mitigation Measures AQ-1 through AQ-26 which would reduce significant adverse construction air quality impacts to the maximum extent feasible, but not to less than significant levels, while also providing construction emission

reduction co-benefits because using Tier 4 construction engines would additionally provide PM, hydrocarbon, and toxic air contaminant emission reduction benefits.

19. The proposed project would implement Mitigation Measures E-1 through E-12 which would reduce significant adverse energy impacts to the maximum extent feasible, but not to less than significant levels.
20. The proposed project would implement Mitigation Measures HZ-1 through HZ-6 which would reduce significant adverse hazards and hazardous materials impacts relating to the transportation and storage of ammonia to the maximum extent feasible, but not to less than significant levels.
21. The proposed project would implement Mitigation Measures HZ-7 through HZ-8 which would reduce significant adverse hazards and hazardous materials impacts pertaining to fire hazards associated with some reformulated coatings, solvents, adhesives, and lubricants to less than significant levels.
22. The proposed project would implement Mitigation Measures HWQ-1 through HWQ-5 which would reduce significant adverse hydrology and water quality impacts to the maximum extent feasible, but not to less than significant levels.
23. The proposed project would implement Mitigation Measures NS-1 through NS-14 which would reduce significant adverse construction noise and vibration impacts to the maximum extent feasible, but not to less than significant levels.
24. The proposed project would implement Mitigation Measure SHW-1 through SHW-3 which would reduce significant adverse solid and hazardous waste impacts to the maximum extent feasible, but not to less than significant levels.

In balancing the benefits of the overall project described above with the proposed project's significant and unavoidable environmental impacts, South Coast AQMD Governing Board finds that the proposed project's benefits individually and collectively outweigh the significant and unavoidable impacts, such that these impacts are acceptable. The South Coast AQMD Governing Board further finds that substantial evidence presented in the Final Program EIR supports certifying the Final Program EIR despite the proposed project's potentially significant and unavoidable impacts.

7.0 MITIGATION, MONITORING, AND REPORTING PLAN

Pursuant to CEQA Guidelines Section 15097 and Public Resources Code Section 21081.6, when a public agency conducts an environmental review of a proposed project in conjunction with approving it, the lead agency shall adopt a program for monitoring or reporting on the measures it has imposed to mitigate or avoid significant adverse environmental effects. Public Resources Code Section 21081.6 states in part that when making the findings required by Public Resources Code Section 21081(a):

> "…the public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which

> have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead or responsible agency, prepare and submit a proposed reporting or monitoring program."

No responsible agencies or public agencies with jurisdiction by law over natural resources affected by the 2022 AQMP have requested changes or mitigation measures to be incorporated into the 2022 AQMP relative to the potentially significant adverse environmental impacts. Further, it should be noted that the South Coast AQMD does not construct or operate projects that may result from implementing 2022 AQMP control measures as rules or regulations. As a single purpose public agency responsible for adopting and enforcing air quality rules and regulations, where applicable and within the jurisdiction of the South Coast AQMD, enforcement of implementing mitigation measures, monitoring, and reporting requirements described in this Mitigation, Monitoring, and Reporting Plan (MMRP) is the responsibility of the South Coast AQMD as the lead agency under CEQA. However, as noted in discussions under Findings, some of the mitigation measures identified in the Final Program EIR for the 2022 AQMP may not be within the jurisdiction of the South Coast AQMD, but are within the jurisdiction of local land use agencies, project sponsors, public agencies having jurisdiction by law over natural resources affected by the project, or other CEQA lead agencies.

A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed, the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the MMRP. [CEQA Guidelines Section 15097 (a)]. As a result, this MMRP will identify other public agencies that "can and should" comply with CEQA in assessing and mitigating project-specific impacts.

Finally, the responsibility for conducting mitigation monitoring and reporting as described in this MMRP will vary depending on the location and jurisdiction of individual projects because the individual projects resulting from implementing 2022 AQMP control measures as rules or regulations may affect a wide variety of commercial, institutional, industrial, and residential emission sources located throughout the jurisdiction of the South Coast AQMD. It is expected that additional and more specific mitigation measures and monitoring requirements may be developed as specific rules are promulgated to implement the control measures in the 2022 AQMP. Similarly, additional and more specific mitigation measures and monitoring requirements may be required for individual projects required to comply with any future rules or regulations that must also undergo an environmental analysis pursuant to CEQA.

To fulfill the requirements of Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097, the South Coast AQMD has developed this MMRP for anticipated impacts resulting from implementing the 2022 AQMP. Each operator of any facility required to comply with a MMRP shall keep records onsite of applicable compliance activities to demonstrate the steps taken to assure compliance with all of the mitigation measures, as applicable.

A. Air Quality Impacts During Construction

Impacts Summary: Project-specific and cumulative construction-related emissions of criteria air pollutants, based on a "worst-case" analysis, would exceed the South Coast AQMD's regional mass daily significance thresholds. Emission sources include worker vehicles and heavy construction equipment. The following mitigation measures are intended to minimize the emissions associated with these sources during construction activities. No feasible mitigation measures have been identified to reduce air quality during construction impacts to less than significant levels.

Mitigation Measures: The following construction air quality mitigation measures are intended to reduce potential construction emissions associated with construction-related emission sources to the maximum extent feasible and the timing of implementation would be ongoing for the life of the 2022 AQMP:

AQ-1 Develop a Construction Emission Management Plan to minimize emissions from vehicles including, but not limited to: consolidating truck deliveries so as to minimize the number of trucks on a peak day; scheduling deliveries to avoid peak hour traffic conditions; describing truck routing; describing deliveries including logging delivery times; describing entry/exit points; identifying locations of parking; identifying construction schedule; and prohibiting truck idling in excess of five consecutive minutes or another time-frame as allowed by the California Code of Regulations, Title 13 Section 2485 - CARB's Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. The Construction Emission Management Plan shall be submitted to South Coast AQMD – PRDI/CEQA for approval prior to the start of construction. At a minimum, the Construction Emission Management Plan would include the following types of mitigation measures and Best Management Practices.

AQ-2 Tune and maintain all construction equipment to be in compliance with the manufacturer's recommended maintenance schedule and specifications that optimize emissions without nullifying engine warranties. All maintenance records for each equipment and their construction contractor(s) shall be made available for inspection and remain onsite for a period of at least two years from completion of construction.

AQ-3 Survey and document the construction areas and identify all construction areas that are served by electricity. Onsite electricity, rather than temporary power generators, shall be used in all construction areas that are demonstrated to be served by electricity. This documentation shall be provided as part of the Construction Emissions Management Plan.

AQ-4 Require the use of electric or alternative-fueled (i.e., renewable combustion fuels and hydrogen) construction equipment, if available, including but not limited to, concrete/industrial saws, pumps, aerial lifts, material hoist, air compressors, forklifts, excavator, wheel loader, and soil compactors.

AQ-5 Require all off-road diesel-powered construction equipment rated greater than 50 hp to meet Tier-4 off-road emission standards at a minimum. In addition, if not already supplied with a factory-equipped diesel particulate filter, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. Construction equipment shall incorporate, where feasible, emissions-reducing technology such as hybrid drives and specific fuel economy standards. In the event that any equipment required under this mitigation measure is not available, the project proponent shall provide documentation in the Construction Emissions Management Plan or associated subsequent status reports as information becomes available.

AQ-6 Require the use of zero-emission or near-zero emission on-road haul trucks such as heavy-duty trucks with natural gas engines that meet CARB'S adopted optional NO_X emissions standard.

AQ-7 Provide electric vehicle charging stations or at a minimum, provide the electrical infrastructure and electrical panels which shall be appropriately sized. Electrical hookups should be provided for trucks to plug in any onboard auxiliary equipment.

AQ-8 Provide temporary traffic controls such as a flag person, during all phases of significant construction activity to maintain smooth traffic flow, where necessary.

AQ-9 Provide dedicated turn lanes for the movement of construction trucks and equipment on- and off-site, where applicable.

AQ-10 Clearly identify truck routes with trailblazer signs to guide and ensure that the route shall avoid congested streets and sensitive land uses (e.g., residences, schools, day care centers, etc.), where applicable

AQ-11 Improve traffic flow by signal synchronization, where applicable and ensure that check-in point for trucks is inside the project site.

AQ-12 Ensure that vehicle traffic inside the project site is as far away as feasible from sensitive receptors.

AQ- 13 Restrict overnight truck parking in sensitive land uses by providing overnight truck parking inside the project site.

AQ-14 Design the project such that truck entrances and exits are not facing sensitive receptors and trucks will not travel past sensitive land uses to enter or leave the project site.

AQ-15 Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less.

AQ-16 Prohibit truck idling in excess of five minutes, on- and off-site.

AQ-17 Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the extent practicable.

AQ-18 Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 mph.

AQ-19 Suspend use of all construction activities that generate air pollutant emissions during first stage smog alerts.

AQ-20 Configure construction parking to minimize traffic interference.

AQ-21 Require covering of all trucks hauling dirt, sand, soil, or other loose materials.

AQ-22 Install wheel washers where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site for each trip.

AQ-23 Apply non-toxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for ten days or more).

AQ-24 Replace ground cover in disturbed areas as quickly as possible to minimize dust.

AQ-25 Pave road and road shoulders, where applicable.

AQ-26 Sweep streets at the end of the day with sweepers compliant with South Coast AQMD Rules 1186 and 1186.1 if visible soil is carried onto adjacent public paved roads (recommend water sweepers that utilize reclaimed water).

If, at the time when each facility-specific project is proposed, improved emission reduction technologies become available for on- and off-road construction equipment, the construction mitigation measures will be updated accordingly as part of the CEQA evaluation for the facility-specific project.

Implementing Parties: Because the 2022 AQMP is a regional plan that can be characterized as an ongoing regulatory program, some of the 2022 AQMP construction air quality mitigation measures in this MMRP may be described as general policies, although some refer to specific actions. The South Coast AQMD finds that the party or parties responsible for implementing construction air quality mitigation measures from the Final Program EIR for the 2022 AQMP for future projects that have the potential to generate construction air quality impacts from complying with 2022 AQMP control measures promulgated as rules or regulations would be project applicants, project sponsors, or public agencies within the jurisdiction of the South Coast AQMD.

To the extent that the South Coast AQMD is the lead agency for future projects that must comply with 2022 AQMP control measures promulgated as rules or regulations, the South Coast AQMD can enforce implementation of these construction air quality mitigation

measures through its authority to impose binding permit conditions at the time applications for air permits are processed and approved. Similarly, if the South Coast AQMD is a responsible agency for such future projects, it would still have the ability to enforce 2022 AQMP mitigation measures through its authority to impose permit conditions at the time applications seeking air permits are processed and approved. If the South Coast AQMD has no approval authority over future projects that have the potential to generate construction air quality impacts from complying with 2022 AQMP control measures which will be promulgated as rules or regulations, then the public agency with primary approval authority over these future projects can and should impose these construction air quality mitigation measures through its authority to impose permit conditions at the time applications seeking permits are processed and approved or through other legally binding instruments.

Monitoring Agency: Because future projects to implement 2022 AQMP control measures promulgated as rules or regulations could be undertaken by project applicants, project sponsors, or public agencies throughout the jurisdiction of the South Coast AQMD, the monitoring agency is expected to vary and may include a variety of public agencies performing the role of lead agency. Mitigation monitoring (MM) would be accomplished by the following implementation requirements for each mitigation measure:

MMAQ-1: A project applicant, project sponsor, or public agency shall include in all construction contracts the requirement to develop a Construction Emission Management Plan to: limit trucks, consolidate deliveries, describe truck routes, describe entry/exit points, identify parking, outline a construction schedule, prohibit idling in excess of five consecutive minutes, and include Best Management Practices. The Construction Emission Management Plan must be approved by the South Coast AQMD or lead agency or other public agency with project oversight, as applicable, prior to commencement of construction activities and must be available onsite during the entire construction phase.

MMAQ-2: A project applicant, project sponsor, or public agency, in cooperation with the construction contractors, will maintain vehicle and equipment maintenance records for the construction portion of the proposed project. All construction vehicles must be maintained in compliance with the manufacturer's recommended maintenance schedule. A project applicant, project sponsor, or public agency will maintain their construction equipment and the construction contractor will be responsible for maintaining their equipment and maintenance records. All maintenance records for each facility and their construction contractor(s) will remain on-site for a period of at least two years from completion of construction.

MMAQ-3: A project applicant, project sponsor, or public agency and/or their construction contractor(s) will conduct a survey of the proposed project construction area(s) to assess whether the existing infrastructure can provide access to electricity, as available, within the facility or construction

site, in order to operate electric on-site mobile equipment. For example, each project applicant, project sponsor, or public agency and/or their construction contractor(s) will assess the number of electrical welding receptacles available.

Construction areas within the facility or construction site where electricity is and is not available must be clearly identified on a site plan. The use of non-electric onsite mobile equipment shall be prohibited in areas of the facility that are shown to have access to electricity. The use of electric on-site mobile equipment within these identified areas of the facility or construction site will be allowed.

A project applicant, project sponsor, or public agency shall include in all construction contracts the requirement that the use of non-electric on-site mobile equipment is prohibited in certain portions of the facility as identified on the site plan. A project applicant, project sponsor, or public agency shall maintain records that indicate the location within the facility or construction site where all electric and non-electric on-site mobile equipment are operated, if at all, for a period of at least two years from completion of construction.

MMAQ-4: A project applicant, project sponsor, or public agency and/or their construction contractor(s) shall evaluate the use of alternative fuels (renewable combustion fuels and hydrogen) for on-site mobile construction equipment prior to the commencement of construction activities, provided that suitable equipment is available for the activity. Equipment vendors shall be contacted to determine the commercial availability of alternative-fueled construction equipment. Priority should be given during the bidding process for contractors committing to use alternative-fueled construction equipment. A list of equipment that can use alternative fuels, as well as those that cannot, will be maintained as part of the Construction Emissions Management Plan.

MMAQ-5: A project applicant, project sponsor, or public agency shall include in all construction contracts the requirement that all off-road diesel-powered construction equipment greater than 50 hp shall meet Tier 4 off-road emission standards at a minimum. In addition, if not already supplied with a factory-equipped diesel particulate filter, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. In addition, construction equipment shall incorporate, where feasible, emissions savings technology such as hybrid drives and specific fuel economy standards. In the event that any equipment required under this mitigation measure is not available, the

project proponent shall provide documentation as information becomes available. A project applicant, project sponsor, or public agency shall include a copy of each unit's certified tier specification, BACT documentation, and CARB or South Coast AQMD operating permit as part of the Construction Emission Management Plan.

A project applicant, project sponsor, or public agency shall also encourage construction contractors to apply for South Coast AQMD "SOON" funding incentives to help accelerate the clean-up of off-road diesel vehicles, such as heavy duty construction equipment.

MMAQ-6 A project applicant, project sponsor, or public agency and/or their construction contractor(s) shall evaluate the availability of zero and near-zero emission on-road haul trucks prior to the commencement of construction activities, provided that suitable equipment is available for the activity. Equipment vendors shall be contacted to determine the commercial availability of zero and near-zero emission trucks. Priority should be given during the bidding process for contractors committing to use zero and near-zero emission trucks.

MMAQ-7 A project applicant, project sponsor, or public agency and/or their construction contractor(s) shall evaluate the availability of zero and near-zero emission construction equipment and the availability of electrical infrastructure prior to the commencement of construction activities. Equipment vendors shall be contacted to determine the commercial availability of zero and near-zero emission construction equipment. The infrastructure should be provided to support the use of such equipment, where feasible, including appropriately sized electric vehicle/equipment charging stations. Priority should be given during the bidding process for contractors committing to use zero and near-zero emission trucks.

MMAQ-8: A project applicant, project sponsor, or public agency shall provide temporary traffic controls such as a flag person, during all phases of significant construction activity to maintain smooth traffic flow.

MMAQ-9: A project applicant, project sponsor, or public agency shall provide dedicated turn lanes for the movement of construction trucks and equipment on- and off-site, where applicable.

MMAQ-10: A project applicant, project sponsor, or public agency shall re-route construction trucks away from congested streets or sensitive receptor areas using trailblazer signs, where applicable. Truck routes shall be provided to all construction workers prior to the beginning of construction activities.

MMAQ-11: A project applicant, project sponsor, or public agency shall coordinate with their local city to improve traffic flow by signal synchronization in the area

near the construction site. The check-in point for trucks will be inside the project area and shall be identified and provided to truck drivers prior to the beginning of construction activities.

MMAQ-12: A project applicant, project sponsor, or public agency shall identify routes for on-site vehicle traffic as far away from sensitive receptor areas as possible, where applicable. On-site vehicle routes shall be provided to all construction workers prior to the beginning of construction activities.

MMAQ-13: A project applicant, project sponsor, or public agency shall coordinate with the construction contractor to site truck parking areas onsite or at some designated location off-site that avoids parking in residential or other sensitive land use areas. The parking locations shall be identified and provided to truck drivers prior to the commencement of construction activities.

MMAQ-14: A project applicant, project sponsor, or public agency shall route construction trucks away from sensitive receptor locations, including the entrances and exits to the project site, where applicable. Truck routes shall be provided to all construction workers prior to the beginning of construction activities.

MMAQ-15: A project applicant, project sponsor, or public agency shall ensure that drivers understand that traffic speeds on all unpaved roads will be limited to 15 mph or less. In addition, a project applicant, project sponsor, or public agency shall post signs on all unpaved roads indicating a speed limit of 15 mph or less.

MMAQ-16: A project applicant, project sponsor, or public agency shall enter into a contract that notifies all vendors and construction contractors that during deliveries, truck idling time will be limited to no longer than five minutes or another time-frame as allowed by the California Code of Regulations, Title 13 Section 2485 - CARB's Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. For any delivery that is expected to take longer than five minutes, each project applicant, project sponsor, or public agency will require the truck's operator to shut off the engine. A project applicant, project sponsor, or public agency will notify the vendors of these idling requirements at the time that the purchase order is issued and again when trucks enter the gates of the facility. To further ensure that drivers understand the truck idling requirement, each project applicant, project sponsor, or public agency shall post signs at each facility entry gates stating idling longer than five minutes is not permitted.

MMAQ-17: A project applicant, project sponsor, or public agency shall schedule construction activities that affect traffic flow on the arterial system to occur during off-peak hours to the greatest extent practicable.

MMAQ-18: If and when winds speeds exceed 25 mph, each project applicant, project sponsor, or public agency shall suspend all excavating and grading activities and shall record the date and time when the use of construction equipment associated with these construction activities are suspended. This log shall be maintained on-site for a period of at least two years from completion of construction.

MMAQ-19: If and when any first stage smog alert occurs, each project applicant, project sponsor, or public agency shall record the date and time of each alert, shall suspend all construction activities that generate emissions, and shall record the date and time when the use of construction equipment and construction activities are suspended. This log shall be maintained on-site for a period of at least two years from completion of construction.

MMAQ-20: A project applicant, project sponsor, or public agency shall coordinate with the construction contractor to site parking areas to minimize interference with roadway traffic. The parking locations shall be identified and provided to construction workers prior to the commencement of construction activities.

MMAQ-21: A project applicant, project sponsor, or public agency shall include in all construction contracts the requirement to cover all haul trucks delivering or hauling away dirt, sand, soil, or other loose materials.

MMAQ-22: A project applicant, project sponsor, or public agency shall require the construction contractor to install and use wheel washers where vehicles travel on dirt roads and enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site for each trip to prevent drag-out.

MMAQ-23: A project applicant, project sponsor, or public agency shall require the construction contractor to apply non-toxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (e.g., previously graded areas inactive for ten days or more).

MMAQ-24: A project applicant, project sponsor, or public agency shall require the construction contractor to replace ground cover in disturbed areas as quickly as possible to minimize dust, where applicable.

MMAQ-25: A project applicant, project sponsor, or public agency shall require the construction contractor to pave road and road shoulders, where applicable.

MMAQ-26: A project applicant, project sponsor, or public agency shall require the construction contractor to sweep streets at the end of the day using sweepers compliant with South Coast AQMD Rules 1186 and 1186.1 if visible soil is

carried onto adjacent public paved roads. In the event that water sweepers are used, each project applicant, project sponsor, or public agency shall recommend the construction contractor to use reclaimed water.

B. Energy Impacts Due to Increased Electricity, Natural Gas, and Hydrogen Demand

Impacts Summary: The 2022 AQMP could result in an increase in electricity demand of up to 11 percent by 2037 due to an increased penetration of near-zero and zero emission technologies combined with operating new control equipment. In addition, the 2022 AQMP could result in an increase in demand for natural gas and hydrogen, beyond that which is currently available as a result of the 2022 AQMP. Because the projected increase in electricity, hydrogen, and natural gas demand would be expected to exceed baseline use, these energy impacts were determined to be significant such that mitigation measures are required. The following mitigation measures are intended to minimize the energy impacts associated with these activities. No feasible mitigation measures have been identified to reduce energy impacts to less than significant levels.

Mitigation Measures: The energy mitigation measures identified in the following paragraphs are intended energy impacts to the maximum extent feasible. The timing of implementing the energy mitigation measures would be ongoing over the life of the 2022 AQMP and includes the following mitigation measures:

E-1 Project sponsors should pursue incentives to encourage the use of energy efficient equipment and vehicles and promote energy conservation during electricity generation.

E-2 Utilities should increase capacity of existing transmission lines to meet forecast demand that supports sustainable growth where feasible and appropriate in coordination with local planning agencies.

E-3 Project sponsors should submit projected electricity calculations to the local electricity provider for any project anticipated to require substantial electricity consumption. Any infrastructure improvements necessary should be completed according to the specifications of the electricity provider.

E-4 Project sponsors should include energy analyses in environmental documentation with the goal of conserving energy through the wise and efficient use of energy.

E-5 Project sponsors should evaluate the potential for reducing peak energy demand by encouraging charging of electrical vehicles and other mobile sources during off-peak hours.

E-6 Project sponsors should evaluate the potential for reducing peak energy demand by encouraging the use of catenary or way-side electrical systems developed for transportation systems to operate during off-peak hours.

E-7 Project sponsors should evaluate the potential for reducing peak energy demand by encouraging the use of electrified stationary sources during off-peak hours.

E-8 Projects that require a substantial increase in natural gas demand should consider the use of renewable gas, where available and feasible, including biofuel landfill gas and gas produced from renewable fuels projects.

E-9 Project sponsors should submit projected natural gas demand use to the local natural gas provider for any project anticipated to require substantial natural gas consumption. Any infrastructure improvements necessary should be completed according to the specifications of the natural gas provider.

E-10 Project sponsors should pursue incentives to encourage the use of energy efficient equipment and vehicles and promote energy conservation associated with hydrogen production.

E-11 Project sponsors should site new facilities in areas where infrastructure exists to reduce the amount of energy necessary to build new hydrogen production facilities.

E-12 Project sponsors should pursue hydrogen production and delivery through the most energy efficient, least environmentally impactful methods, where feasible.

Implementing Parties: Because the 2022 AQMP is a regional plan that can be characterized as an ongoing regulatory program, some of the energy demand mitigation measures in this MMRP may be described as general policies, although some refer to specific actions. The South Coast AQMD finds that the party or parties responsible for implementing energy mitigation measures in the Final Program EIR for future projects with the potential to generate electricity, natural gas and hydrogen demand impacts due to complying with 2022 AQMP control measures promulgated as rules or regulations would be project applicants, project sponsors, and public agencies, including cities or counties, within South Coast AQMD's jurisdiction.

To the extent that the South Coast AQMD is the lead agency for future projects that must comply with 2022 AQMP control measures promulgated as rules or regulations, the South Coast AQMD may be able to enforce implementation of some of the energy mitigation measures through its authority to impose binding permit conditions at the time applications for air permits are processed and approved. Similarly, if the South Coast AQMD is a responsible agency for such future projects, it would still have the ability to enforce 2022 AQMP mitigation measures through its authority to impose permit conditions at the time applications seeking air permits are processed and approved. If the South Coast AQMD has no approval authority over future projects that have the potential to generate energy demand impacts from complying with 2022 AQMP control measures which will be promulgated as rules or regulations, then the public agency with primary approval authority over these future projects can and should impose 2022 AQMP Final Program EIR mitigation measures through its authority to impose permit conditions at the time

applications for permits are processed and approved or through other legally binding instruments. Similarly, to the extent allowed by state and federal regulations, electricity, natural gas, and hydrogen generating utilities located within the jurisdiction of the South Coast AQMD as the entities that provide energy resources to users may be responsible for implementing some of the 2022 AQMP Final Program EIR mitigation measures, specifically those mitigation measures that call for increased energy generating and supply capacities.

Monitoring Agency: Because future projects to implement 2022 AQMP control measures promulgated as rules or regulations could be undertaken by project applicants, project sponsors, or public agencies throughout the jurisdiction of the South Coast AQMD, the monitoring agency is expected to vary and may include a variety of public agencies performing the role of lead agency. Mitigation monitoring (MM) would be accomplished by the following implementation requirements for each mitigation measure:

MME-1: A project applicant, project sponsor, or public agency shall provide to the lead agency documentation for approval of incentives to encourage the use of energy efficient equipment and vehicles and promote energy conservation prior to the beginning of project operation of electricity generation.

MME-2: To the extent allowed by state and federal law, electricity generating utilities within the jurisdiction of the South Coast AQMD can and should increase capacity of existing transmission lines to meet forecast electricity demand that supports sustainable growth, where feasible and appropriate in coordination with local planning agencies.

MME-3 The project applicant, project sponsor, or public agency shall submit projected electricity calculations to the local electricity provider for any project anticipated to require substantial electricity consumption. Such electricity calculations can and should be used by the local electricity provider when forecasting future electricity demand. Any infrastructure improvements necessary should be completed according to the specifications of the electricity provider.

MME-4 The project applicant, project sponsor, or public agency shall include energy analyses in environmental documentation with the goal of conserving energy through the wise and efficient use of energy. These analyses should be provided in the applicable CEQA documents, when required.

MME-5 The project applicant, project sponsor, or public agency shall evaluate the potential for reducing peak energy demand by encouraging charging of electrical vehicles and other mobile sources during off-peak hours.

MME-6 The project applicant, project sponsor, or public agency shall evaluate the potential for reducing peak energy demand by encouraging the use of

catenary or way-side electrical systems developed for transportation systems to operate during off-peak hours.

MME-7 The project applicant, project sponsor, or public agency shall evaluate the potential for reducing peak energy demand by encouraging the use of electrified stationary sources during off-peak hours (e.g., cargo handling equipment).

MME-8 The project applicant, project sponsor, or public agency shall evaluate the potential for using renewable gas, where available and feasible, including biofuel landfill gas and gas from renewable fuels projects.

MME-9 The project applicant, project sponsor, or public agency shall submit projected natural gas calculations to the local gas company for any project anticipated to require substantial natural gas consumption. Such natural gas calculations can and should be used by the local gas provider when forecasting future natural gas demand. Any infrastructure improvements necessary should be completed according to the specifications of the natural gas provider.

MME-10: A project applicant, project sponsor, or public agency shall provide to the lead agency documentation for approval of incentives to encourage the use of energy efficient equipment and vehicles and promote energy conservation prior to the beginning of project operation for hydrogen production.

MME-11: A project applicant, project sponsor, or public agency shall encourage projects that provide energy to located in areas where existing infrastructure (e.g., pipelines) currently exists to minimize distance required to transport energy resources and reduce energy impacts.

MME-12: A project applicant, project sponsor, or public agency shall provide to the lead agency documentation that the location of any new hydrogen plant is in an area where hydrogen can be delivered efficiently to the end user(s).

C. Hazards and Hazardous Materials Impacts

Impacts Summary: The fire hazard impacts from the use reformulated coatings, solvents, and consumer products would be significant because more flammable materials may be used in these materials and because the South Coast AQMD cannot predict which materials and the quantities that maybe be used at each affected facility in the future as reformulated products become available. There may be significant hazards impacts associated with a rupture or spill occurring either during the transportation or storage of LNG and ammonia.

The following mitigation measures are intended to minimize the hazards associated with these activities. No feasible mitigation measures have been identified to reduce hazards and hazardous materials impacts to less than significant levels.

Mitigation Measures: The following mitigation measures are required to reduce hazards and hazardous materials impacts for any facility that would require a new aqueous ammonia storage tank and the offsite consequence analysis indicates that sensitive receptors will be located within the toxic endpoint distance. The timing of implementing the hazards and hazardous materials mitigation measures would be ongoing over the life of the 2022 AQMP and includes the following mitigation measures:

HZ-1 Use of aqueous ammonia at concentrations less than 19 percent by weight.

HZ-2 Install safety devices, including but not limited to: continuous tank level monitors (e.g., high and low level), temperature and pressure monitors, leak monitoring and detection system, alarms, check valves, and emergency block valves.

HZ-3 Install secondary containment such as dikes and/or berms to capture 110 percent of the storage tank volume in the event of a spill.

HZ-4 Install a grating-covered trench around the perimeter of the delivery bay to passively contain potential spills from the tanker truck during the transfer of aqueous ammonia from the delivery truck to the storage tank.

HZ-5 Equip the truck loading/unloading area with an underground gravity drain that flows to a large on-site retention basin to provide sufficient ammonia dilution to minimize the offsite hazards impacts to the maximum extent feasible in the event of an accidental release during transfer of aqueous ammonia.

HZ-6 Install tertiary containment that is capable of evacuating 110 percent of the storage tank volume from the secondary containment area.

HZ-7: Add consumer warning requirements for all flammable and extremely flammable products.

HZ-8: Add requirements to conduct a public education and outreach program in joint cooperation with local fire departments regarding flammable and extremely flammable products that may be included in consumer paint thinners and multi-purpose solvents.

Implementing Parties: Because the 2022 AQMP is a regional plan that can be characterized as an ongoing regulatory program, some of the hazards and hazardous materials mitigation measures in this MMRP may be described as general policies, although some refer to specific actions. The South Coast AQMD finds that the party or parties responsible for implementing hazards and hazardous materials mitigation measures in the Final Program EIR for the 2022 AQMP for future projects that have the potential to generate hazards and hazardous materials impacts from complying with 2022 AQMP control measures promulgated as rules or regulations would be project applicants, project sponsors, and public agencies, including cities or counties, within the jurisdiction of the South Coast AQMD.

To the extent that the South Coast AQMD is the lead agency for future projects that must comply with 2022 AQMP control measures promulgated as rules or regulations, the South Coast AQMD may be able to enforce implementation of some of the hazards and hazardous materials mitigation measures through its authority to impose binding permit conditions at the time applications for air permits are processed and approved. Similarly, if the South Coast AQMD is a responsible agency for such future projects, it would still have the ability to enforce 2022 AQMP mitigation measures through its authority to impose permit conditions at the time applications seeking air permits are processed and approved. If the South Coast AQMD has no approval authority over future projects that have the potential to generate hazards and hazardous materials impacts from complying with 2022 AQMP control measures which will be promulgated as rules or regulations, then the public agency with primary approval authority over these future projects can and should impose 2022 AQMP Final Program EIR mitigation measures through its authority to impose permit conditions at the time applications for permits are processed and approved or through other legally binding instruments.

Monitoring Agency: Because future projects to implement 2022 AQMP control measures promulgated as rules or regulations could be undertaken by project applicants, project sponsors, or public agencies throughout the jurisdiction of the South Coast AQMD, the monitoring agency is expected to vary and may include a variety of public agencies performing the role of lead agency. Monitoring would be accomplished by the following implementation requirements for each mitigation measure:

MMHZ-1 The project applicant, project sponsor, or public agency shall ensure that the aqueous ammonia used in air pollution control equipment is less than 19 percent ammonia by weight.

MMHZ-2 The project applicant, project sponsor, or public agency shall ensure that tank level monitors, temperature and pressure monitors, leak monitoring and detection systems, alarms, check valves, and emergency block valves are installed on all applicable equipment (e.g., LNG tanks).

MMHZ-3 The project applicant, project sponsor, or public agency shall ensure the installation of secondary containment (e.g., berms) for LNG tanks, and other tanks storing hazardous materials, as applicable.

MMHZ-4 The project applicant, project sponsor, or public agency shall ensure the installation of a grating-covered trench or other form of secondary containment to contain potential spills from tanker trucks during the transfer of aqueous ammonia from the delivery truck to the storage tank.

MMHZ-5 The project applicant, project sponsor, or public agency shall ensure the ammonia truck loading/unlading area is equipped with an underground gravity drain that flows to an onsite retention basin/containment area that provides sufficient ammonia dilution to minimize the potential offsite hazards impacts in the event of an accidental release during the transfer of aqueous ammonia.

MMHZ-6 The project applicant, project sponsor, or public agency shall ensure the installation of tertiary containment that is capable of evacuating 110 percent of the storage tank volume from the secondary containment area.

MMHZ-7 The project applicant, project sponsor, or public agency shall add consumer warning requirements for all flammable and extremely flammable products.

MMHZ-8 The project applicant, project sponsor, or public agency shall add requirements to conduct a public education and outreach program in joint cooperation with local fire departments regarding flammable and extremely flammable products that may be included in reformulated products, especially for reformulated consumer paint thinners and multi-purpose solvents.

D. Water Demand and Water Quality Impacts

Impacts Summary: For control measures where water demand can be estimated, the increase in daily water demand would exceed the 262,820 gallons per day significance threshold for potable water. Additional water use is required for construction activities and also may be required for the manufacture of alternative fuels. Due to the extreme drought conditions and uncertainty about future water supplies, implementation of the control measures in the 2022 AQMP as a whole may have a significant impact on both water demand and water supplies. In addition, the analysis in this Program EIR concludes that implementation of the 2022 AQMP has the potential to require or result in the relocation or construction of new or expanded wastewater treatment facilities. While the issuance of facility-specific industrial wastewater permits or NPDES permits, by their regulatory nature, would likely minimize the water quality impacts to the fullest extent possible, the mitigation measures are not expected to fully eliminate the significant water quality impacts. Therefore, water quality impacts that may result from the proposed project are expected to remain significant after mitigation.

The following mitigation measures are intended to minimize the impacts associated with water supply, water demand, and water quality. No feasible mitigation measures have been identified to reduce water demand, supply, and water quality impacts to less than significant levels.

Mitigation Measures: The mitigation measures identified in the following paragraphs are intended to reduce water demand, supply, and water quality impacts to the maximum extent feasible. The timing of implementing the hydrology and water quality mitigation measures would be ongoing over the life of the 2022 AQMP and includes the following mitigation measures:

HWQ-1: Local water agencies should continue to evaluate future water demand and establish the necessary supply and infrastructure to meet that demand, as documented in their Urban Water Management Plans.

HWQ-2: Project sponsors should coordinate with the local water provider to ensure that existing or planned water supply and water conveyance facilities are capable of meeting water demand/pressure requirements. In accordance with California law, a Water Supply Assessment should be required for projects that meet the size requirements specified in the regulations. In coordination with the local water provider, each project sponsor will identify specific on- and off-site improvements needed to ensure that impacts related to water supply and conveyance demand/pressure requirements are addressed prior to issuance of a certificate of occupancy. Water supply and conveyance demand/pressure clearance from the local water provider will be required at the time that a water connection permit application is submitted.

HWQ-3: Project sponsors should implement water conservation measures and use recycled or reclaimed water for appropriate end uses.

HWQ-4: Project sponsors should consult with the local water provider to identify feasible and reasonable measures to reduce water consumption.

HWQ-5: For any project that would increase the generation of wastewater, the facility must review diversion options for reusing the treated wastewater on-site, in lieu of discharge, where applicable and feasible.

Implementing Parties: Because the 2022 AQMP is a regional plan that can be characterized as an ongoing regulatory program, some of the water demand/supply and water quality mitigation measures in this MMRP may be described as general policies, although some refer to specific actions. The South Coast AQMD finds that the party or parties responsible for implementing mitigation measures for future projects that have the potential to generate hydrology and water quality impacts from complying with 2022 AQMP control measures promulgated as rules or regulations would be project applicants, project sponsors, public agencies, and water provider utilities within the jurisdiction of the South Coast AQMD.

To the extent that the South Coast AQMD is the lead agency for future projects that must comply with 2022 AQMP control measures promulgated as rules or regulations, the South Coast AQMD may be able to enforce implementation of some of the water demand and water quality mitigation measures through its authority to impose binding permit conditions at the time applications for air permits are processed and approved. Similarly, if the South Coast AQMD is a responsible agency for such future projects, it would still have the ability to enforce 2022 AQMP mitigation measures through its authority to impose permit conditions at the time applications seeking air permits are processed and approved. If the South Coast AQMD has no approval authority over future projects that have the potential to generate water demand and water quality impacts from complying with 2022 AQMP control measures which will be promulgated as rules or regulations, then the public agency with primary approval authority over these future projects can and should impose 2022 AQMP mitigation measures through its authority to impose permit conditions at the time applications for permits are processed and approved or through other legally binding instruments. Similarly, to the extent allowed by state and federal regulations, water provider utilities within the jurisdiction of the South Coast AQMD as the entities that provide water to users, as well as wastewater treatment providers, may be responsible for implementing some of the 2022 AQMP Final Program EIR mitigation measures.

Monitoring Agency: Because future projects to implement 2022 AQMP control measures promulgated as rules or regulations could be undertaken by project applicants, project sponsors, public agencies, water provider utilities throughout the jurisdiction of the South Coast AQMD, the monitoring agency is expected to vary and may include a variety of public agencies performing the role of lead agency. Mitigation monitoring (MM) would be accomplished by the following implementation requirements for each mitigation measure:

MMHWQ-1 The project applicant, project sponsor, or public agency shall work with local water agencies to continue to evaluate future water demand and establish the necessary supply and infrastructure to meet that demand, as documented in their Urban Water Management Plans.

MMHWQ-2 The project applicant, project sponsor, or public agency shall coordinate with the local water provider to ensure that existing or planned water supply and water conveyance facilities are capable of meeting water demand/pressure requirements. In accordance with State Law, a Water Supply Assessment shall be required for projects that meet the size requirements specified in the regulations. In coordination with the local water provider, each project sponsor shall identify specific on- and off-site improvements needed to ensure that impacts related to water supply and conveyance demand/pressure requirements are addressed prior to issuance of a certificate of occupancy. Water supply and conveyance demand/pressure clearance from the local water provider shall be required at the time that a water connection permit application is submitted.

MMHWQ-3 The project applicant, project sponsor, or public agency shall implement water conservation measures and use recycled water for appropriate end uses.

MMHWQ-4 The project applicant, project sponsor, or public agency shall consult with the local water provider to identify feasible and reasonable measures to reduce water consumption.

MMHWQ-5 The project applicant, project sponsor, or public agency shall review and evaluate the options for reusing wastewater generated on-site, in lieu of discharge, where applicable and feasible.

E. Noise and Vibration Impacts During Construction

Impacts Summary: Implementing the 2022 AQMP is expected to require construction activities that include the construction of roadway near transportation corridors, and it is not uncommon for residences and other sensitive receptors to be located within several hundred feet of the existing roadways. Therefore, the noise and vibration impacts during construction activities are considered significant. The following mitigation measures are intended to minimize the emissions associated with construction noise and vibration. No feasible mitigation measures have been identified to reduce construction noise and vibration impacts to less than significant levels.

Mitigation Measures: The mitigation measures identified in the following paragraphs are intended to reduce construction noise and vibration impacts to the maximum extent feasible. The timing of implementing the construction noise and vibration mitigation measures would be ongoing over the life of the 2022 AQMP and includes the following mitigation measures:

NS-1 Install temporary noise barriers to protect sensitive receptors from excessive noise levels during construction.

NS-2 Schedule construction activities consistent within the allowable hours pursuant to the applicable general plan noise element or noise ordinance. For construction activities located near sensitive receptors, ensure noise-generating construction activities (including truck deliveries, pile driving, and blasting) are limited to the least noise-sensitive times of day (e.g., weekdays during the daytime hours). Where construction activities are authorized to occur outside of the limits established by the noise element of the general plan or noise ordinance, notify affected sensitive receptors and all parties who will experience noise levels in excess of the allowable limits for the specified land use, of the anticipated level of exceedance and duration of exceedance; and provide a list of protective measures that can be undertaken by the individual, including temporary relocation or use of hearing protective devices.

NS-3 Prohibit idling of construction equipment for extended periods of time in the vicinity of sensitive receptors.

NS-4 Post procedures and phone numbers at the construction site for notifying the Lead Agency staff, local Police Department, and construction contractor (during regular construction hours and off-hours), along with permitted

construction days and hours, complaint procedures, and who to notify in the event of a problem.

NS-5 Notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of anticipated times when noise levels are expected to exceed limits established in the noise element of the general plan or noise ordinance.

NS-6 Hold a preconstruction meeting with job inspectors and the general contractor/onsite project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

NS-7 Designate an on-site construction complaint and enforcement manager for the project.

NS-8 Ensure that construction equipment is properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds silencers, wraps). All intake and exhaust ports on power equipment shall be muffled or shielded.

NS-9 Use hydraulically or electrically powered tools (e.g., jack hammers, pavement breakers, and rock drills) for project construction to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust should be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves should be used, if such jackets are commercially available, and this could achieve a further reduction of 5 dBA. Quieter procedures should be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.

NS-10 Locate fixed/stationary equipment (such as generators, compressors, rock crushers, and cement mixers) as far as possible from noise-sensitive receptors.

NS-11 Consider using flashing lights instead of audible back-up alarms on mobile equipment.

NS-12 For construction activities that require pile driving or other techniques that result in excessive noise or vibration, such as blasting, develop site-specific noise/vibration attenuation measures under the supervision of a qualified acoustical consultant.

NS-13 For construction activities at locations that require pile driving due to geological conditions, utilize quiet pile driving techniques such as predrilling the piles to

the maximum feasible depth, where feasible. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground where pile driving noise can be shielded more effectively by a noise barrier/curtain.

NS-14 Monitor the effectiveness of noise reduction measures by taking noise measurements and installing adaptive mitigation measures to achieve the standards for ambient noise levels established by the noise element of the general plan or noise ordinance.

Implementing Parties: Because the 2022 AQMP is a regional plan that can be characterized as an ongoing regulatory program, some of the construction noise and vibration mitigation measures in this MMRP may be described as general policies, although some refer to specific actions. The South Coast AQMD finds that the party or parties responsible for implementing mitigation measures for future projects that have the potential to generate construction noise and vibration impacts from complying with 2022 AQMP control measures promulgated as rules or regulations would be project applicants, project sponsors, and public agencies within the jurisdiction of the South Coast AQMD.

To the extent that the South Coast AQMD is the lead agency for future projects that must comply with 2022 AQMP control measures promulgated as rules or regulations, the South Coast AQMD may be able to enforce implementation of some of the construction noise and vibration mitigation measures through its authority to impose binding permit conditions at the time applications for air permits are processed and approved. Similarly, if the South Coast AQMD is a responsible agency for such future projects, it would still have the ability to enforce 2022 AQMP mitigation measures through its authority to impose permit conditions at the time applications seeking air permits are processed and approved. If the South Coast AQMD has no approval authority over future projects that have the potential to generate construction noise and vibration impacts from complying with 2022 AQMP control measures which will be promulgated as rules or regulations, then the public agency with primary approval authority over these future projects can and should impose 2022 AQMP mitigation measures through its authority to impose permit conditions at the time applications for permits are processed and approved or through other legally binding instruments. Similarly, to the extent allowed by state and federal regulations, cities or counties within the jurisdiction of the South Coast AQMD as the entities that regulate noise sources through ordinances or general plan noise elements, may be responsible for implementing some of the 2022 AQMP Final Program EIR mitigation measures.

Monitoring Agency: Because future projects to implement 2022 AQMP control measures promulgated as rules or regulations could be undertaken by project applicants, project sponsors, or public agencies throughout the jurisdiction of the South Coast AQMD, the monitoring agency is expected to vary and may include a variety of public agencies performing the role of lead agency. Mitigation monitoring (MM) would be accomplished by the following implementation requirements for each mitigation measure:

MMNS-1 The project applicant, project sponsor, or public agency shall install temporary noise barriers to protect sensitive receptors from excessive noise levels during construction activities, where noise impacts are determined to exceed local noise ordinances.

MMNS-2 The project applicant, project sponsor, or public agency shall schedule construction activities consistent with the allowable hours pursuant to applicable general plan noise element or noise ordinance. Noise-generating construction activities (including truck deliveries, pile driving, and blasting) shall be limited to the least noise-sensitive times of day (e.g., weekdays during the daytime hours) for projects near sensitive receptors. Where construction activities are authorized outside the limits established by the noise element of the general plan or noise ordinance, the project applicant, project sponsor, or public agency shall notify affected sensitive noise receptors and all parties who will experience noise levels in excess of the allowable limits for the specified land use of the level of exceedance and duration of exceedance and provide a list of protective measures that can be undertaken by the individual, including temporary relocation or use of hearing protective devices.

MMNS-3 The project applicant, project sponsor, or public agency shall prohibit idling for construction equipment to the minimum time possible near sensitive receptors, but in no case longer than five minutes per the requirements of California Code of Regulations, Title 13 Section 2485 - CARB's Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.

MMNS-4 The project applicant, project sponsor, or public agency shall post procedures and phone numbers at the construction site for notifying the Lead Agency staff, local Police Department, and construction contractor (during regular construction hours and off-hours), along with permitted construction days and hours, complaint procedures, and who to notify in the event of a problem.

MMNS-5 The project applicant, project sponsor, or public agency shall notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of anticipated times when noise levels are expected to exceed limits established in the noise element of the general plan or noise ordinance.

MMNS-6 The project applicant, project sponsor, or public agency shall hold a preconstruction meeting with the job inspectors and the general contractor/onsite project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, truck parking and idling, etc.) are completed.

MMNS-7 The project applicant, project sponsor, or public agency shall designate an on-site construction compliance and enforcement manager for the project.

MMNS-8 The project applicant, project sponsor, or public agency shall ensure that construction equipment are properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps). Additionally, all intake and exhaust ports on power equipment shall be muffled or shielded.

MMNS-9 The project applicant, project sponsor, or public agency shall ensure that impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction are hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. External jackets on the tools themselves shall be used, if such jackets are commercially available and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.

MMNS-10 The project applicant, project sponsor, or public agency shall locate fixed/stationary equipment (such as generators, compressors, rock crushers, and cement mixers) as far as possible from noise-sensitive receptors.

MMNS-11 The project applicant, project sponsor, or public agency shall investigate the use of flashing lights instead of audible back-up alarms on mobile equipment, so long as they can be used and still protect the safety of workers and all other persons.

MMNS-12 For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, the project applicant, project sponsor, or public agency shall develop site-specific noise/vibration attenuation measures under the supervision of a qualified acoustical consultant.

MMNS-13 For construction activities at locations that require pile driving due to geological conditions, the project applicant, project sponsor, or public agency shall utilize quiet pile driving techniques such as predrilling the piles to the maximum feasible depth, where feasible. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground where pile driving noise can be shielded more effectively by a noise barrier/curtain.

MMNS-14 The project applicant, project sponsor, or public agency shall monitor the effectiveness of noise reduction measures by taking noise measurements during construction activities and installing adaptive mitigation measures to achieve the standards for ambient noise levels established by the noise

element of the general plan or noise ordinance for the applicable jurisdiction.

F. Solid and Hazardous Waste

Impacts Summary: The potential solid and hazardous waste impacts associated with implementing the various control measures during both construction and operation activities were determined to be potentially significant due to construction waste associated with the installation of air pollution control equipment and operational waste from processing/recycling spent batteries from electric vehicles. The following mitigation measures are intended to minimize the project impacts on solid and hazardous waste. No feasible mitigation measures have been identified to reduce solid and hazardous waste impacts to less than significant levels.

Mitigation Measures: The mitigation measures identified in the following paragraphs are intended to reduce solid and hazardous waste impacts to the maximum extent feasible. The timing of implementing the solid and hazardous waste mitigation measures would be ongoing over the life of the 2022 AQMP and includes the following mitigation measures:

SHW-1 During the planning, design, and project-level CEQA review process for individual development projects, lead agencies shall coordinate with waste management agencies and the appropriate local and regional jurisdictions to facilitate the development of measures and to encourage diversion of solid waste such as recycling and composting programs, as needed. This includes discouraging siting of new landfills unless all other waste reduction and prevention actions have been fully explored to minimize impacts to neighborhoods.

SHW-2 The lead agency should coordinate with waste management agencies, and the appropriate local and regional jurisdictions, to develop measures to facilitate and encourage diversion of solid waste such as recycling and composting programs.

SHW-3 In accordance with CEQA Guidelines Sections 15091(a)(2) and 15126.4(a)(1)(B), a Lead Agency for a project should consider mitigation measures to reduce the generation of solid waste, as applicable and feasible. These may include the integration of green building measures consistent with CALGreen (California Building Code Title 24) into project design including, but not limited to the following:

1) Reuse and minimization of construction and demolition (C&D) debris and diversion of C&D waste from landfills to recycling facilities.
2) Include a waste management plan that promotes maximum C&D diversion.
3) Pursue source reduction through: a) the use of materials that are more durable and easier to repair and maintain; b) design to generate less scrap material through dimensional planning; c) increased recycled content; d) the

use of reclaimed materials; and e) the use of structural materials in a dual role as finish material (e.g., stained concrete flooring, unfinished ceilings, etc.).

4) Reuse existing structure and shell in renovation projects.

5) Develop indoor recycling program and space.

6) Discourage the siting of new landfills unless all other waste reduction and prevention actions have been fully explored. If landfill siting or expansion is necessary, site landfills with an adequate landfill-owned, undeveloped land buffer to minimize the potential adverse impacts of the landfill in neighboring communities.

7) Discourage exporting locally generated waste outside of the southern California region during the construction and implementation of a project. Encourage disposal within the county where the waste originates as much as possible. Promote green technologies for long-distance transport of waste (e.g., clean engines and clean locomotives or electric rail for waste-by-rail disposal systems) and consistency with South Coast AQMD and Connect SoCal policies can and should be required.

8) Encourage waste reduction goals and practices and look for opportunities for voluntary actions to exceed the 80 percent waste diversion target.

9) Encourage the development of local markets for waste prevention, reduction, and recycling practices by supporting recycled content and green procurement policies, as well as other waste prevention, reduction and recycling practices.

10) Develop ordinances that promote waste prevention and recycling activities such as requiring waste prevention and recycling efforts at all large events and venues, implementing recycled content procurement programs, and developing opportunities to divert food waste away from landfills and toward food banks and composting facilities;

11) Develop and site composting, recycling, and conversion technology facilities that have minimum environmental and health impacts

12) Integrate reuse and recycling into residential industrial, institutional and commercial projects.

13) Provide education and publicity about reducing waste and available recycling services.

14) Implement or expand city or county-wide recycling and composting programs for residents and businesses. This could include extending the types of recycling services offered (e.g., to include food and green waste recycling) and providing public education and publicity about recycling services.

Implementing Parties: Because the 2022 AQMP is a regional plan that can be characterized as an ongoing regulatory program, some elements of the solid and hazardous

waste mitigation measures in this MMRP may be described as general policies, although some refer to specific actions. The South Coast AQMD finds that the party or parties responsible for implementing mitigation measures for future projects that have the potential to generate solid and hazardous waste impacts from complying with 2022 AQMP control measures promulgated as rules or regulations would be project applicants, project sponsors, and public agencies within the jurisdiction of the South Coast AQMD.

To the extent that the South Coast AQMD is the lead agency for future projects that must comply with 2022 AQMP control measures promulgated as rules or regulations, the South Coast AQMD may be able to enforce implementation of some of the solid and hazardous waste mitigation measures through its authority to impose binding permit conditions at the time applications for air permits are processed and approved. Similarly, if the South Coast AQMD is a responsible agency for such future projects, it would still have the ability to enforce 2022 AQMP mitigation measures through its authority to impose permit conditions at the time applications seeking air permits are processed and approved. If the South Coast AQMD has no approval authority over future projects that have the potential to generate significant adverse solid and hazardous waste impacts from complying with 2022 AQMP control measures which will be promulgated as rules or regulations, then the public agency with primary approval authority over these future projects can and should impose 2022 AQMP mitigation measures through its authority to impose permit conditions at the time applications for permits are processed and approved or through other legally binding instruments. Similarly, to the extent allowed by state and federal regulations, cities or counties within the jurisdiction of the South Coast AQMD as the entities that regulate solid and hazardous waste, may be responsible for implementing some of the 2022 AQMP Final Program EIR mitigation measures.

Monitoring Agency: Because future projects to implement 2022 AQMP control measures promulgated as rules or regulations could be undertaken by project applicants, project sponsors, public agencies, or local agencies, throughout the jurisdiction of the South Coast AQMD, the monitoring agency is expected to vary and may include a variety of public agencies performing the role of lead agency. Mitigation monitoring (MM) would be accomplished by the following implementation requirements for each mitigation measure:

MMSHW-1 The project applicant, project sponsor, or public agency shall coordinate with waste management agencies and the appropriate local and regional jurisdictions to facilitate the development of measures to encourage diversion of solid waste such as recycling and composting programs, as needed. This includes discouraging siting of new landfills unless all other waste reduction and prevention actions have been fully explored to minimize impacts to neighborhoods.

MMSHW-2 The project applicant, project sponsor, or public agency shall coordinate with waste management agencies and the appropriate local and regional jurisdictions to facilitate the development of measures to encourage diversion of solid waste such as recycling and composting programs, as needed.

MMSHW-3 The project applicant, project sponsor, or public agency should consider project-specific measures to reduce the generation of waste as part of the project approval process. These may include integration of green building measures consistent with California Building Code Title 24.

7.1 MITIGATION, MONITORING, AND REPORTING PLAN CONCLUSION

To the extent that the South Coast AQMD is the lead agency with primary approval authority over projects implementing 2022 AQMP control measures, project applicants, project sponsors, or public agencies will maintain records onsite of applicable compliance activities to demonstrate the steps taken to assure compliance with imposed mitigation measures as specified in Table A. All construction logs and other records shall be made available to South Coast AQMD inspectors upon request by the project proponent. The project proponent may be required to submit quarterly (or some other specified time duration) reports to the South Coast AQMD or lead agency during the construction phase that summarize the construction progress, including all required logs, inspection reports, and monitoring reports, as well as identify any problems and corrective actions, as necessary. South Coast AQMD staff and the project proponent will evaluate the effectiveness of this monitoring program during the construction period. It is expected that, as part of the CEQA document for any future projects implementing 2022 AQMP control measures, mitigation measures identified in this MMRP would be required as necessary, along with any additional mitigation measures identified at that time by the South Coast AQMD or other responsible agencies.

8.0 RECORD OF PROCEEDINGS

For purposes of CEQA, including the Findings; Mitigation, Monitoring, and Reporting Plan; and Statement of Overriding Considerations; the Record of Proceedings for the 2022 AQMP consists of the following documents and other evidence, at a minimum:

- The Final Program EIR for Proposed 2022 AQMP, including appendices and technical studies included or referenced in the Final Program EIR, and all other public notices issued by South Coast AQMD for the Final Program EIR.
- The Draft Program EIR for the proposed project including appendices and technical studies included or referenced in the Draft Program EIR, and all other public notices issued by South Coast AQMD for the Draft Program EIR.
- The 2022 AQMP, including appendices, staff responses to public comment letters submitted on the Draft 2022 AQMP and Revised Draft 2022 AQMP, materials presented at all AQMP related public meetings, and all other public notices issued by South Coast AQMD for the 2022 AQMP.
- All written and verbal public testimony presented during a noticed public hearings for the 2022 AQMP.
- The Resolution adopted by South Coast AQMD in connection with the 2022 AQMP, and all documents incorporated by reference therein.
- Matters of common knowledge to South Coast AQMD, including but not limited to federal, state, and local laws and regulations.

- Any documents expressly cited in the Findings; Mitigation, Monitoring, and Reporting Plan; and Statement of Overriding Considerations.
- Any other relevant materials required to be in the record of proceedings by Public Resources Code Section 21167.6(e).
- The Notice of Determination, prepared in compliance with Public Resources Code 21152 and CEQA Guidelines Section 15094, if the Governing Board certifies the Final Program EIR and approves the 2022 AQMP.

To comply with CEQA Guidelines Section 15091(e), the South Coast AQMD specifies that the Deputy Executive Officer for Planning, Rule Development, and Implementation overseeing the development for the 2022 AQMP as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption and approval of the 2022 AQMP is based, and which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California 91765.

Copies of these documents, which constitute the record of proceedings upon which the adoption and approval of the 2022 AQMP is based, are and at all relevant times have been and will be available upon request. This information is provided in accordance with Public Resources Code Section 21081.6(a)(2) and CEQA Guidelines Section 15091(e).

TABLE A
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality			
MMAQ-1: A project applicant, project sponsor, or public agency shall include in all construction contracts the requirement to develop a Construction Emission Management Plan to: limit trucks, consolidate deliveries, describe truck routes, describe entry/exit points, identify parking, outline a construction schedule, prohibit idling in excess of five consecutive minutes, and include Best Management Practices. The Construction Emission Management Plan must be approved by the South Coast AQMD or lead agency or other public agency with project oversight, as applicable, prior to commencement of construction activities and must be available onsite during the entire construction phase.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a Construction Emission Management Plan to assure compliance with the various requirements in this mitigation measure. The lead agency shall inspect site to ensure compliance.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.
MMAQ-2: A project applicant, project sponsor, or public agency, in cooperation with the construction contractors, will maintain vehicle and equipment maintenance records for the construction portion of the proposed project. All construction vehicles must be maintained in compliance with the manufacturer's recommended maintenance schedule. A project applicant, project sponsor, or public agency will maintain their construction equipment and the construction contractor will be responsible for maintaining their equipment and maintenance records. All maintenance records for each facility and their construction contractor(s) will remain on-site for a period of at least two years from completion of construction.	Project Applicant/ Project Sponsor/ Public Agency	During construction, maintain a log documenting daily equipment usage including model year. The log will be made available on-site and provided upon request to the appropriate agency.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality (continued)			
MMAQ-3: A project applicant, project sponsor, or public agency and/or their construction contractor(s) will conduct a survey of the proposed project construction area(s) to assess whether the existing infrastructure can provide access to electricity, as available, within the facility or construction site, in order to operate electric on-site mobile equipment. For example, each project applicant, project sponsor, or public agency and/or their construction contractor(s) will assess the number of electrical welding receptacles available. Construction areas within the facility or construction site where electricity is and is not available must be clearly identified on a site plan. The use of non-electric onsite mobile equipment shall be prohibited in areas of the facility that are shown to have access to electricity. The use of electric on-site mobile equipment within these identified areas of the facility or construction site will be allowed. A project applicant, project sponsor, or public agency shall include in all construction contracts the requirement that the use of non-electric on-site mobile equipment is prohibited in certain portions of the facility as identified on the site plan. A project applicant, project sponsor, or public agency shall maintain records that indicate the location within the facility or construction site where all electric and non-electric on-site mobile equipment are operated, if at all, for a period of at least two years from completion of construction.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan that details where existing infrastructure can provide access to electricity, as available, within the facility or construction site, in order to operate electric on-site mobile equipment During construction, maintain a log documenting daily equipment usage. The log will be made available on-site and be provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality (continued)			
MMAQ-4: A project applicant, project sponsor, or public agency and/or their construction contractor(s) shall evaluate the use of alternative fuels (renewable combustion fuels and hydrogen) for on-site mobile construction equipment prior to the commencement of construction activities, provided that suitable equipment is available for the activity. Equipment vendors shall be contacted to determine the commercial availability of alternative-fueled construction equipment. Priority should be given during the bidding process for contractors committing to use alternative-fueled construction equipment. A list of equipment that can use alternative fuels, as well as those that cannot, will be maintained as part of the Construction Emissions Management Plan.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan that details the availability of alternative fuels and the construction equipment that can use those fuels. During construction, maintain a log documenting daily equipment usage of alternative fuels. The log will be made available on-site and be provided upon request to the appropriate agency inspector/monitor	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality (continued)			
MMAQ-5: A project applicant, project sponsor, or public agency shall include in all construction contracts the requirement that all off-road diesel-powered construction equipment greater than 50 hp shall meet Tier 4 off-road emission standards at a minimum. In addition, if not already supplied with a factory-equipped diesel particulate filter, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. In addition, construction equipment shall incorporate, where feasible, emissions savings technology such as hybrid drives and specific fuel economy standards. In the event that any equipment required under this mitigation measure is not available, the project proponent shall provide documentation as information becomes available. A project applicant, project sponsor, or public agency shall include a copy of each unit's certified tier specification, BACT documentation, and CARB or South Coast AQMD operating permit as part of the Construction Emission Management Plan. A project applicant, project sponsor, or public agency shall also encourage construction contractors to apply for South Coast AQMD "SOON" funding incentives to help accelerate the clean-up of off-road diesel vehicles, such as heavy duty construction equipment.	Project Applicant/ Project Sponsor/ Public Agency	During construction, maintain a log documenting daily equipment usage including the model year and applicable emissions control equipment. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor. The lead agency shall be provided with documentation of South Coast AQMD "SOON" funding incentive program application. (if applicable).	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality (continued)			
MMAQ-6: A project applicant, project sponsor, or public agency and/or their construction contractor(s) shall evaluate the availability of zero and near-zero emission on-road haul trucks prior to the commencement of construction activities, provided that suitable equipment is available for the activity. Equipment vendors shall be contacted to determine the commercial availability of zero and near-zero emission trucks. Priority should be given during the bidding process for contractors committing to use zero and near-zero emission trucks.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan that includes the availability of zero and near-zero emissions trucks. During construction, maintain a log documenting daily truck usage including the model year. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.
MMAQ-7: A project applicant, project sponsor, or public agency and/or their construction contractor(s) shall evaluate the availability of zero and near-zero emission construction equipment and the availability of electrical infrastructure prior to the commencement of construction activities. Equipment vendors shall be contacted to determine the commercial availability of zero and near-zero emission construction equipment. The infrastructure should be provided to support the use of such equipment, where feasible, including appropriately sized electric vehicle/equipment charging stations. Priority should be given during the bidding process for contractors committing to use zero and near-zero emission trucks.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan that includes the availability of zero and near-zero emissions construction equipment. During construction, maintain a log documenting daily equipment usage including the model year. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality (continued)			
MMAQ-8: A project applicant, project sponsor, or public agency shall provide temporary traffic controls such as a flag person, during all phases of significant construction activity to maintain smooth traffic flow.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan to ensure proper traffic management controls have been included. During construction, maintain a log documenting the use of traffic controls. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.
MMAQ-9: A project applicant, project sponsor, or public agency shall provide dedicated turn lanes for the movement of construction trucks and equipment on- and off-site, where applicable.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan to ensure proper traffic management controls have been included. During construction, maintain a log documenting the use of traffic controls. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality (continued)			
MMAQ-10: A project applicant, project sponsor, or public agency shall re-route construction trucks away from congested streets or sensitive receptor areas using trailblazer signs, where applicable. Truck routes shall be provided to all construction workers prior to the beginning of construction activities.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan to ensure proper traffic management controls have been included. During construction, maintain a log documenting the use of traffic controls. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.
MMAQ-11: A project applicant, project sponsor, or public agency shall coordinate with their local city to improve traffic flow by signal synchronization in the area near the construction site. The check-in point for trucks will be inside the project area and shall be identified and provided to truck drivers prior to the beginning of construction activities.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan to ensure proper traffic management controls have been included. During construction, maintain a log documenting the use of traffic controls. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality (continued)			
MMAQ-12: A project applicant, project sponsor, or public agency shall identify routes for on-site vehicle traffic as far away from sensitive receptor areas as possible, where applicable. On-site vehicle routes shall be provided to all construction workers prior to the beginning of construction activities.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan to ensure proper traffic management controls have been included. During construction, maintain a log documenting the use of traffic controls. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.
MMAQ-13: A project applicant, project sponsor, or public agency shall coordinate with the construction contractor to site truck parking areas onsite or at some designated location off-site that avoids parking in residential or other sensitive land use areas. The parking locations shall be identified and provided to truck drivers prior to the commencement of construction activities.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan to ensure proper traffic management controls have been included. During construction, maintain a log documenting the use of traffic controls. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality (continued)			
MMAQ-14: A project applicant, project sponsor, or public agency shall route construction trucks away from sensitive receptor locations, including the entrances and exits to the project site, where applicable. Truck routes shall be provided to all construction workers prior to the beginning of construction activities.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan to ensure proper traffic management controls have been included. During construction, maintain a log documenting the use of traffic controls. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.
MMAQ-15: A project applicant, project sponsor, or public agency shall ensure that drivers understand that traffic speeds on all unpaved roads will be limited to 15 mph or less. In addition, a project applicant, project sponsor, or public agency shall post signs on all unpaved roads indicating a speed limit of 15 mph or less.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan to assure compliance with speed limit requirements. The lead agency shall inspect site to ensure proper signage is posted.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality (continued)			
MMAQ-16: A project applicant, project sponsor, or public agency shall enter into a contract that notifies all vendors and construction contractors that during deliveries, truck idling time will be limited to no longer than five minutes or another time-frame as allowed by the California Code of Regulations, Title 13 Section 2485 - CARB's Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. For any delivery that is expected to take longer than five minutes, each project applicant, project sponsor, or public agency will require the truck's operator to shut off the engine. A project applicant, project sponsor, or public agency will notify the vendors of these idling requirements at the time that the purchase order is issued and again when trucks enter the gates of the facility. To further ensure that drivers understand the truck idling requirement, each project applicant, project sponsor, or public agency shall post signs at each facility entry gates stating idling longer than five minutes is not permitted.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan to ensure compliance with idling requirements. The lead agency shall inspect site to ensure proper signage is posted.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality (continued)			
MMAQ-17: A project applicant, project sponsor, or public agency shall schedule construction activities that affect traffic flow on the arterial system to occur during off-peak hours to the greatest extent practicable.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan to ensure that proper traffic management controls, including scheduling of construction activities that affect traffic flow during off-peak hours, have been included. During construction, maintain a log documenting the use of traffic controls. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.
MMAQ-18: If and when winds speeds exceed 25 mph, each project applicant, project sponsor, or public agency shall suspend all excavating and grading activities and shall record the date and time when the use of construction equipment associated with these construction activities are suspended. This log shall be maintained on-site for a period of at least two years from completion of construction.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan to ensure that applicable excavation and grading suspension scenarios are included. During construction, maintain a log detailing any suspension of construction activities. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality (continued)			
MMAQ-19: If and when any first stage smog alert occurs, each project applicant, project sponsor, or public agency shall record the date and time of each alert, shall suspend all construction activities that generate emissions, and shall record the date and time when the use of construction equipment and construction activities are suspended. This log shall be maintained on-site for a period of at least two years from completion of construction.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan to ensure that applicable construction suspension scenarios are included. During construction, maintain a log documenting the use of traffic controls. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.
MMAQ-20: A project applicant, project sponsor, or public agency shall coordinate with the construction contractor to site parking areas to minimize interference with roadway traffic. The parking locations shall be identified and provided to construction workers prior to the commencement of construction activities.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve of the location of site parking areas to minimize interference with roadway traffic.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality (continued)			
MMAQ-21: A project applicant, project sponsor, or public agency shall include in all construction contracts the requirement to cover all haul trucks delivering or hauling away dirt, sand, soil, or other loose materials.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan that details truck covering requirements. During construction, maintain a log documenting the import or export of dirt, sand, soil, or other loose materials. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.
MMAQ-22: A project applicant, project sponsor, or public agency shall require the construction contractor to install and use wheel washers where vehicles travel on dirt roads and enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site for each trip to prevent drag-out.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan that details truck entrance/exiting procedures. During construction, maintain a log detailing trucks entering/exiting the site. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Construction Air Quality (continued)			
MMAQ-23: A project applicant, project sponsor, or public agency shall require the construction contractor to apply non-toxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (e.g., previously graded areas inactive for ten days or more).	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan that details the usage of soil stabilizers. During construction, maintain a log detailing soil stabilizer application. The log will be made available on-site and provided upon request to the appropriate agency inspector/monitor	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.
MMAQ-24: A project applicant, project sponsor, or public agency shall require the construction contractor to replace ground cover in disturbed areas as quickly as possible to minimize dust, where applicable.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan that details ground covering requirements, where applicable. After construction, the lead agency shall inspect the re-vegetated disturbed soil areas of the site.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and following construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Air Quality (concluded)			
MMAQ-25: A project applicant, project sponsor, or public agency shall require the construction contractor to pave road and road shoulders, where applicable.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan that details paving requirements, where applicable. After construction, the lead agency shall inspect the paved areas.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and following construction activities.
MMAQ-26: A project applicant, project sponsor, or public agency shall require the construction contractor to sweep streets at the end of the day using sweepers compliant with South Coast AQMD Rules 1186 and 1186.1 if visible soil is carried onto adjacent public paved roads. In the event that water sweepers are used, each project applicant, project sponsor, or public agency shall recommend the construction contractor to use reclaimed water.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction emission management plan that details sweeping requirements applicable. During construction, maintain a log detailing sweeping activities. The log will be made available on-site and be provided upon request to the appropriate agency inspector/monitor.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of and during construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Energy			
MME-1: A project applicant, project sponsor, or public agency shall provide to the lead agency documentation for approval of incentives to encourage the use of energy efficient equipment and vehicles and promote energy conservation prior to the beginning of project operation of electricity generation.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall approve, as appropriate and adequate, any necessary documentation of incentives to encourage energy efficiency and conservation.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and throughout implementation of the 2022 AQMP.
MME-2: To the extent allowed by state and federal law, electricity generating utilities within the jurisdiction of the South Coast AQMD can and should increase capacity of existing transmission lines to meet forecast electricity demand that supports sustainable growth, where feasible and appropriate in coordination with local planning agencies.	Electric Utilities	Local planning agencies shall maintain communications with electricity generating utilities to accurately forecast future electricity demand.	1. Electricity Utilities 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight/ Electricity Utilities 3. During the environmental review process and before the start of construction.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	4. Enforcement Agency 5. Monitoring Agency 6. Monitoring Phase
Energy (continued)			
MME-3: The project applicant, project sponsor, or public agency shall submit projected electricity calculations to the local electricity provider for any project anticipated to require substantial electricity consumption. Such electricity calculations can and should be used by the local electricity provider when forecasting future electricity demand. Any infrastructure improvements necessary should be completed according to the specifications of the electricity provider.	Project Applicant/ Project Sponsor/ Public Agency Electric Utilities	When forecasting future electricity demand and/or infrastructure improvements, electricity utilities should consider the effects of local projects on future energy demand.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight/Electricity Utilities 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight/ Electricity Utilities 3. During the environmental review process and before the start of construction
MME-4: The project applicant, project sponsor, or public agency shall include energy analyses in environmental documentation with the goal of conserving energy through the wise and efficient use of energy. These analyses should be provided in the applicable CEQA documents, when required.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall carefully evaluate the adequacy of any required energy analyses and make a determination that all feasible energy conservation goals are identified.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Energy (continued)			
MME-5: The project applicant, project sponsor, or public agency shall evaluate the potential for reducing peak energy demand by encouraging charging of electrical vehicles and other mobile sources during off-peak hours.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall carefully evaluate the adequacy of any required energy analyses that encourage charging electric vehicles and other mobile sources during off-peak hours.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process.
MME-6: The project applicant, project sponsor, or public agency shall evaluate the potential for reducing peak energy demand by encouraging the use of catenary or way-side electrical systems developed for transportation systems to operate during off-peak hours.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall carefully evaluate the adequacy of any required energy analyses that encourage using catenary or way-side electrical systems developed for transportation systems to operate during off-peak hours.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Energy (continued)			
MME-7: The project applicant, project sponsor, or public agency shall evaluate the potential for reducing peak energy demand by encouraging the use of electrified stationary sources during off-peak hours.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall carefully evaluate the adequacy of any required energy analyses that encourage using electrified stationary sources during off-peak hours.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process.
MME-8: The project applicant, project sponsor, or public agency shall evaluate the potential for using renewable gas, where available and feasible, including biofuel landfill gas and gas from renewable fuels projects.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall carefully evaluate the availability of renewable gas for any project that could use natural gas.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Energy (continued)			
MME-9: The project applicant, project sponsor, or public agency shall submit projected natural gas calculations to the local gas company for any project anticipated to require substantial natural gas consumption. Such natural gas calculations can and should be used by the local gas provider when forecasting future natural gas demand. Any infrastructure improvements necessary should be completed according to the specifications of the natural gas provider.	Project Applicant/ Project Sponsor/ Public Agency Gas Utilities	When forecasting future natural gas demand and/or infrastructure improvements, natural gas utilities should consider the effects of local projects on future energy demand.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight/Gas Utilities 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight/ Gas Utilities 3. During the environmental review process and before the start of construction
MME-10: A project applicant, project sponsor, or public agency shall provide to the lead agency documentation for approval of incentives to encourage the use of energy efficient equipment and vehicles and promote energy conservation prior to the beginning of project operation for hydrogen production.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall approve, as appropriate and adequate, any necessary documentation of incentives to encourage energy efficiency and conservation.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and throughout implementation of the 2022 AQMP.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Energy (concluded)			
MME-11: A project applicant, project sponsor, or public agency shall encourage projects that provide energy to locate in areas where existing infrastructure (e.g., pipelines) currently exists to minimize distance required to transport energy resources and reduce energy impacts.	Project Applicant/ Project Sponsor/ Public Agency	When forecasting future energy demand and/or infrastructure improvements, utilities should consider the effects and location of local projects on future energy demand.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and before the start of construction
MME-12: A project applicant, project sponsor, or public agency shall provide to the lead agency documentation that the location of any new hydrogen plant is in an area where hydrogen can be delivered efficiently to the end user(s).	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall carefully evaluate the adequacy of infrastructure to support hydrogen production and distribution as part of the permitting process.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and before the start of construction

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Hazards and Hazardous Materials			
MMHZ-1: The project applicant, project sponsor, or public agency shall ensure that the aqueous ammonia used in air pollution control equipment is less than 19 percent ammonia by weight.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall carefully evaluate projects and require the use of aqueous ammonia used in air pollution control equipment to be 19 percent ammonia by weight or less.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before operation begins
MMHZ-2: The project applicant, project sponsor, or public agency shall ensure that tank level monitors, temperature and pressure monitors, leak monitoring and detection systems, alarms, check valves, and emergency block valves are installed on all applicable equipment (e.g., LNG tanks)	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall coordinate with local fire departments to ensure that tank level monitors, temperature and pressure monitors, leaking monitors, alarms, valves, and emergency block valves have been installed, if necessary, before giving final approval of the project.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before operation begins.
MMHZ-3: The project applicant, project sponsor, or public agency shall ensure the installation of secondary containment (e.g., berms) for LNG tanks, and other tanks storing hazardous materials, as applicable.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall coordinate with local fire departments to ensure that secondary containment has been installed before giving final approval of the project.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/Lead Agency or Other Public Agency with project oversight 3. Before operation begins

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Hazards and Hazardous Materials (continued)			
MMHZ-4: The project applicant, project sponsor, or public agency shall ensure the installation of a grating-covered trench or other form of secondary containment to contain potential spills from tanker trucks during the transfer of aqueous ammonia from the delivery truck to the storage tank.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall coordinate with local fire departments to ensure that appropriate secondary containment has been installed before giving final approval of the project.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before operation begins
MMHZ-5: The project applicant, project sponsor, or public agency shall ensure the ammonia truck loading/unlading area is equipped with an underground gravity drain that flows to an onsite retention basin/containment area that provides sufficient ammonia dilution to minimize the potential offsite hazards impacts in the event of an accidental release during the transfer of aqueous ammonia.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall coordinate with local fire departments to ensure that appropriate secondary containment has been installed before giving final approval of the project.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before operation begins

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Hazards and Hazardous Materials (continued)			
MMHZ-6: The project applicant, project sponsor, or public agency shall ensure the installation of tertiary containment that is capable of evacuating 110 percent of the storage tank volume from the secondary containment area.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall coordinate with local fire departments to ensure that appropriate tertiary containment has been installed before giving final approval of the project.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before operation begins
MMHZ-7: The project applicant, project sponsor, or public agency shall add consumer warning requirements for all flammable and extremely flammable products.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall coordinate with local fire departments or hazmat departments, as appropriate, to develop appropriate warnings and locations of warning labels.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and before consumer products are sold..

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Hazards and Hazardous Materials (concluded)			
MMHZ-8:The project applicant, project sponsor, or public agency shall add requirements to conduct a public education and outreach program in joint cooperation with local fire departments regarding flammable and extremely flammable products that may be included in reformulated products, especially for reformulated consumer paint thinners and multi-purpose solvents.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall coordinate with local fire departments or school districts, as appropriate, to develop appropriate education campaigns and outreach programs regarding the flammability of consumer paint thinners and solvents.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and throughout the implementation of the 2022 AQMP.
Hydrology and Water Quality Impacts			
MMHWQ-1: The project applicant, project sponsor, or public agency shall work with local water agencies to continue to evaluate future water demand and establish the necessary supply and infrastructure to meet that demand, as documented in their Urban Water Management Plans.	Local Water Agencies	Local water agencies within South Coast AQMD's jurisdiction shall coordinate with local public agencies, to the extent allowed by state and federal law, with regard to forecasting future water demand and providing the necessary water supply infrastructure to meet forecast demand.	1. Local Water Agencies 2. Local Water Agencies 3. During the environmental review process and throughout implementation of the 2022 AQMP.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Hydrology and Water Quality Impacts (continued)			
MMHWQ-2: The project applicant, project sponsor, or public agency shall coordinate with the local water provider to ensure that existing or planned water supply and water conveyance facilities are capable of meeting water demand/pressure requirements. In accordance with California law, a Water Supply Assessment shall be required for projects that meet the size requirements specified in the regulations. In coordination with the local water provider, each project sponsor shall identify specific on- and off-site improvements needed to ensure that impacts related to water supply and conveyance demand/pressure requirements are addressed prior to issuance of a certificate of occupancy. Water supply and conveyance demand/pressure clearance from the local water provider shall be required at the time that a water connection permit application is submitted.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall coordinate with local water providers to ensure that existing or planned water supply and water conveyance facilities are capable of meeting water demand/pressure requirements before giving final approval of the project.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and before the start of construction
MMHWQ-3: The project applicant, project sponsor, or public agency shall implement water conservation measures and use recycled water for appropriate end uses.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall approve, as appropriate and adequate, any necessary documentation of incentives to encourage water conservation measures and recycled water use.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and before the start of construction.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Hydrology and Water Quality Impacts (concluded)			
MMHWQ-4: The project applicant, project sponsor, or public agency shall consult with the local water provider to identify feasible and reasonable measures to reduce water consumption.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall carefully coordinate with local water providers to evaluate the adequacy of any required measures to reduce water consumption.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and before the start of construction.
MMHWQ-5: The project applicant, project sponsor, or public agency shall review and evaluate the options for reusing wastewater generated on-site, in lieu of discharge, where applicable and feasible.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall coordinate with local wastewater treatment to evaluate the availability of options for reusing and recycling wastewater.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and before the start of construction.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Noise			
MMNS-1: The project applicant, project sponsor, or public agency shall install temporary noise barriers to protect sensitive receptors from excessive noise levels during construction activities, where noise impacts are determined to exceed local noise ordinances.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction management plan that details all applicable noise suppression requirements to be followed.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and before the start of construction.
MMNS-2: The project applicant, project sponsor, or public agency shall schedule construction activities consistent with the allowable hours pursuant to applicable general plan noise element or noise ordinance. Noise-generating construction activities (including truck deliveries, pile driving, and blasting) shall be limited to the least noise-sensitive times of day (e.g., weekdays during the daytime hours) for projects near sensitive receptors. Where construction activities are authorized outside the limits established by the noise element of the general plan or noise ordinance, the project applicant, project sponsor, or public agency shall notify affected sensitive noise receptors and all parties who will experience noise levels in excess of the allowable limits for the specified land use of the level of exceedance and duration of exceedance and provide a list of protective measures that can be undertaken by the individual, including temporary relocation or use of hearing protective devices.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction management plan that details all applicable noise suppression requirements to be followed.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and before the start of construction.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Noise (continued)			
MMNS-3: The project applicant, project sponsor, or public agency shall prohibit idling for construction equipment to the minimum time possible near sensitive receptors, but in no case longer than five minutes per the requirements of California Code of Regulations, Title 13 Section 2485 - CARB's Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction management plan that details all applicable noise suppression requirements to be followed to minimize impacts to sensitive receptors.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and before the start of construction.
MMNS-4: The project applicant, project sponsor, or public agency shall post procedures and phone numbers at the construction site for notifying the Lead Agency staff, local Police Department, and construction contractor (during regular construction hours and off-hours), along with permitted construction days and hours, complaint procedures, and who to notify in the event of a problem.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction management plan that details all applicable noise suppression requirements to be followed.	1. South Coast AQMD/Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Prior to and during construction activities.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Noise (continued)			
MMNS-5: The project applicant, project sponsor, or public agency shall notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of anticipated times when noise levels are expected to exceed limits established in the noise element of the general plan or noise ordinance.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of anticipated times when noise levels are expected to exceed limits established in the noise element of the general plan or noise ordinance.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Before the start of construction.
MMNS-6: The project applicant, project sponsor, or public agency shall hold a preconstruction meeting with the job inspectors and the general contractor/onsite project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, truck parking and idling, etc.) are completed.	Project Applicant/ Project Sponsor/ Public Agency	The project applicant/sponsor shall hold a preconstruction meeting with the job inspectors and the general contractor/onsite project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Prior to construction.
MMNS-7: The project applicant, project sponsor, or public agency shall designate an on-site construction compliance and enforcement manager for the project.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction management plan that designates the on-site construction complaint and enforcement manager for the project.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Prior to construction.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Noise (continued)			
MMNS-8: The project applicant, project sponsor, or public agency shall ensure that construction equipment are properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps). Additionally, all intake and exhaust ports on power equipment shall be muffled or shielded.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction management plan that details all applicable noise suppression requirements to be followed.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Prior to and during construction.
MMNS-9: The project applicant, project sponsor, or public agency shall ensure that impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction are hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. External jackets on the tools themselves shall be used, if such jackets are commercially available and could achieve a reduction of five dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction management plan that details all applicable noise suppression requirements to be followed.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Prior to and during construction.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Noise (continued)			
MMNS-10: The project applicant, project sponsor, or public agency shall locate fixed/stationary equipment (such as generators, compressors, rock crushers, and cement mixers) as far as possible from noise-sensitive receptors.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction management plan that details all applicable noise suppression requirements to be followed.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/Lead Agency or Other Public Agency with project oversight 3. Prior to and during construction.
MMNS-11: The project applicant, project sponsor, or public agency shall investigate the use of flashing lights instead of audible back-up alarms on mobile equipment, so long as they can be used and still protect the safety of workers and all other persons.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction management plan that details applicable uses of flashing lights instead of audible back-up alarms on mobile equipment.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Prior to and during construction activities.
MMNS-12: For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, the project applicant, project sponsor, or public agency shall develop site-specific noise/vibration attenuation measures under the supervision of a qualified acoustical consultant.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction management plan that details measures to minimize known vibrational impacts.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Prior to and during construction.

TABLE A (continued)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Noise (concluded)			
MMNS-13: For construction activities at locations that require pile driving due to geological conditions, the project applicant, project sponsor, or public agency shall utilize quiet pile driving techniques such as predrilling the piles to the maximum feasible depth, where feasible.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction management plan that details procedures to utilize quiet pile driving techniques, where applicable.	1. South Coast AQMD/Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Prior to and during construction.
MMNS-14: The project applicant, project sponsor, or public agency shall monitor the effectiveness of noise reduction measures by taking noise measurements during construction activities and installing adaptive mitigation measures to achieve the standards for ambient noise levels established by the noise element of the general plan or noise ordinance for the applicable jurisdiction.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall review and approve a construction management plan that details noise reduction measures and includes noise monitoring activities during construction activities, where applicable.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Prior to and during construction.

TABLE A (concluded)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Solid and Hazardous Waste			
MMSHW-1: The project applicant, project sponsor, or public agency shall coordinate with waste management agencies and the appropriate local and regional jurisdictions to facilitate the development of measures to encourage diversion of solid waste such as recycling and composting programs, as needed. This includes discouraging siting of new landfills unless all other waste reduction and prevention actions have been fully explored to minimize impacts to neighborhoods.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall coordinate with local waste management companies to develop measures to encourage recycling and composting programs.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. Prior to construction activities.
MMSHW-2: The project applicant, project sponsor, or public agency shall coordinate with waste management agencies and the appropriate local and regional jurisdictions to facilitate the development of measures to encourage diversion of solid waste such as recycling and composting programs, as needed.	Project Applicant/ Project Sponsor/ Public Agency	The lead agency shall coordinate with local waste management companies to develop measures to encourage recycling and composting programs.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During project construction and operation.

TABLE A (concluded)
Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP

Implementation Requirement for Mitigation Measures	Party Responsible for Implementation	Monitoring Action	1. Enforcement Agency 2. Monitoring Agency 3. Monitoring Phase
Solid and Hazardous Waste (concluded)			
MMSHW-3: The project applicant, project sponsor, or public agency should consider project-specific measures to reduce the generation of waste as part of the project approval process. These may include integration of green building measures consistent with California Building Code Title 24.	Project Applicant/ Project Sponsor/ Public Agency	Prior to the start of construction, the lead agency shall consider measures to reduce waste generation.	1. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 2. South Coast AQMD/ Lead Agency or Other Public Agency with project oversight 3. During the environmental review process and before the start of construction.

ATTACHMENT G

(Adopted December 1, 1978)(Amended July 8, 1983)(Amended November 6, 2009)
(Amended September 5, 2014)(Amended March 2, 2018)(Amended July 6, 2018)
(Amended December 6, 2019)(Amended September 4, 2020)(Amended October 1, 2021)
(Amended September 1, 2023)(Amended [DATE OF RULE ADOPTION])

PROPOSED AMENDED RULE 1111 REDUCTION OF NO_X EMISSIONS FROM NATURAL- GAS- FIRED ~~, FAN-TYPE CENTRAL~~ FURNACES

[*RULE INDEX TO BE ADDED AFTER RULE ADOPTION*]

(a) Purpose ~~and Applicability~~

The purpose of this rule is to reduce Oxides of Nitrogen (NOx) emissions from ~~fan-type central furnaces~~ Furnaces used for interior space heating, as defined in this rule. ~~This rule applies to manufacturers, distributors, sellers, and installers of residential and commercial fan-type central furnaces, requiring either single-phase or three-phase electric supply, used for comfort heating with a rated heat input capacity of less than 175,000 BTU per hour, or, for combination heating and cooling units, a cooling rate of less than 65,000 BTU per hour.~~

(b) Applicability

The provisions of this rule are applicable to manufacturers, distributors, retailers, Resellers, and Installers of Furnaces used for interior space heating with a Rated Heat Input Capacity less than 175,000 British thermal units (Btu) per hour, or, for combination heating and cooling units, a cooling rate of less than 65,000 Btu per hour.

(~~b~~c) Definitions

(1) ANNUAL FUEL UTILIZATION EFFICIENCY (AFUE) is defined in Section 10.1 of Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N.

~~(2) BTU means British thermal unit or units.~~

(~~3~~2) CONDENSING FURNACE means a high-efficiency ~~furnace Residential~~ Fan-Type Central Furnace that uses a second heat exchanger to extract the latent heat in the flue gas by cooling the combustion gas~~s~~es to near ambient temperature so that water vapor condenses in the heat exchanger, and is collected and drained.

(3) Consumer Price Index (CPI) means the consumer price index for California as reported by the Department of Industrial Relations based on:

(A) Urban population coverage (CPI-U);

(B) California Area Coverage;

(C) Series Title "All Items;"

(D) Index Base Period "1982-1984=100;" and

(E) Reference Period "Annual Average" for All Urban Consumers.

(4) DOWNFLOW FURNACE means a ~~condensing~~ Condensing or ~~non-condensing~~Non-Condensing ~~furnace~~ Furnace installed in a configuration in which the furnace takes in cool air from the top, warms it, then releases the warm air through the ductwork below.

~~(5) DUAL FUEL SYSTEM is a heating, ventilation, and air conditioning system utilizing a HEAT PUMP as the primary source of heating and cooling with a FAN-TYPE CENTRAL FURNACE serving as auxiliary heating.~~

(5) EXISTING BUILDING means a building that is not a New Building as defined in this rule.

~~(6) FAN-TYPE CENTRAL FURNACE is a self-contained space heater using natural gas, or any fan-type central furnace that is in natural gas-firing mode, providing for circulation of heated air at pressures other than atmospheric through ducts more than 10 inches in length that have:~~

~~(A) a RATED HEAT INPUT CAPACITY of less than 175,000 BTU per hour; or~~

~~(B) for combination heating and cooling units, a cooling rate of less than 65,000 BTU per hour.~~

(6) FAN-TYPE CENTRAL FURNACE is a self-contained space heater using natural gas, or any fan-type central furnace that is in natural gas-firing mode, providing for circulation of heated air at pressures other than atmospheric through ducts more than 10 inches in length that have:

(A) a RATED HEAT INPUT CAPACITY of less than 175,000 BTU per hour; or

(B) for combination heating and cooling units, a cooling rate of less than 65,000 BTU per hour.

(~~6~~7) FLOOR FURNACE means a self-contained, floor-mounted, NOx emitting space heater using natural gas without ducts that has a Rated Heat Input Capacity at or less than 175,000 Btu per hour.

(~~7~~8) FURNACE means any ~~Residential~~ Fan-Type Central Furnace, Wall Furnace, or Floor Furnace, as defined in this rule.

(~~8~~9) HEAT INPUT ~~means the higher heating value of the fuel to the furnace measured as BTU per hour.~~ means the chemical heat released due to assumed complete combustion of fuel to a Furnace, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.

~~*(9) HEAT PUMP means an all-electric device that utilizes condensation and evaporation of refrigerant to absorb and release heat for heating, ventilation, and air conditioning applications.*~~

(10) HIGH-ALTITUDE means an elevation at or above 4,200 feet above sea level.

(11) INFORMATIVE MATERIALS means consumer brochures and technical specification sheets for the Furnace and manufacturer's website that promotes, discusses, or lists the Furnace.

(12) INSTALL means the action of an Installer to place a Furnace in a position ready for use.

(13) INSTALLER means a person who Installs a Furnace and is required to obtain a license issued by the Department of Consumer Affairs Contractors State License Board for a classification related to buildings and appliances.

(14) MASTER-METERED MOBILE HOME PARK means a Mobile Home park that takes electricity through a master meter and then distributes it to park residents through the Mobile Home park's system.

(~~9~~15) MOBILE HOME means a ~~prefabricated structure on a permanently attached chassis.~~structure, transportable in one or more sections, that is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities.

(~~10~~16) MOBILE HOME FURNACE means a ~~Residential~~ Fan-Type Central ~~furnace~~ Furnace designed specifically and solely for installation to heat a mobile home.

(17) NEW BUILDING means a building that is newly constructed or a building with a major alteration which changes the occupancy classification of a building, which means a change in the formal designation of the primary purpose of the building pursuant to 2022 Title 24 California Building Code Part 2 Chapter 3 for occupancy classification and use, or any subsequent version of the Building Code. For Mobile Homes, the newly constructed building includes installation of the Mobile Home onto the property of residence.

(18) NON-CONDENSING FURNACE means a standard ~~Residential~~ Fan-Type Central Furnace that is not a Condensing Furnace, Weatherized Furnace, or Mobile Home Furnace.

(~~11~~19) NOx EMISSIONS means the sum of ~~nitrogen~~ nitric oxide and nitrogen dioxide ~~(oxides of nitrogen) in the flue gas collectively~~ emitted; calculated and expressed as nitrogen dioxide.

(~~12~~20) RATED HEAT INPUT CAPACITY means the gross ~~HEAT INPUT~~Heat Input of the combustion device, as supported by required documentation.

(21) RESELLER means anyone who sells Furnace(s) either retail, wholesale, or on an individual basis.

~~(22) RESIDENTIAL FAN-TYPE CENTRAL FURNACE is a self-contained natural gas-fired space heater, or any fan-type central Furnace that is in natural gas-firing mode and emits NOx, providing for circulation of heated air at pressures other than atmospheric through ducts more than 10 inches in length that has:~~

~~(A) A Rated Heat Input Capacity less than 175,000 Btu per hour; or~~

~~(B) For combination heating and cooling units, a cooling rate of less than 65,000 Btu per hour.~~

(~~13~~2322) RESPONSIBLE OFFICIAL means:

(A) For a corporation: a president or vice-president of the corporation in charge of a principal business function or a duly authorized person who performs similar policy-making functions for the corporation~~,~~; or

(B) For a partnership or sole proprietorship: general partner or proprietor, respectively.

~~(14) SINGLE FIRING RATE means the burners and control system are designed to operate at only one fuel input rate and the control system cycles burners between the maximum heat output and no heat output.~~

(~~15~~2423) USEFUL HEAT DELIVERED TO THE HEATED SPACE is the AFUE (expressed as a fraction) multiplied by the heat input.

~~(16) VARIABLE FIRING RATE means the burners and control system are designed to operate at more than one fuel input rate and the control system cycles burners between two or more heat output rates and no heat output.~~

(~~25~~24) WALL FURNACE means a wall-mounted, self-contained NOx emitting space heater using natural gas without ducts that exceed 10 inches that has a Rated Heat Input Capacity less than 175,000 Btu per hour.

(~~1726~~25) WEATHERIZED means a ~~Residential~~ Fan-Type Central Furnace designed for installation outside of a building, equipped with a protective jacket and integral venting, and labeled for outdoor installation.

(~~27~~26) ZERO-NOx EMISSION UNIT means an appliance that provides space heating with heating capacity equivalent to, or sized to replace, Furnaces subjected to this rule and emits no more than zero nanograms of NOx per joule of Useful Heat Delivered To The Heated Space (ng/J).

(~~c~~d) Requirements

~~(1) A manufacturer shall not, after January 1, 1984, manufacture or supply for sale or use in the South Coast AQMD fan-type central furnaces, unless such furnaces meet the requirements of paragraph (c)(3).~~

~~(2) A person shall not, after April 2, 1984, sell or offer for sale within the South Coast AQMD fan-type central furnaces unless such furnaces meet the requirements of paragraph (c)(3).~~

~~(3) Fan-type central furnaces shall:~~

~~(A) not emit more than 40 nanograms of oxides of nitrogen (calculated as NO_2) per joule of useful heat delivered to the heated space; and~~

~~(B) be certified in accordance with subdivision (d) of this rule.~~

(~~4~~1) ~~On or after October 1, 2012~~A person shall not manufacture, supply, sell, resell, offer for sale, import, or ~~install~~Install, for use within the South Coast AQMD, ~~fan-type central furnaces subject to this rule~~ any of the Furnaces listed in Table 1, unless such ~~furnace~~Furnace ~~complies with~~ is certified pursuant to subdivision (e) not to exceed the applicable Table 1 emission limit ~~and compliance date set forth in Table 1 and is certified in accordance with subdivision (d) of this rule.~~, expressed by nanograms of NOx per joule of Useful Heat Delivered to the Heated Space (ng/J):

~~Table 1 – Furnace NOx Limits and Compliance Schedule~~

~~Compliance Date~~	~~Equipment Category~~	~~NOx Emission Limit (nanograms/Joule *)~~
~~October 1, 2012~~	~~Mobile Home Furnace~~	~~40~~
~~April 1, 2015~~	~~Condensing Furnace~~	~~14~~
~~October 1, 2015~~	~~Non-condensing Furnace~~	~~14~~
~~October 1, 2016~~	~~Weatherized Furnace~~	~~14~~
~~October 1, 2018~~	~~Mobile Home Furnace~~	~~14~~

Table 1 – ~~Residential~~ Fan-Type Central Furnace NOx Limits

Equipment Category	NOx Emission Limit (ng/J)
Condensing Furnace	14
Non-Condensing Furnace	14
Weatherized Furnace	14
Mobile Home Furnace	14

(2) On and after the applicable Table 2 compliance date, a person shall only manufacture, supply, sell, resell, offer for sale, import, or Install, for use in the South Coast AQMD, a Zero-NOx Emission Unit, that emits zero ng/J of NOx, in place of a Furnace according to the Table 2 compliance schedule for each Furnace equipment category, unless the Furnace is included in the Zero-NOx emission manufacturer alternative compliance option pursuant to paragraph (f)(2) as indicated in the Informative Materials for the Furnaces pursuant to subparagraph (g)(1)(C). The applicable Table 2 compliance dates for New Building types shall be determined based on the construction or alteration completion date.

Table 2 – Zero-NOx Emission Limit Compliance Schedule

Equipment Category	Building Type	Compliance Date
~~Residential~~ Fan-Type Central Furnace[1]	New	January 1, 2027
	Existing	January 1, 2029
Mobile Home Furnace	New	January 1, 2027
Wall Furnace and Floor Furnace	New	January 1, 2027
	Existing	January 1, 2029

[1] Includes Condensing, Non-Condensing, and Weatherized Furnaces.

~~(5) Any manufacturer of fan-type central furnaces regulated by this rule may elect to pay a per unit mitigation fee in lieu of meeting the 14 nanogram/Joule NOx emission limit in Table 1 of paragraph (c)(4) of this rule, provided the manufacturer complies with the following requirements:~~

~~(A) Prior to the phase one mitigation fee start date specified in Table 2, pays a per unit mitigation fee of $200 for each condensing furnace~~

and $150 for each other type of furnace distributed or sold into the South Coast AQMD, disregarding the furnace size.

(B) On and after the phase one mitigation fee start date but no later than the mitigation fee option end date specified in Table 2, pays a per unit phase one or phase two mitigation fee for each condensing, non-condensing, weatherized or mobile home furnace according to Table 2.

Table 2 – Alternate Compliance Plan with the Phase One and Phase Two Mitigation Fee Schedules

Furnace		Phase One Mitigation Fee		Phase Two Mitigation Fee		
Size Range	Furnace Category	Phase One Mitigation Fee Start Date	Phase One Mitigation Fee ($/Unit)	Phase Two Mitigation Fee Start Date	Phase Two Mitigation Fee ($/Unit)	Phase Two Mitigation Fee Option End Date
≤ 60,000 BTU/hr	Condensing	May 1, 2018	$275	October 1, 2018	$350	September 30, 2019
	Non-condensing	October 1, 2018	$225	April 1, 2019	$300	September 30, 2019
	Weatherized	October 1, 2018	$225	April 1, 2019	$300	September 30, 2021
	Mobile Home	October 1, 2018	$150	April 1, 2019	$150	September 30, 2025
> 60,000 Btu/hr and ≤ 90,000 BTU/hr	Condensing	May 1, 2018	$300	October 1, 2018	$400	September 30, 2019
	Non-condensing	October 1, 2018	$250	April 1, 2019	$350	September 30, 2019
	Weatherized	October 1, 2018	$250	April 1, 2019	$350	September 30, 2021
	Mobile Home	October 1, 2018	$150	April 1, 2019	$150	September 30, 2025
> 90,000 BTU/hr	Condensing	May 1, 2018	$325	October 1, 2018	$450	September 30, 2019
	Non-condensing	October 1, 2018	$275	April 1, 2019	$400	September 30, 2019
	Weatherized	October 1, 2018	$275	April 1, 2019	$400	September 30, 2021
	Mobile Home	October 1, 2018	$150	April 1, 2019	$150	September 30, 2025

(C) Submits an alternate compliance plan for each 12-month time period after the applicable Table 1 compliance date during which the manufacturer elects to pay the mitigation fee in lieu of meeting the NOx emission limit.

~~(D) Submits to the South Coast AQMD an alternate compliance plan no later than 60 days prior to the applicable compliance date, or no later than March 16, 2018 for the condensing furnace compliance plan starting on April 1, 2018, which includes the following:~~

~~(i) a letter with the name of the manufacturer requesting the mitigation fee compliance option signed by a responsible official identifying the category of fan-type central furnaces and the 12 month alternate compliance period that the mitigation fees cover;~~

~~(ii) an estimate of the quantity of applicable Rule 1111 fan-type central furnaces to be distributed or sold into the South Coast AQMD during the alternate compliance period, which estimate shall be based on total distribution and sales records or invoices of weatherized or mobile home fan-type central furnaces that were distributed or sold into the South Coast AQMD during the 12 month period of July 1 to June 30 prior to the applicable compliance date, along with supporting documentation;~~

~~(iii) a completed South Coast AQMD Form 400A with company name, identification that application is for an alternate compliance plan (section 7 of form), identification that the request is for the Rule 1111 mitigation fee compliance option (section 9 of form), and signature of the responsible official;~~

~~(iv) a check for payment of the alternate compliance plan filing fee (Rule 306, subdivision (c)).~~

~~(E) Submits to the Executive Officer a report signed by the responsible official for the manufacturer identifying by model number the quantity of Rule 1111 fan-type central furnaces actually distributed or sold into South Coast AQMD and a check for payment of mitigation fees for the applicable 12 month alternate compliance period for the quantity of applicable Rule 1111 fan-type central furnaces distributed or sold into the South Coast AQMD during the alternate compliance period. The report and the payment of mitigation fees must be submitted to the South Coast AQMD no~~

~~later than thirty (30) days after the end of each 12-month mitigation fee alternate compliance period.~~

~~(F) Notwithstanding the requirements set forth in subparagraph (c)(5)(E), during the phase one period specified in Table 2, submits a report signed by the responsible official for the manufacturer identifying by model number the quantity of Rule 1111 fan-type central furnaces actually distributed or sold into South Coast AQMD and a check for payment of mitigation fees for the phase one period no later than thirty (30) days after the end of the phase one period. The 12-month compliance plan payment as specified in subparagraph (c)(5)(E) that includes this phase one period shall be reconciled so as not to include the phase one payment.~~

~~(G) For the last and remaining 6-month period of the condensing furnace final alternate compliance plan ending on September 30, 2019, specified in Table 2, submits a report signed by the responsible official for the manufacturer identifying by model number the quantity of Rule 1111 fan-type central furnaces – condensing furnaces actually distributed or sold into South Coast AQMD and a check for payment of mitigation fees to the South Coast AQMD no later than October 30, 2019.~~

(~~d~~e) Certification

(1) The manufacturer shall have each ~~appliance~~ Furnace model that is required to be certified to meet Table 1 emission limits tested in accordance with the following:

(A) ~~Oxides of nitrogen~~NOx measurements, test equipment, and other required test procedures ~~shall be~~ in accordance with South Coast AQMD Method 100.1~~.~~; and

(B) Operation of the ~~furnace~~ Furnace ~~shall be~~ in accordance with the procedures specified in:

(i) Section 4.0 of Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N~~.~~; or

(ii) South Coast AQMD Rule 1111 Nitrogen Oxides Emissions Compliance Testing for Natural Gas-Fired, Fan-Type Central Furnaces certification protocol.

(2) ~~One of the two formulas shown below~~ Equation 1 or 2 shall be used to determine the nanograms of ~~oxides of nitrogen~~NOx per joule of ~~useful heat delivered to the heated space:~~Useful Heat Delivered to the Heated Space:

$$N = \frac{4.566 \times 10^4 \times P \times U_{,}}{H \times C \times E} \quad \text{(Eq. 1)}$$

$$N = \frac{3.655 \times 10^{10} \times P}{(20.9\text{-}Y) \times Z \times E} \quad \text{(Eq. 2)}$$

Where:

N = ~~nanograms~~ ng/J of emitted ~~oxides of nitrogen~~NOx ~~per joule~~ of useful heat.

P = concentration (parts per million by~~ppm~~ volume) of ~~oxides of nitrogen~~ NOx in flue gas as tested.

U = volume percent carbon dioxide (CO_2) in water-free flue gas for stoichiometric combustion.

H = gross heating value of fuel, ~~BTU/cu.ft.~~ Btu/ft^3 (60^{o}F, 30-in. Hg).

C = measured volume percent of CO_2 in water-free flue gas, assuming complete combustion and no carbon monoxide ~~CO~~ present.

E = AFUE, percent.

Y = volume percent of oxygen ~~O_2~~ in flue gas.

Z = heating value of gas, ~~joules/cu. meter~~ J/m^3 (0.0^{o}C, 1 ~~ATM~~ standard atmosphere).

(3) ~~Prior to the date a furnace model is first shipped to a location in the South Coast AQMD for use in the South Coast AQMD, the manufacturer shall obtain Executive Officer's approval for the emission test protocol and emission test results verifying compliance with the applicable NOx limit specified in Table 1, submitting the following~~When applying for certification of Furnaces, the manufacturer shall submit to the Executive Officer the following:

(A) A statement ~~that~~ indicating the model is in compliance with subdivision ~~(c)~~(d) that is ~~(The statement shall be~~ signed and dated by a ~~responsible official~~ Responsible Official, ~~and dated, and shall~~ attesting to the accuracy of all statements.~~);~~;

(B) General Information, including:

(i) Name and address of manufacturer.~~;~~;

(ii) Brand name; and~~.~~

(iii) Model number, as it appears on the ~~furnace~~ Furnace rating plate~~.~~;

(C) A description of the ~~furnace~~ Furnace and specifications for each model being certified~~.~~; and

(D) A source test report verifying compliance with the emission limits in subdivision (d) for each model to be certified. The source test report shall contain all the elements identified in the procedures specified in (e)(2) for each unit tested.

(4) When applying for certification of Furnaces, the manufacturer shall submit the items identified in paragraph (e)(3) no more than 180 days after the date of the source test identified in subparagraph (e)(3)(D).

~~(e) Identification of Compliant Units~~

~~(1) The manufacturer of the furnace complying with subdivisions (c) and (d) shall display the following on the shipping container label and rating plate of the furnace:~~

~~(A) Model number;~~

~~(B) Heat input capacity;~~

~~(C) Applicable NOx emission limit in Table 1; and~~

~~(D) Date of manufacture or date code.~~

~~(2) Any non-certified furnace shipped to a location in the South Coast AQMD for distribution or sale outside of the South Coast AQMD shall have a label on the shipping container identifying the furnace as not certified for use in the South Coast AQMD.~~

~~(3) Consumer Notification Requirement~~

~~(A) For the purposes of subparagraph (e)(3)(B), "Informative Materials" shall mean the following:~~

~~(i) The consumer brochure for the furnace;~~

~~(ii) The technical specification sheet for the furnace; and~~

~~(iii) The manufacturer's website that promotes, discusses, or lists the furnace.~~

~~(B) Effective October 1, 2018, for any furnace that is for distribution or sale inside of the South Coast that is using an alternate compliance plan in lieu of meeting the 14 ng/J certification limit, a manufacturer shall only distribute or publish Informative Materials that clearly~~

~~display the following language: "If installed in South Coast AQMD only: This furnace does not meet the South Coast AQMD Rule 1111 NOx emission limit (14 ng/J), and thus is subject to a mitigation fee of up to $450. This furnace is not eligible for the Clean Air Furnace Rebate Program: www.CleanAirFurnaceRebate.com."~~

~~(C) A manufacturer may use alternative language in lieu of subparagraph (e)(3)(B), provided the alternative language is:~~

~~(i) Similar to the language in subparagraph (e)(3)(B);~~

~~(ii) Submitted to the Executive Officer by August 1, 2018; and~~

~~(iii) Approved by the Executive Officer no later than August 31, 2018.~~

~~The manufacturer shall use the language in subparagraph (e)(3)(B) if the alternative language is not approved.~~

(f) Alternative Compliance Options

(1) Mitigation Fee Alternative Compliance Option for Mobile Home Furnaces

A manufacturer of Mobile Home Furnaces may elect to pay a per unit mitigation fee for selling or enabling distributors, retailers, Resellers, or Installers to sell Mobile Home Furnaces certified to emit 40 ng/J of NOx in lieu of complying with the 14 ng/J NOx emission limit in Table 1, provided the manufacturer complies with the following requirements:

(A) Pays a per unit mitigation fee of:

(i) Until September 30, 2025, $150 for each Mobile Home Furnace distributed or sold into or within the South Coast AQMD; and

(ii) On and after October 1, 2025, $100 for each Mobile Home Furnace distributed or sold into or within the South Coast AQMD;

(B) Submits an alternative compliance plan, no later than 60 days prior to each 12-month compliance period that begins on October 1st during which the manufacturer elects to pay the mitigation fee in lieu of meeting the NOx emission limit that includes:

(i) A letter with the name of the manufacturer requesting the Mobile Home mitigation fee compliance option signed by a Responsible Official and the 12-month alternative compliance period that the mitigation fees cover;

(ii) An estimate of the quantity of applicable Mobile Home Furnace to be distributed or sold into or within the South Coast AQMD during the alternative compliance period, which estimate shall be based on total distribution and sales records or invoices of Mobile Home Furnaces that were distributed or sold into or within the South Coast AQMD during the 12- month period of July 1 to June 30 prior to the applicable compliance date, along with supporting documentation;

(iii) A complete South Coast AQMD Form 400A with company name, identification that application is for an alternative compliance plan (section 7 of form), identification that the request is for the Rule 1111 mitigation fee compliance option (section 9 of form), and signature of the Responsible Official; and

(iv) Payment for the alternative compliance plan filing fee pursuant to Rule 306– Plan Fees;

(C) Submits to the Executive Officer a report signed by the Responsible Official for the manufacturer, no later than 90 days after the end of each 12-month mitigation fee alternative compliance period, that shall for the applicable 12-month alternative compliance period:

(i) Identify each model number and the quantity of Mobile Home Furnaces distributed or sold into or within South Coast AQMD; and

(ii) Include the payment of mitigation fees.

(2) Zero-NOx Emission Manufacturer (ZEM) Alternative Compliance Option

Any manufacturer of Furnaces, other than Mobile Home Furnaces, subject to this rule may elect to comply with the ZEM alternative compliance option in lieu of complying with paragraph (d)(2) provided:

(A) The manufacturer submits an alternative compliance plan, no later than November 1, 2026, or no later than 60 days prior to any sales into or within the South Coast AQMD for a new manufacturer, which is a manufacturer who does not have any sales into or within the South Coast AQMD as of October 31, 2026, that includes:

(i) A letter with the name of the manufacturer requesting the ZEM alternative compliance option signed by a Responsible Official;

(ii) A complete South Coast AQMD Form 400A with company name, indicating the application is for a compliance plan (section 7 of form), indicating the request is for the "Rule 1111 ZEM alternative compliance option" (section 9 of form), and signature of the Responsible Official; and

(iii) Payment for the alternative compliance plan filing fee pursuant to Rule 306– Plan Fees;

(B) The manufacturer sells, or enables distributors, retailers, Resellers, or Installers to sell, Zero-NOx Emission Units into or within the South Coast AQMD:

(i) At a percentage greater than or equal to the Zero-NOx Emission Unit sales target specified in Table 3 and pays the mitigation fee in subparagraph (f)(2)(F); or

(ii) At a percentage less than the Zero-NOx Emission Unit sales target specified in Table 3 and pays the mitigation fee in paragraph (f)(3)~~(A)~~;

(C) Zero-NOx Emission Unit sales percentage is calculated by Equation 3. For determining the number of Zero-NOx Emission Units sold in a calendar year into or within the South Coast AQMD:

(i) Each Zero-NOx Emission Unit that utilizes ductwork to distribute heated air through the home shall be counted as one Zero-NOx Emission Unit;

(ii) Each Zero-NOx Emission Unit that does not utilize ductwork to distribute heated air through the home, e.g., a mini-split, shall be counted as half of a Zero-NOx Emission Unit;

(iii) Each Zero-NOx Emission Unit that does not utilize ductwork to distribute heated air through the homes but is a multiple zone system with multiple indoor units for one outdoor unit, e.g., a multi-split, only the outdoor unit shall be counted as one Zero-NOx Emission Unit; and

(iv) A Zero-NOx emission space heating appliance that is portable or has a Rated Heat Input Capacity less than 5,500

Btu per hour shall not be counted as a Zero-NOx Emission Unit;

$$\text{Zero-NOx Emission Unit Sales Percentatge} = \frac{(Z)}{(Z + N)} \times 100 \quad \text{(Eq. 3)}$$

Where:
Z = Number of Zero-NOx Emission Units sold in a compliance year
N= Number of Furnaces sold in a compliance year

(D) Furnace sales percentage is calculated by Equation 4;

$$\text{Furnace Sales Percentatge} = 100 - \text{Zero-NOx Emission Unit Sales Percentage} \quad \text{(Eq. 4)}$$

(E) The Furnaces sold under this alternative compliance option are:
  (i) ~~Residential~~ Fan-Type Central Furnaces certified to emit 14 ng/J or less of NOx; or
  (ii) Wall or Floor Furnaces;

(F) The manufacturer pays the following mitigation fee for each Furnace sold within the Furnace sales target for the applicable calendar year in Table 3:
  (i) $100 for the calendar year 2027;
  (ii) $100 adjusted by the CPI annual percent ~~increase~~ change for each subsequent calendar year after 2027; and
  (iii) If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year in lieu of the CPI annual percent increase;

(G) The manufacturer submits a report and mitigation fee payment pursuant to paragraph (g)(2) no later than 90 days after the end of each calendar year utilizing this alternative compliance option; and

(H) The manufacturer complies with the Informative Material requirements pursuant to paragraph (g)(1).

Table 3 – ZEM Alternative Compliance Option Targets

Compliance phase	**Phase 1**	**Phase 2**	**Phase 3**	**Phase 4**
Calendar Years	**2027 - 2028**	**2029 - 2032**	**2033-2035**	**2036 and after**
Zero-NOx Emission Unit Sales Target	30 percent	50 percent	75 percent	90 percent
Furnace Sales Target	70 percent	50 percent	25 percent	10 percent

(3) ZEM Alternative Compliance Option Sales Target Deviation

~~Any manufacturer of Furnaces subject to this rule that elects to comply with the ZEM Alternative Compliance Option pursuant to paragraph (f)(2) that deviates from the applicable Sales Targets in Table 3 shall:~~

~~(A) If the annual Furnaces sales percentage is greater than the applicable calendar year Furnace sales target specified in Table 3, pay the following mitigation fee for each Furnace sold above the sales target:~~

~~(i) $500 for the calendar year 2027;~~

~~(ii) $500 adjusted by the CPI annual percent increase for each subsequent calendar year after 2027; and~~

~~(iii) If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year in lieu of the CPI annual percent increase; and~~

If the annual Furnaces sales percentage is greater than the applicable calendar year Furnace sales target specified in Table 3, for any manufacturer of Furnaces subject to this rule that elects to comply with the ZEM Alternative Compliance Option pursuant to paragraph (f)(2),the manufacturer shall pay the following mitigation fee for each Furnace sold above the sales target:

(A) $500 for the calendar year 2027;

(B) $500 adjusted by the CPI annual percent change for each subsequent calendar year after 2027; and

(C) If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year in lieu of the CPI annual percent increase.

~~(B) If the annual Zero-NOx Emission Units sales percentage is greater than the applicable calendar year Zero-NOx Emission Unit sales target specified in Table 3, apply a discount to their annual mitigation fee required pursuant to subparagraph (f)(2)(F) according to Equation 5:~~

~~$$\text{Discounted Mitigation Fee} = F - F \times \frac{(P - T)}{(100 - T)}$$~~

~~(Eq. 5)~~

~~Where:~~

~~F = Annual Mitigation Fee pursuant to subparagraph (f)(2)(F)~~

~~P = Reported Percent Zero-NOx Emission Units~~

~~T = Zero-NOx Emission Unit Sales Target.~~

(g) Informative Materials, Labeling, Recordkeeping, and Reporting

(1) Informative Materials for Furnaces

(A) Effective [90 days after Date of Rule Adoption], for any Mobile Home Furnace that is for distribution or sale inside of the South Coast AQMD that is using an alternative compliance plan in lieu of meeting the 14 ng/J certification limit, a manufacturer shall distribute or publish Informative Materials that clearly display the following language: "If installed in South Coast AQMD only: This furnace is only allowed to be installed and used for mobile homes; subject to a mitigation fee of $150 before September 30, 2025, and $100 thereafter; and only allowed to be installed and used for existing mobile homes or any mobile homes in a Master-Metered Mobile Home Park on and after January 1, 2027.";

(B) For any Furnace that is for distribution or sale inside of the South Coast AQMD for installation at High-Altitude in a downflow configuration pursuant to paragraph (h)(3) shall distribute or publish Informative Materials that clearly display the following language: "This furnace must be installed only as a replacement in a downflow configuration at or above 4,200 feet above sea level in the South Coast AQMD. Installation of this furnace for new construction, in any other configuration, or at a lower elevation will be a violation of South Coast AQMD Rule 1111.";

(C) For any Furnace sold under the ZEM Alternative Compliance Option pursuant to paragraph (f)(2) in lieu of complying with paragraph (d)(2), a manufacturer shall distribute or publish Informative Materials that clearly display the following language: "If installed in South Coast AQMD only: This furnace is sold under an alternative compliance option and manufacturer is subject to compliance goals and associated mitigation fee."; and

(D) A manufacturer may request the use of alternative language in lieu of subparagraphs (g)(1)(A), (g)(1)(B), or (g)(1)(C), provided:

(i) The alternative language is similar to the language in subparagraphs (g)(1)(A), (g)(1)(B), or (g)(1)(C); and

(ii) If the alternative language is not approved by the Executive Officer, the manufacturer shall use the language in subparagraphs (g)(1)(A), (g)(1)(B), or (g)(1)(C).

(2) Reporting and Recordkeeping Requirements for ZEM Alternative Compliance Option

The manufacturer of a Furnace supplied or offered for use within the South Coast AQMD in accordance with the ZEM alternative compliance option in paragraph (f)(2) shall:

(A) Submit a report to the Executive Officer, signed by the Responsible Official for the manufacturer pursuant to the schedule in subparagraph (f)(2)(G), that includes:

(i) For Zero-NOx Emission Units:

(A) Brand name and model numbers;

(B) For Zero-NOx Emission Units with both outdoor and indoor units, only brand name and model numbers for the outdoor units;

(C) Zero-NOx Emission Unit type described in subparagraph (f)(2)(C); and

(D) Quantity of Zero-NOx Emission Units distributed or sold into or within the South Coast AQMD for the applicable calendar year; and

(ii) For Furnaces:

(A) Brand name and model numbers;

(B) Furnace description; and

(C) Quantity of Furnaces distributed or sold into or within South Coast AQMD for the applicable calendar year that are subject to the ZEM alternative compliance option; and

(B) Maintain records for at least five years, including, but not limited to, the following information and make them available to the Executive Officer upon request:

(i) All information specified by subparagraph (g)(2)(A);

(ii) Serial number of each Furnace and Zero-NOx Emission Units sold;

(iii) Date and number of Furnaces and Zero-NOx Emission Units sold to a distributor; and

(iv) Each distributor's name, address, and phone number.

(3) Labeling and Recordkeeping Requirements for Propane Conversion Kits

If the manufacturer, distributor, Reseller, or Installer of any Furnace elects to comply pursuant to the exemption in paragraph (h)(1):

(A) The shipping carton or the name plate of the Furnace shall clearly display: "This furnace is to be installed for propane firing only. Operating in natural gas mode is in violation of the South Coast AQMD Rule 1111"; and

(B) The manufacturer shall submit a report by March 1st of the following calendar year to the Executive Officer, which includes, but not limited to:

(i) The quantity of propane conversion kits for Furnaces distributed or sold for use into South Coast AQMD for the applicable compliance plan period; and

(ii) The quantity of propane conversion kits for Furnaces distributed or sold for use into the South Coast AQMD during the 12 month period of July 1 to June 30 prior to the applicable compliance date.

(4) New and Existing Building Labeling Requirements

For any Furnace , except Mobile Home Furnace, that is supplied or offered for sale for use in the South Coast AQMD, and that is not electing to comply with paragraph (f)(2) for ZEM alternative compliance option during the period of January 1, 2027 to January 1, 2029, the manufacturer of the

Furnace shall clearly display on the shipping container, or the name plate of the Furnace, the following:

(A) The statement: "If Installed in South Coast AQMD: 1) After January 1, 2027, this furnace shall not be sold for installation in new buildings; and 2) After January 1, 2029, not compliant for use and installation in South Coast AQMD.";

(B) A manufacturer may use alternative language in lieu of subparagraph (g)(4)(A), provided:

(i) The alternative language is similar to the language in subparagraph (g)(4)(A); and

(ii) If the alternative language is not approved by the Executive Officer, the manufacturer shall use the language in subparagraph (g)(4)(A).

(5) The manufacturer of any Furnace manufactured for sale in the South Coast AQMD shall clearly display on the shipping container and the name plate of the Furnace:

(A) Model number;

(B) Rated Heat Input Capacity;

(C) Applicable NOx emission limit in Table 1; and

(D) Date of manufacture or date code.

(6) Any non-certified Furnace shipped to a location in the South Coast AQMD for distribution or sale outside of the South Coast AQMD shall have a label on the shipping container identifying the Furnace as not certified for use in the South Coast AQMD.

~~(f) Enforcement~~

~~The Executive Officer may periodically conduct such tests as are deemed necessary to ensure compliance with subdivisions (c), (d), and (e).~~

(~~g~~h) Exemptions

~~(1) The provisions of this rule shall not apply to furnaces installed in mobile homes before October 1, 2012.~~

~~(2) For furnaces manufactured, purchased, and delivered to the South Coast AQMD prior to the applicable compliance date in Table 1, any person may, until 300 days after the applicable compliance date, sell, offer for sale, or install such a furnace in the South Coast AQMD, so long as the furnace meets the requirements of paragraph (c)(3) and subdivisions (d) and (e).~~

~~(3) For furnaces that have been encumbered in a contractual agreement, signed prior to January 1, 2018, by a furnace manufacturer or distributor for future or planned construction, the manufacturer shall be allowed to sell the units within the South Coast AQMD at the mitigation fee specified in subparagraph (c)(5)(A), provided:~~

~~(A) An application for exemption is submitted to the Executive Officer prior to April 2, 2018;~~

~~(B) The total quantity of furnaces in application(s) by any one manufacturer does not exceed 15 percent of furnaces distributed and sold in the previous compliance plan period;~~

~~(C) Those furnaces are sold no later than their mitigation fee option end dates specified in Table 2; and~~

~~(D) The following documents and information are provided to the Executive Officer, including but not limited to:~~

~~(i) contractual agreement for the units sold or to be sold in the South Coast AQMD;~~

~~(ii) quantity, model number, and serial number of the subject units;~~

~~(iii) contract execution date; and~~

~~(iv) name(s) of the contractor (s).~~

~~(E) Failure to comply with the requirements specified in subparagraphs (g)(3)(A) through (g)(3)(D) shall result in the requirement to paying or retroactively paying the corresponding mitigation fee specified in paragraph (c)(5) within 30 days upon notification from the Executive Officer.~~

(~~4~~1) The manufacturer of any ~~natural gas furnace~~ Furnace that is not certified to meet the 14 ng/J of NOx emission limit and is to be installed with a propane conversion kit for propane firing only in the South Coast AQMD, is exempt from subdivisions ~~(c)~~(d) and ~~(d)~~(e), provided the manufacturer complies with the labeling and reporting requirements in paragraph (g)(3).~~:~~

~~(A) Effective June 1, 2018, the shipping carton or the name plate of the furnace clearly displays: "This furnace is to be installed for propane firing only. Operating in natural gas mode is in violation of the South Coast AQMD Rule 1111."~~

~~(B) The following documents and information shall be provided to the Executive Officer, accompanying the compliance plan report~~

~~specified in subparagraphs (c)(5)(E), (c)(5)(F), and (c)(5)(G), including but not limited to:~~

~~(i) The quantity of propane conversion kits for furnaces actually distributed or sold into South Coast AQMD for the applicable compliance plan period;~~

~~(ii) The quantity of propane conversion kits for furnaces distributed or sold into the South Coast AQMD during the 12 month period of July 1 to June 30 prior to the applicable compliance date; and~~

~~(iii) Photographic evidence of the required language set forth in subparagraph (g)(4)(A) as it appears on the carton or unit, including all versions utilized by the manufacturer, for approval by the Executive Officer. The photographs must be sufficient to verify the wording is correct and that it is "clearly visible," taking into account the font type, size, color, and location on the carton or unit.~~

~~(C) The manufacturer of this type of unit which has been installed in the South Coast AQMD without meeting above requirements shall be in violation of South Coast AQMD Rule 1111.~~

(2) Paragraph (d)(2) shall not apply to the following Furnaces:

(A) Mobile Home Furnaces in compliance with paragraph (d)(1) for installation in Existing Buildings;

(B) Mobile Home Furnaces in compliance with paragraph (d)(1) for installation or use in New Buildings or Existing Buildings located in Master-Metered Mobile Home Parks; and

(C) Furnaces in compliance with paragraph (d)(1) that will be installed or used in New Buildings with building permit issued prior to [Date of Adoption] by the appropriate enforcement agency.

~~(5) Condensing or non-condensing furnaces that are certified to meet the 40 ng/J NOx limit and are installed at or above 4,200 feet above sea level are exempt from paragraph (c)(4), if that unit is installed on or before March 31, 2022.~~

(3~~6~~) ~~Effective April 1, 2022, downflow furnaces~~ Downflow Furnace rated less than 175,000 BTU per hour in heat input capacity ~~and condensing or non-condensing furnaces with rated heat input~~ at or greater than 100,000 BTU ~~per hour, either of~~ which are installed at ~~elevations at or above 4,200 feet~~

~~above sea level~~ High Altitude as a replacement for an existing ~~furnace~~ Furnaces are exempt from paragraphs ~~(c)~~(4)(d)(1) and (d)(2), provided ~~that~~:

(A) The ~~downflow furnace~~ Downflow Furnaces are~~is~~ certified to meet the 40 ng/J NOx limit, is replacing an existing ~~furnace~~Furnace;~~,~~ and ~~the shipping carton or name plate of the furnace clearly displays: "This furnace must be installed only as a replacement in a downflow configuration at or above 4,200 feet above sea level in the South Coast AQMD. Installation of this furnace for new construction, in any other configuration, or at a lower elevation will be a violation of South Coast AQMD Rule 1111."; or~~

(B) Manufacturers of the Downflow Furnaces comply with paragraph (g)(1)(B) for Informative Material requirement. ~~The condensing or non-condensing furnace rated at or greater than 100,000 BTU per hour in heat input capacity is certified to meet 40 ng/J NOx limit, is replacing an existing furnace, and the shipping carton or name plate of the furnace clearly displays: "This furnace must be installed only as a replacement at or above 4,200 feet above sea level in the South Coast AQMD. Installation of this furnace for new construction or at a lower elevation will be a violation of South Coast AQMD Rule 1111."~~

~~(7) Effective April 1, 2022 and until September 30, 2022, a manufacturer, distributor, or installer that manufactures, supplies, sells, offers for sale, or installs a natural gas furnace certified to meet 40 ng/J of NOx that is installed and operated as part of a dual fuel system at or above 4,200 feet above sea level in the South Coast AQMD, shall only install such a unit that:~~

~~(A) Is designed by the manufacturer with a system switchover point between heat pump and furnace at the external temperature of 32°F with a nonadjustable system that would prevent any person from changing the external ambient switchover temperature of 32°F;~~

~~(B) Includes installation of an external temperature sensor which acts as the sole method to determine switchover point;~~

~~(C) For systems equipped with condensing, noncondensing, or mobile home furnaces, includes communicating technology between the heat pump and furnace installed at the point of manufacture to prevent system operation without a heat pump and requires~~

~~operations of only the heat pump at and above the switchover temperature outlined in (g)(7)(A); and~~

~~(D) The shipping carton or the name plate of the furnace clearly displays: "This furnace must be installed only in a dual fuel configuration with an electric heat pump. Installation of this furnace without a heat pump in a dual fuel configuration will be a violation of South Coast AQMD Rule 1111."~~

~~(8) The manufacturer of any furnace that elects to use the exemption in paragraph (g)(4), (g)(5), (g)(6), or (g)(7) shall record the following information and shall make this information available upon request to the Executive Officer:~~

~~(A) Sales date to distributor;~~

~~(B) Distributor's name and full contact information (address and phone number);~~

~~(C) Model number of the furnace and heat pump (if applicable); and~~

~~(D) Serial number of the furnace and heat pump (if applicable).~~

~~(9) The distributor that elects to use the exemption in paragraph (g)(4), (g)(5), (g)(6), or (g)(7) shall record the following information and shall make this information available upon request to the Executive Officer:~~

~~(A) Sales date to installer;~~

~~(B) Installer's name and full contact information (address and phone number);~~

~~(C) Model number of the furnace and heat pump (if applicable); and~~

~~(D) Serial number of the furnace and heat pump (if applicable).~~

~~(10) The installer that elects to use the exemption in paragraph (g)(4), (g)(5), (g)(6), or (g)(7) shall record the following information and shall make this information available upon request to the Executive Officer:~~

~~(A) Installation date;~~

~~(B) Address of furnace installation;~~

~~(C) Model number of the furnace and heat pump (if applicable); and~~

~~(D) Serial number of the furnace and heat pump (if applicable).~~

(i) Severability

If any provision of this rule is held by judicial order to be unlawful or otherwise invalid, such order shall not affect the operation or implementation of the remainder of this rule. If any provision of this rule is held by judicial order to be invalid or

inapplicable to any person or circumstance, such order shall not affect the application of such provision to other persons or circumstances.

ATTACHMENT H

(Adopted December 1, 1978)(Amended March 10, 1995)(Amended December 10, 1999)
(Amended September 3, 2004)(Amended [Date of Rule Adoption])

PROPOSED AMENDED RULE 1121. ~~CONTROL OF NITROGEN OXIDES~~ REDUCTION OF NO_X EMISSIONS FROM RESIDENTIAL TYPE, NATURAL GAS-FIRED WATER HEATERS

[*RULE INDEX TO BE ADDED AFTER RULE ADOPTION*]

(a) Purpose

The purpose of this rule is to reduce Oxides of Nitrogen (NOx) emissions from NOx-emitting Water Heaters as defined in this rule.

(~~a~~b) Applicability

~~This~~ The provisions of this rule ~~applies~~ are applicable to manufacturers, distributors, retailers, Resellers, and ~~installers~~ Installers of natural gas-fired NOx-emitting ~~water heaters~~ Water Heaters, with ~~heat input~~ a Rated Heat Input Capacity ~~rates~~ less than 75,000 British thermal units (Btu) per hour.

(~~b~~c) Definitions

~~For the purpose of this rule:~~

~~(1) BTU means British thermal unit or units.~~

~~(2) DIRECT-VENT WATER HEATER means a water heater with air intake and exhaust ducts that use a gravity system to collect air from outside a building for combustion and exhaust combustion byproducts to the outside of a building.~~

(1) Consumer Price Index (CPI) means the consumer price index for California as reported by the Department of Industrial Relations based on:

(A) Urban population coverage (CPI-U);

(B) California Area Coverage;

(C) Series Title "All Items";

(D) Index Base Period "1982-1984=100"; and

(E) Reference Period "Annual Average" for All Urban Consumers.

(2) EXISTING BUILDING means a building that is not a New Building as defined in this rule.

(3) HEAT INPUT means ~~the heat of combustion released by fuels burned in a unit based on the higher heating value of fuel.~~ the chemical heat released due to assumed complete combustion of fuel to a Water Heater, using the higher heating value of

the fuel. This does not include the ~~enthalpy~~ sensible heat of incoming combustion air.

(4) HEAT OUTPUT means ~~the product H_o as defined in Section 9.3 of the Protocol.~~the enthalpy of the working fluid output of the Water Heater.

(5) INDEPENDENT TESTING LABORATORY means a testing laboratory that meets the requirements of ~~District~~ the South Coast AQMD Rule 304 – Equipment, Materials, and Ambient Air Analyses~~, subdivision (k)~~ and is approved by the ~~District~~ South Coast AQMD to conduct certification testing under the Protocol.

~~(6) MITIGATION FEE is an emission reduction option, in which monies collected by the District from water heater manufacturers are placed in a restricted fund and are used to fund stationary and mobile source emission reduction programs targeted at equivalent NOx emission reductions as to those that would have otherwise occurred and have been approved by the District's Governing Board.~~

(6) INFORMATIVE MATERIALS means consumer brochure and technical specification sheet for the Water Heater and manufacturer's website that promotes, discusses, or lists the Water Heater.

(7) INSTALL means the action of an Installer to place a Water Heater in a position ready for use.

(8) INSTALLER means a person who Installs a Water Heater and is required to obtain a license issued by the Department of Consumer Affairs Contractors State License Board for a classification related to buildings and appliances.

(9) MASTER-METERED MOBILE HOME PARK means a Mobile Home park that takes electricity through a master meter and then distributes it to park residents through the Mobile Home park's system.

(~~8~~10) MOBILE HOME means a structure, transportable in one or more sections, that is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities.

(~~7~~11) MOBILE HOME WATER HEATER means a Water Heater ~~closed vessel~~ manufactured exclusively for ~~mobile home~~ Mobile Home use ~~in which water is heated by combustion of gaseous fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210ºF (99ºC)~~.

(12) NEW BUILDING means a building that is newly constructed~~-~~, or a building with a major alteration which changes the occupancy classification of a building, which means a change in the formal designation of the primary purpose of the building

pursuant to 2022 Title 24 California Building Code Part 2 Chapter 3 for occupancy classification and use, or any subsequent version of the Building Code. For Mobile Homes, the newly constructed building includes installation of the Mobile Home onto the property of residence.

(~~8~~13) NOx EMISSIONS means the sum of nitric oxide and nitrogen dioxide ~~in the flue gas, collectively~~ emitted; calculated and expressed as nitrogen dioxide.

(14) PARTS PER MILLION BY VOLUME (ppmv) means, for the purpose of this rule, Parts Per Million by Volume of a pollutant at a three percent oxygen correction on a dry basis at Standard Conditions.

~~(9) POWER-VENT WATER HEATER means a water heater with a blower installed to assist in the expulsion of exhaust gases.~~

~~(10) POWER DIRECT-VENT WATER HEATER means a water heater with an air intake duct outside of a building with a blower installed to assist in the expulsion of exhaust gases.~~

(~~11~~15) PROTOCOL means the most recent version of the South Coast ~~Air Quality Management District~~ AQMD Protocol to ensure standardization of compliance certification test procedures, titled: Nitrogen Oxides Emissions Compliance Testing for Natural Gas-Fired Water Heaters and Small Boilers~~, January 1998~~.

(~~12~~16) RATED HEAT INPUT CAPACITY means ~~the heat input capacity specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different from the heat input capacity specified on the nameplate, the new maximum heat input shall be considered as the rated heat input capacity.~~the gross Heat Input of the combustion device, as supported by required documentation.

(~~13~~17) RECREATIONAL VEHICLE means ~~either a motor home, travel trailer, truck camper, or camping trailer, with or without motive power, designed for human habitation for recreational, emergency, or other occupancy, as defined pursuant to Section 18010 of the California Health and Safety Code.~~any vehicle used for recreational purposes designed to include a Water Heater and licensed to be driven or moved on the highways of California.

(18) RESELLER means anyone who sells Water Heater(s) either retail, wholesale, or on an individual basis.

(19) RESPONSIBLE OFFICIAL means:

(A) For a corporation: a president or vice-president of the corporation in charge of a principal business function or a duly authorized person who performs similar policy-making functions for the corporation; or

(B) For a partnership or sole proprietorship: general partner or proprietor, respectively.

(20) STANDARD CONDITIONS are as defined by Rule 102 – Definition of Terms.

(~~14~~21) WATER HEATER means a closed vessel ~~other than a mobile home water heater~~ in which water is heated by ~~combustion of~~ combusting natural gas, which emits NOx, and is withdrawn for use external to the vessel ~~at pressures not exceeding 160 psig~~, including the apparatus by which heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210ºF ~~(99ºC)~~.

(22) ZERO-NOx EMISSION UNITS means an appliance that provides water heating with heating capacity equivalent to, or sized to replace, Water Heaters subjected to this rule and emits no more than zero nanograms of NOx per joule of Heat Output (ng/J).

(~~e~~d) Requirements

~~(1) Until July 1, 2002, no person shall manufacture for sale, distribute, sell, offer for sale, or install within the South Coast Air Quality Management District any gas-fired water heaters unless the water heater is certified pursuant to subdivision (d) to a NOx emission level of less than or equal to:~~

~~(A) 40 nanograms of NOx (calculated as NO_2) per joule of heat output (93 lb per billion Btu of heat output); or~~

~~(B) 55 ppmv at 3% O2, dry (71 lb per billion Btu of heat input).~~

~~(2) On or after July 1, 2002, no person shall manufacture for sale, distribute, sell, offer for sale, or install within the South Coast Air Quality Management District any gas-fired water heaters unless the water heater is certified pursuant to subdivision (d) to a NOx emission level of less than or equal to:~~

~~(A) 20 nanograms of NOx (calculated as NO2) per joule of heat output (46.5 lb per billion Btu of heat output); or~~

~~(B) 30 ppmv at 3% O2, dry (35 lb per billion Btu of heat input); or~~

~~(C) the emission limit specified in subparagraph (c)(1)(A) or (c)(1)(B) provided the manufacturer of the water heater meets the requirements of subdivision (e).~~

~~(3) On or after January 1, 2006, for water heaters less than or equal to 50 gallon capacity, excluding direct vent, power vent and power direct vent water heaters; on or after January 1, 2007 for water heaters greater than 50 gallon capacity, excluding direct vent, power vent and power direct vent water heaters; and on and after January 1, 2008 for all direct vent, power- vent, and power direct vent water~~

~~heaters; no person shall manufacture for sale, distribute, sell, offer for sale, or install within the South Coast Air Quality Management District any gas-fired water heaters unless the water heater is certified pursuant to subdivision (d) to a NOx emission level of less than or equal to:~~

~~(A) 10 nanograms of NOx (calculated as NO_2) per joule of heat output (23 lb per billion Btu of heat output); or~~

~~(B) 15 ppmv at 3% O2, dry (17.5 lb per billion Btu of heat input).~~

~~(4) On and after January 1, 2000, no person shall manufacture for sale, distribute, sell, offer for sale, or install within the South Coast Air Quality Management District any gas-fired mobile home water heaters unless the water heater is certified pursuant to subdivision (d) to a NOx emission level of less than or equal to:~~

~~(A) 40 nanograms of NOx (calculated as NO2) per joule of heat output (93 lb per billion Btu of heat output); or~~

~~(B) 55 ppmv at 3% O2, dry (71 lb per billion Btu of heat input).~~

~~(5) The manufacturer of any water heater manufactured for sale in the district shall clearly display on the shipping carton and the name plate of the water heater:~~

~~(A) the model number;~~

~~(B) the date of manufacture; and~~

~~(C) the certification status.~~

~~(6) Notwithstanding the requirements in paragraph (c)(3), until July 1, 2006, any person may distribute, sell, offer for sale, or install any gas-fired water heaters less than or equal to 50 gallon capacity that are manufactured prior to January 1, 2006 and in compliance with paragraph (c)(2).~~

~~(7) Notwithstanding the requirements in paragraph (c)(3), until July 1, 2007, any person may distribute, sell, offer for sale, or install gas-fired water heaters greater than 50 gallon capacity that are manufactured prior to January 1, 2007 and in compliance with paragraphs (c)(2).~~

~~(8) Notwithstanding the requirements in paragraph (c)(3), until July 1, 2008, any person may distribute, sell, offer for sale, or install gas-fired direct- vent, power-vent, or power direct-vent water heaters that are manufactured prior to January 1, 2008 and in compliance with paragraphs (c)(2).~~

(1) A person shall not manufacture, supply, sell, resell, offer for sale, import, or Install, for use in the South Coast AQMD, any of the Water Heaters listed in Table 1, unless the Water Heater is certified pursuant to subdivision (e) and does not exceed the applicable Table 1 NOx limit, expressed by nanograms of NOx per joule of Heat Output (ng/J) or ppmv.

Table 1 – NOx Emission Limits

Equipment	NOx Emission Limits	
	ng/J	ppmv
Water Heater[1]	10	15
Mobile Home Water Heater	40	55

[1] Excluding Mobile Home Water Heater

(2) On and after the applicable Table 2 compliance dates, a person shall only manufacture, supply, sell, resell, offer for sale, import, or Install, for use in the South Coast AQMD, a Zero-NOx Emission Unit, that emits zero ng/J of NOx, in place of a Water Heater according to the Table 2 compliance schedule, unless the Water Heater is included in the Zero-NOx Emission Manufacturer Alternative Compliance Option pursuant to paragraph (f)(1) as indicated in the Informative Materials for the Water Heater pursuant to subparagraph (g)(1)(B). The applicable Table 2 compliance dates for New Building types shall be determined based on the construction or alteration completion date.

Table 2 – Zero-NOx Emission Limit Compliance Schedule

Equipment Category	Building Type	Compliance Date
Water Heater[1]	New	January 1, 2027
	Existing	January 1, 2029
Mobile Home Water Heater	New	January 1, 2027

[1] Excluding Mobile Home Water Heater

(~~d~~e) Certification

(1) The manufacturer shall obtain confirmation that each model of ~~water heater~~Water Heater complies with the applicable requirements of ~~subdivision (c)~~ paragraph (d)(1) from an ~~independent testing laboratory~~ Independent Testing Laboratory prior to applying for certification for a Water Heater. This confirmation shall be based upon emission tests conducted pursuant to the Protocol of a randomly selected unit of each model ~~and the Protocol shall be adhered to during the confirmation testing of all water heaters subject to this rule~~.

(2) When applying for certification of ~~water heaters~~Water Heaters, the manufacturer shall submit to the Executive Officer the following:

(A) A statement that the model is in compliance with ~~subdivision (c)~~paragraph (d)(1), ~~. The statement shall be~~ signed and dated ~~by~~with the manufacturer identified~~and dated, and shall~~ attesting to the accuracy of all statements;

(B) General Information, including:

(i) Name and address of manufacturer~~,~~;

(ii) Brand name, trade name; and

(iii) Model number, as it appears on the ~~water heater~~Water Heater rating plate;

(C) A description of each model being certified; and

(D) A source test report verifying compliance with ~~subdivision (c)~~ paragraph (d)(1) for each model to be certified~~. The source test report shall be~~ , prepared by the confirming ~~independent testing laboratory~~ Independent Testing Laboratory and ~~shall~~ containing all of the elements identified in ~~Section 10 of~~ the Protocol for each unit tested. ~~The source test shall have been conducted no more than ninety days prior to the date of submittal to the Executive Officer.~~

(3) When applying for certification of ~~water heaters~~Water Heaters, the manufacturer shall submit the items identified in paragraph ~~(d)(2)~~(e)(2) no more than ~~ninety~~ 180 days after the date of the source test identified in subparagraph ~~(d)(2)(D)~~(e)(2)(D).

~~(4) When applying for certification of water heaters for compliance with the emission limit specified in paragraph (c)(2) or (c)(3), the manufacturer shall submit the information identified in paragraph (d)(2) at least 90 days prior to the effective compliance date specified in either paragraph (c)(2) or (c)(3), respectively.~~

~~(5) The Executive Officer shall certify a water heater model which complies with the provisions of subdivision (c) and of paragraphs (d)(1), (d)(2), and (d)(3).~~

~~(6) Certification status shall be valid for three years from the date of approval by the Executive Officer. After the third year, recertification shall be required according to the requirements of paragraphs (d)(1) and (d)(2).~~

(f) Alternative Compliance Options

(1) Zero-Emission Manufacturer (ZEM) Alternative Compliance Option

Any manufacturer of Water Heaters, other than Mobile Home Water Heaters, subject to this rule may elect to comply with the ZEM alternative compliance option in lieu of complying with paragraph (d)(2) provided:

(A) The manufacturer submits an alternative compliance plan, no later than November 1, 2026, or no later than 60 days prior to any sales to the South

Coast AQ~~M~~MD for a new manufacturer who does not have any sales into or within the South Coast AQMD as of October 31, 2026, that includes:

(i) A letter with the name of the manufacturer requesting the ZEM alternative compliance option signed by a Responsible Official;

(ii) A complete South Coast AQMD Form 400A with company name, indicating the application is for a compliance plan (section 7 of form), indicating the request is for the "Rule 1121 ZEM alternative compliance option" (section 9 of form), and signature of the Responsible Official; and

(iii) Payment for the alternative compliance plan filing fee pursuant to Rule 306– Plan Fees;

(B) The manufacturer sells, or enables distributors, retailers, Resellers, or Installers to sell, Zero-NOx Emission Units into or within the South Coast AQMD;

(i) At a percentage greater than or equal to the Zero-NOx Emission Unit sales target specified in Table 3 and pays the mitigation fee in subparagraph (f)(1)(F); or

(ii) At a percentage less than the Zero-NOx Emission Unit sales target specified in Table 3 and pays the mitigation fee in paragraph (f)(2)~~(A)~~;

(C) Zero-NOx Emission Unit sales percentage is calculated by Equation 1. For determining the number of Zero-NOx Emission Units sold in a calendar year into or within the South Coast AQMD, portable zero-NOx emission water heating appliances shall not be counted as a Zero-NOx Emission Unit;

$$\text{Zero-NOx Emission Unit Sales Percentatge} = \frac{(Z)}{(Z + N)} \times 100 \quad \text{(Eq. 1)}$$

Where:

Z = Number of Zero-NOx Emission Units sold in a compliance year

N= Number of Water Heaters sold in a compliance year

(D) Water Heater sales percentage is calculated by Equation 2;

$$\text{Water Heater Sales Percentatge} = 100 - \text{Zero-NOx Emission Unit Sales Percentage} \quad \text{(Eq. 2)}$$

(E) The Water Heaters sold under this alternative compliance option are certified to emit 10 ng/J (or 15 ppmv) or less of NOx;

(F) The manufacturer pays the following mitigation fee for each Water Heater sold within the Water Heater sales target for the applicable calendar year in Table 3:

(i) $50 for the calendar year 2027;

(ii) $50 adjusted by CPI annual percent ~~increase~~change for each subsequent calendar year after 2027; and

(iii) If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year in lieu of the CPI annual percent increase;

(G) The manufacturer submits a report and mitigation fee payment pursuant to paragraph (g)(2) no later than 90 days after the end of each calendar year utilizing this alternative compliance option; and

(H) The manufacturer complies with the Informative Material requirements pursuant to paragraph (g)(1).

Table 3 – ZEM Alternative Compliance Option Targets

Compliance phase	**Phase 1**	**Phase 2**	**Phase 3**	**Phase 4**
Calendar Years	**2027 - 2028**	**2029 - 2032**	**2033-2035**	**2036 and after**
Zero-NOx Emission Unit Sales Target	30 percent	50 percent	75 percent	90 percent
Water Heater Sales Target	70 percent	50 percent	25 percent	10 percent

(2) ZEM Alternative Compliance Option Sales Target Deviation

~~Any manufacturer of Water Heaters subject to this rule that elects to comply with the ZEM Alternative Compliance Option pursuant to paragraph (f)(1) that deviates from the applicable Sales Target in Table 3 shall:~~

~~(A) If the annual Water Heaters sales percentage is greater than the applicable calendar year Water Heater sales target specified in Table 3, pay the following mitigation fee for each Water Heater sold above the sales target:~~

~~(i) $250 for the calendar year 2027;~~

~~(ii) $250 adjusted by CPI annual percent increase for each subsequent calendar year after 2027; and~~

~~(iii) If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year in lieu of the CPI annual percent increase; and;~~

If the annual Water Heaters sales percentage is greater than the applicable calendar year Water Heater sales target specified in Table 3, any manufacturer of Water Heaters subject to this rule that elects to comply with the ZEM Alternative Compliance Option pursuant to paragraph (f)(1) the manufacturer shall pay the following mitigation fee for each Water Heater sold above the sales target:

(A) $250 for the calendar year 2027;

(*B*) $250 adjusted by CPI annual percent change for each subsequent calendar year after 2027; and

(*C*) If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year in lieu of the CPI annual percent increase.

~~(B) If the annual Zero-NOx Emission Units sales percentage is greater than the applicable calendar year Zero-NOx Emission Unit sales target specified in Table 3, apply a discount to their annual mitigation fee required pursuant to subparagraph (f)(1)(F) according to Equation 3:~~

$$\text{Discounted Mitigation Fee} = F - F \times \frac{(P - T)}{(100 - T)} \quad \text{(Eq. 3)}$$

~~Where:~~

~~F = Annual Mitigation Fee pursuant to subparagraph (f)(1)(F)~~

~~P = Reported Percent Zero-NOx Emission Units~~

~~T = Zero-NOx Emission Unit Sales Target.~~

(g) Informative Materials, Labeling, Recordkeeping, and Reporting

(1) Informative Materials for Water Heaters

(A) Effective [90 days after Date of Rule Adoption], for any Mobile Home Water Heater certified to meet the applicable Table 1 NOx emission limit that is for distribution or sale inside of the South Coast AQMD, a manufacturer shall distribute or publish Informative Materials that clearly display the following language: "If installed in South Coast AQMD only: This water heater is only allowed to be installed and used for mobile homes; and is only allowed to be installed and used for existing mobile homes or any mobile homes in a Master-Metered Mobile Home Park on and after January 1, 2027." ;

(B) For any Water Heater sold under the ZEM Alternative Compliance Option pursuant to paragraph (f)(1) in lieu of complying with paragraph (d)(2), a manufacturer shall distribute or publish Informative Materials that clearly display the following language: "If installed in South Coast AQMD only: This water heater is sold under an alternative compliance option and manufacturer is subject to compliance goal and associated mitigation fee."; and

(C) A manufacturer may request the use of alternative language in lieu of subparagraph (g)(1)(A) or (g)(1)(B), provided:

(i) The alternative language is similar to the language in subparagraph (g)(1)(A) or (g)(1)(B); and

(ii) If the alternative language is not approved, the manufacturer shall use the language in subparagraph (g)(1)(A) or (g)(1)(B).

(2) Reporting and Recordkeeping Requirements for ZEM Alternative Compliance Option

The manufacturer of a Water Heater supplied or offered for use within the South Coast AQMD in accordance with the ZEM alternative compliance option in paragraph (f)(1) shall:

(A) Submit a report to the Executive Officer-, signed by the Responsible Official for the manufacturer pursuant to the schedule in paragraph (f)(1)(G), that includes:

(i) For Zero-NOx Emission Units:

(A) Model numbers;

(B) Zero-NOx Emission Unit description; and

(C) Quantity of Zero-NOx Emission Units distributed or sold into or within the South Coast AQMD for the applicable calendar year; and

(ii) For Water Heaters:

(A) Model numbers;

(B) Water Heater description; and

(C) Quantity of Water Heaters distributed or sold into or within South Coast AQMD for the applicable calendar year that are subject to the ZEM alternative compliance option; and

(B) Maintain records for at least five years, including the following information and any other information for compliance demonstration, and make them available to the Executive Officer upon request:

(i) All information specified by subparagraph (g)(2)(A);

(ii) Serial number of each Furnace and Zero-NOx Emission Units sold;

(iii) Date and number of Water Heaters and Zero-NOx-Emission Units sold to a distributor; and

(iv) Each distributor's name, address, and phone number.

(3) New and Existing Building Labeling Requirements

For any Water Heater, except Mobile Home Water Heater, that is supplied or offered for sale for use in the South Coast AQMD and that is not electing to comply by paragraph (f)(1) for ZEM alternative compliance option during the period of January 1, 2027 to January 1, 2029, the manufacturer of the Water Heater shall prominently display on the shipping container, or the name plate of the Water Heater, the following:

(A) The statement: "If Installed in South Coast AQMD: 1) After January 1, 2027, shall not be sold for installation in new buildings; and 2) After January 1, 2029, not compliant for use and installation in South Coast AQMD."; and

(B) A manufacturer may use alternative language in lieu of subparagraph (g)(3)(A) provided:

(i) The alternative language is similar to the language in subparagraph (g)(3)(A); and

(ii) If the alternative language is not approved, the manufacturer shall use the language in subparagraph (g)(3)(A).

(4) The manufacturer of any Water Heater manufactured for sale in the South Coast AQMD shall clearly display on the shipping carton and the name plate of the water heater:

(A) Model number;

(B) Date of manufacture; and

(C) Certification status.

~~(e) Mitigation Fee~~

~~Any manufacturer that elects to submit a mitigation fee to the District to meet the Nox emission level established under subparagraph (c)(2)(C) shall:~~

~~(1) submit a Mitigation Fee Plan to the Executive Officer 180 days prior to complying with the provisions of paragraph (c)(2), where the Mitigation Fee Plan includes:~~

~~(A) the name of the manufacturer;~~

~~(B) the compliance period that the mitigation fee covers shall not exceed a 12-month time period; and~~

~~(C) the number of water heaters sold over the compliance period, which shall be based on sales records or invoices of water heaters in a similar model and size that were sold in the district over the past 12 months.~~

~~(2) receive written verification from the Executive Officer that the Mitigation Fee Plan was approved prior to complying with the provisions of paragraph (c)(2);~~

~~(3) on and after January 1, 2005, pay a mitigation fee at the beginning of the compliance period in the amount of $3.00 per water heater sold as specified in subparagraph (e)(1)(C), over the time period the mitigation fee covers as specified in subparagraph (e)(1)(B); and before January 1, 2005, pay a mitigation fee in the amount of $5,400 per ton of NOx multiplied by the amount of NOx emission reductions needed as specified in Equation 1;~~

~~*Equation 1:*~~

$$MF = \$5{,}400/ton \times [(t \times n \times 190 therms/yr \times (93 - 46.5 lbs/billionBtu - output) \times 0.76)/(2000 \times 10{,}000)]$$

~~where:~~

~~MF = Mitigation fee, Dollars~~

~~t = Time period that mitigation fee covers as specified in subparagraph (f)(1)(C)~~

~~n = Number of water heaters sold as specified in subparagraph (f)(1)(D)~~

~~(4) label water heaters identified in the Mitigation Fee Plan;~~

~~(5) maintain records and report sales of water heaters covered by the Mitigation Fee Plan and if the number of water heaters originally estimated exceed the number of water heaters identified in subparagraph (e)(1)(C), the water heater manufacturer shall update the Mitigation Fee Plan within 60 days after the end of the compliance~~

~~period. Make these records available to the Executive Officer upon request, for a period of at least three years after the end of the compliance period.~~

~~(f) Enforcement~~

~~The Executive Officer may periodically inspect distributors, retailers, and installers of water heaters located in the District and conduct such tests as are deemed necessary to insure compliance with subdivision (c).~~

(~~g~~h) Exemptions

(1) The provisions of this rule shall not apply to~~:~~ Water Heaters used in Recreational Vehicles.

(2) The provisions of this rule shall not apply to Water Heaters subject to Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters.

(3) Paragraph (d)(2) shall not apply to the following Water Heaters:

(A) Mobile Home Water Heaters in compliance with paragraph (d)(1) for installation in Existing Buildings;

(B) Mobile Home Water Heaters in compliance with paragraph (d)(1) for installation or use in Master-Metered Mobile Home Parks; and

(C) Water Heaters in compliance with paragraph (d)(1) that will be installed or used in New Buildings with building permits issued prior to [Date of Adoption] by the appropriate enforcement agency.

~~(1) Water heaters with a rated heat input capacity of 75,000 Btu per hour or greater.~~

~~(2) Water heaters used in recreational vehicles.~~

~~(h) Final Progress Report~~

~~On or before April 1, 2007, any person that manufacturers direct-vent, power-vent or power direct-vent water heaters for sale within the South Coast Air Basin shall submit to the Executive Officer a final progress report that shall include:~~

~~(1) Identification of efforts that have been made to reach commercialization of direct-vent, power-vent, and power direct-vent water heaters that meet the NOx emission level specified under paragraph (c)(3);~~

~~(2) A description of the technologies used to meet the NOx emission level for direct-vent, power-vent, and power direct-vent water heaters specified under paragraph (c)(3); and~~

~~(3) Complete documentation for at least three laboratory test results each for direct-vent, power-vent, and power direct-vent water heaters developed to meet the NOx~~

~~emission level specified under paragraph (c)(3) that shall include the emissions rate measured by an independent testing laboratory using the SCAQMD protocol specified under paragraph (b)(11) or other protocol approved in advance by the Executive Officer.~~

~~(i) Program Administration~~

~~On and after September 3, 2004, the Executive Officer is authorized to use up to 5% of the mitigation fee funds collected in any given year for program administration.~~

(i) Severability

If any provision of this rule is held by judicial order to be unlawful or otherwise invalid, such order shall not affect the operation or implementation of the remainder of this rule. If any provision of this rule is held by judicial order to be invalid or inapplicable to any person or circumstance, such order shall not affect the application of such provision to other persons or circumstances.

ATTACHMENT I

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Staff Report for:

Proposed Amended Rule 1111 – Reduction of NOx Emissions From Natural Gas-Fired Furnaces
Proposed Amended Rule 1121 – Reduction of NOx Emissions From Residential Type, Natural Gas-Fired Water Heaters

June 2025

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EXECUTIVE SUMMARY

South Coast AQMD Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces (Rule 1111), regulates oxides of nitrogen (NOx) emissions from natural gas-fired fan-type central furnaces with rated heat input capacity of less than 175,000 British thermal units per hour (Btu/hr), or for units with combined heating and cooling (package units), a cooling rate of less than 65,000 Btu/hour. Rule 1111 was adopted by the South Coast Air Quality Management District (South Coast AQMD) Governing Board in December 1978. The rule was amended in 2009 to lower the NOx emissions limit from 40 to 14 nanograms per Joule (ng/J). The rule was later amended several times to provide an alternative compliance option and extend the option that allows the manufacturer to pay a per-unit mitigation fee, in lieu of meeting the lower NOx emission limit. All furnace types have transitioned to 14 ng/J, except for mobile home furnaces for which the mitigation fee alternative compliance option will end by September 30, 2025.

South Coast AQMD Rule 1121 – Control of Nitrogen Oxides from Residential Type, Natural Gas-Fired Water Heaters (Rule 1121) regulates NOx emissions from natural gas-fired water heaters with a rated heat input capacity of less than 75,000 Btu/hr. Rule 1121 was adopted by the South Coast AQMD Governing Board in December 1978. This rule was amended in 1999 to reduce the NOx emission limit from 40 ng/J stepwise to 10 ng/J and amended again in 2004 to extend the compliance dates of 10 ng/J limit for some categories. Currently, all Rule 1121 water heaters are meeting the NOx emissions limit of 10 ng/J, except for mobile home water heaters that are subject to an emissions limit of 40 ng/J.

Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces (PAR 1111), seeks further NOx emission reductions and implements the 2022 Air Quality Management Plan (AQMP) Control Measure R-CMB-02 – Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Space Heating (Control Measure R-CMB-02). Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters (PAR 1121), seeks further NOx emission reductions and implements the 2022 AQMP Control Measure R-CMB-01 – Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Water Heating (R-CMB-01). Staff conducted a comprehensive BARCT assessment, which includes an analysis of the technical feasibility and cost-effectiveness of zero-NOx emission technologies for PAR 1111 and PAR 1121.

PAR 1111 and PAR 1121 establish zero-NOx emission limits for space and water heating appliances with compliance dates differentiated for units installed in new or existing buildings. Space and water heating appliances for existing mobile homes will be exempt from the zero-NOx emission standards, and mobile home appliances will transition to zero-NOx emission appliances in new mobile homes or when existing mobile homes are replaced with new mobile homes. A Zero-NOx Manufacturer (ZEM) alternative compliance option is provided that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances. The targets change over time to transition the market to zero-NOx emission appliances. The ZEM alternative compliance option also includes fees for the sale of all NOx-emitting appliances, with higher fees for the NOx-emitting appliances sold over the compliance target. The fees ~~increase~~ will be adjusted annually to reflect consumer price index. In addition, PAR 1111 and PAR 1121 have clarified and updated rule language, restructured the rule, removed obsolete language, and streamlined the labeling, recordkeeping, and reporting requirements.

PAR 1111 and PAR 1121 will each affect the manufacturers, distributors, retailers, resellers, and installers of space and water heating appliances that are used in over five million buildings, mostly residential homes. Staff estimates that upon full implementation, PAR 1111 will reduce NOx emissions by 4.05 tons per day (tpd), and PAR 1121 will reduce NOx emissions by 2.07 tpd. The public process for PAR 1111 and PAR 1121 consisted of eight working group meetings, ~~four~~six presentations to the Stationary Source Committee, a public workshop, a public consultation meeting, presentations to cities and Councils of Government, and many meetings with industry stakeholders, environmental and community groups, and technology vendors to obtain feedback.

At full implementation by 2061, PAR 1111 and PAR 1121 is estimated to prevent 2,490 premature deaths, 10,200 cases of newly onset asthma, 1.17 million minor restricted activity days, and 2,484 emergency room visits. The health benefits would be monetized to about $25.43 billion to present value with 4 percent discount rate.

CHAPTER 1:BACKGROUND

INTRODUCTION

RULE 1111 REGULATORY HISTORY

PAR 1111 AFFECTED INDUSTRIES

RULE 1121 REGULATORY HISTORY

PAR 1121 AFFECTED INDUSTRIES

PUBLIC PROCESS

INTRODUCTION

Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces reduces nitrogen oxide emissions from gas-fired fan-type space heating furnaces with a rated heat input capacity of less than 175,000 Btu/hr or, for combination heating and cooling units, with a cooling rate of less than 65,000 Btu per hour. The rule applies to manufacturers, distributors, and installers of such furnaces. Most single-family homes, many multifamily residences, and some light commercial buildings in the South Coast AQMD use this type of space heating equipment.

Rule 1121 – Control of Nitrogen Oxides from Residential Type, Natural Gas-Fired Water Heaters aims to reduce NOx emissions from natural gas-fired residential water heaters with a rated heat input capacity less than 75,000 Btu/hr. This rule applies to manufacturers, distributors, retailers, and installers of natural gas-fired units and requires water heaters to meet a 10 ng/J emission limit and mobile home water heaters to meet a 40 ng/J emission limit. This rule does not apply to water heaters used in recreational vehicles or large water heaters subject to Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters (Rule 1146.2).

Rule 1111 and Rule 1121 require manufacturers to certify that each natural gas unit model offered for sale in the South Coast AQMD complies with the emission limit using the test methods approved by the South Coast AQMD and U.S. EPA.

RULE 1111 REGULATORY HISTORY

Rule 1111 was adopted by the South Coast AQMD Governing Board in December 1978. The original rule required the applicable space heating furnaces to meet a NOx emission limit of 40 ng/J of heat output, which equivalent to a concentration of 61 parts per million by volume (ppmv) at a reference level of 3 percent oxygen and 80 percent Annual Fuel Utilization Efficiency (AFUE), beginning January 1, 1984.

NOx Emission Limit of 14 ng/J Established

Rule 1111 was amended in November 2009 to implement the 2007 AQMP Control Measure CMB-03. The 2009 amendment established a new lower NOx emission limit of 14 ng/J (equivalent to 22 ppmv at a reference level of 3 percent oxygen and 80 percent AFUE) and required the three major categories of residential furnaces, condensing (high efficiency), non-condensing (standard), and weatherized furnaces to meet the new limit by October 1, 2014, October 1, 2015, and October 1, 2016, respectively. Furthermore, new mobile home heating units, which were unregulated prior to the 2009 amendment, were required to meet a NOx limit of 40 ng/J by October 1, 2012, and 14 ng/J by October 1, 2018. To facilitate the depletion of existing inventories and to ensure a smooth transition to the new limits, Rule 1111 also provided a temporary 10-month exemption (e.g., a sell-through period) for units manufactured and delivered into the South Coast AQMD prior to the compliance date.

Mitigation Fee to Delay Compliance of 14 ng/J Furnaces

Rule 1111 was amended in September 2014 to provide an alternative compliance option. The alternative compliance option allowed original equipment manufacturers (OEM) to pay a per-unit mitigation fee for each furnace with NOx emissions certificated at 40 ng/J distributed or sold in South Coast AQMD, in lieu of meeting the 14 ng/J NOx emission limit.

Rule 1111 was amended six times from 2018 to 2023 to extend the mitigation fee end dates, increase mitigation fees, and allow limited exemptions for furnaces at high-altitude.

The mitigation fee end date for each type of furnaces is listed in the following table. All furnace types have transitioned to 14 ng/J, except for mobile home furnaces, which constitute about four percent residential furnace market share of the region. The mitigation fee alternative compliance option for mobile home furnaces will end by September 30, 2025, according to the current rule language.

Table 1-1: Mitigation Fee Option End Dates

Furnace Category	Mitigation Fee Option End Date
Condensing	September 30, 2019
Non-condensing	September 30, 2019
Weatherized	September 30, 2021
Mobile Home	September 30, 2025

Clean Air Furnace Rebate Program

In March 2018, the South Coast AQMD developed a rebate program for consumers who purchased and installed future compliant 14 ng/J furnaces in the South Coast AQMD. The purpose of the rebate program was to help commercialize future compliant furnaces and incentivize consumers to purchase and install them. On May 4, 2018, the South Coast AQMD executed the contract with Electric & Gas Industries Association (EGIA) to administer the Clean Air Furnace Rebate Program. On June 28, 2018, the rebate website was launched. The South Coast AQMD Governing Board initially approved funding of $3 million for the furnace rebate program, specifying a $500 rebate for each compliant furnace. In September 2020, the Governing Board approved additional funding of $3.5 million, modifying the program to specify a $500 rebate for up to 600 compliant weatherized furnaces, a $500 rebate for up to 200 high-altitude compliant condensing or non-condensing furnace installations, and a $1,500 rebate for each all-electric heat pump for central ducted space heating. Rebates for weatherized and high-altitude condensing and non-condensing furnaces ended on September 30, 2021, when remaining funds for those categories were reallocated for all-electric heat pump systems. Rebates for all-electric heat pump systems concluded in April of 2023 when funds were exhausted. The Clean Air Furnace Rebate Program incentivized the installation of over 5,300 ultra-low NOx furnaces for early implementation of 14 ng/J limit and over 2,400 all-electric heat pump installations after the implementation of 14 ng/J limit, with 25 percent of all-electric heat pump funds allocated to disadvantaged communities.

2022 AQMP Control Measure

In the 2022 AQMP, the Governing Board adopted control measure R-CMB-02: Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Space Heating which proposed the development of zero-emission NOx limits for residential space heating when feasible. The 2022 AQMP Policy Brief for Residential and Commercial Building

Appliances[1] cited heat pumps as an energy-efficient, zero-NOx emission alternative to NOx-emitting natural gas furnaces.

PAR 1111 AFFECTED INDUSTRIES

PAR 1111 affects manufacturers, distributors, retailers, resellers, and installers of natural gas-fired furnaces for space heating with a rated heat input capacity less than 175,000 Btu/hr, or for combination heating and cooling units, a cooling rate of less than 65,000 Btu per hour. There are no OEMs of gas-fired furnaces located in the South Coast AQMD; however, these companies maintain regional sales offices and distribution centers in the South Coast AQMD with supply chains to support their products. The units affected by the proposed rule are mostly used in residential buildings for space heating.

The following table shows the North American Industry Classification System (NAICS) for the industries affected by PAR 1111. Staff estimated approximately 5,200,000 units in the South Coast AQMD are regulated by PAR 1111.

Table 1-2: PAR 1111 Affected Industries

Affected Industry	NAICS
Heating Equipment (except Warm Air Furnaces) Manufacturing	333414
Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	333415
Motor and Generator Manufacturing	335312
Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	423610
Heating, Ventilation, and Air Conditioning (HVAC) Equipment Merchant Wholesalers	423730
Household Appliances, Electric Housewares, and Consumer Electronics Merchant Wholesalers	423620
Installers	238

RULE 1121 REGULATORY HISTORY

Rule 1121 was adopted by the South Coast AQMD's Governing Board on December 1, 1978. The objective of the rule is to reduce NOx emissions from natural gas-fired residential water heaters.

[1] The South Coast AQMD, Residential and Commercial Building Appliances, http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/buildings_final.pdf

Rule 1121 applies to manufacturers, distributors, retailers, and installers of residential natural gas-fired water heaters less than 75,000 Btu per hour.

Starting in 1982, Rule 1121 required that gas-fired water heaters meet a NOx emission limit of 40 ng/J of heat output, except gas-fired mobile home water heaters, which were required to meet a NOx emission limit of 50 ng/J of heat output.

NOx Emission Limit of 10 ng/J Established

In December 1999, Rule 1121 was amended to reduce the NOx emission limit. The amendment reduced the NOx limit in two steps from 40 ng/J to 20 ng/J on July 1, 2002, and 10 ng/J on January 1, 2005. The mobile home water heater emission limit was reduced from 50 ng/J to 40 ng/J, effective on and after January 1, 2000. Alternate equivalent emission limits expressed in part per million were also added. The rule also required manufacturers to provide a report by July 1, 2003, on their progress toward meeting the final emission limit in the rule.

Rule 1121 was included in the Settlement Agreement for the 1999 AQMP amendment. The Settlement Agreement included a commitment to begin the lower emissions limits implementation by 2005, allowing up to a 1-year extension to the implementation, or additional extensions if the Governing Board makes a finding of infeasibility.

Request a Delay in the Compliance Date

Manufacturers reported their progress towards meeting the emission limits by July 2003 and requested a delay in the compliance date and exemptions for power vented and direct vented water heaters. In addition, manufacturers requested to delay residential water heaters less than 50 gallons for one year and residential water heaters greater than 50 gallons for an additional two years.

Staff submitted a report to the Governing Board in January 2004, where the January 2005 compliance date was found to be infeasible, and the Governing Board directed staff to proceed with the rule development.

Extension of Compliance Date and Mitigation Fee

The most recent amendment to Rule 1121 in September 2004 extended the emission limit of 10 ng/J by one year for conventional water heaters less than or equal to 50 gallons, two years for conventional water heaters greater than 50 gallons, and three years for direct-vent, power-vent, and power direct-vent water heaters. The mitigation fee program for the interim rule limit was extended for three years and changed from $1.80 per water heater to $3.00 per water heater. The rule also required manufacturers to provide a report on progress towards meeting the interim and final rule limits for direct-vent, power-vent, and power direct-vent water heaters. The mitigation fee period ended when the 10 ng/J emissions limit was implemented from 2006-2008, depending on water heater type.

2022 AQMP Control Measure

In the 2022 AQMP, the Governing Board adopted control measure R-CMB-01: Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Water Heating. The control measure proposed the development zero-NOx emission standards for water heating appliances installed in new and existing buildings, when feasible. All-electric heat pumps were mentioned as an option for zero-emission water heating.

PAR 1121 AFFECTED INDUSTRIES

PAR 1121 affects manufacturers, distributors, retailers, resellers, and installers of natural gas-fired water heaters with a rated heat input capacity less than 75,000 Btu/hr. There are no OEMs of gas-fired water heaters located in the South Coast AQMD; however, these companies do maintain regional sales offices and distribution centers in the region, and the supply chains to support their products. The units affected by the proposed rule are mostly used in residential buildings for domestic hot water needs.

The following table shows the NAICS for the industries affected by PAR 1121. Staff estimated approximately 5,100,000 units in the South Coast AQMD are regulated by PAR 1121.

Table 1-3: PAR 1121 Affected Industries

Affected Industry	NAICS
Hot Water Heating System Installation	238220
Water Heater Controls Manufacturing	334512
Water Heaters, Gas and Electric, Merchant Wholesaler	423720
Major Household Appliance Manufacturing	335220
Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	423610
Household Appliances, Electric Housewares, and Consumer Electronics Merchant Wholesalers	423620
Installers	238

PUBLIC PROCESS

PAR 1111 and PAR 1121 were developed through a public process that began in the last quarter of 2023 and included a series of working group meetings, individual stakeholder meetings, and site visits to affected facilities. South Coast AQMD staff held eight working group meetings on October 5, 2023, November 28, 2023, January 31, 2024, April 4, 2024, June 20, 2024, August 15, 2024, December 4, 2024, and February 13, 2025. The working group is comprised of representatives from manufacturers, trade organizations, permit stakeholders, businesses, environmental groups, residents, public agencies, consultants, and other interested parties. The purpose of the working group meetings was to present and discuss staff's BARCT assessment and the development of the proposed amendments and NOx limits for PAR 1111 and PAR 1121. Staff presented initial preliminary draft rule language at the working group meeting on June 20, 2024. A public workshop was conducted on October 3, 2024. After a considerable amount of feedback on the proposed rules concept, including concerns on the affordability of zero-NOx emission appliances and lack of consumer choice with the proposed future effective zero-NOx emission standards, staff changed the rule concept. The new rule concept was discussed during Working Group Meeting #8 and detailed in a Public Consultation Meeting held on March 6, 2025. The

following table summarizes the working group meetings held throughout the development of PAR 1111 and PAR 1121 and provides a summary of the key topics discussed at each of the working group meetings.

Table 1-4: Summary of Public Process

Date	Meeting Title	Highlights
October 5, 2023	Working Group Meeting #1	• Rule Development Process • Control Measures for Space and Water Heating • BARCT Assessment • Technologies • Manufacturer Survey • Incentives
November 28, 2023	Working Group Meeting #2	• Follow-up to stakeholder comments from Working Group Meeting #1 • Presented cost-effectiveness methods, assumptions, and initial results
January 31, 2024	Working Group Meeting #3	• Follow-up to stakeholder comments from Working Group Meeting #2 • Analysis of requirements in mobile homes • Updates to cost-effectiveness calculations • Presented affordability analysis method, assumptions, and initial results • South Coast AQMD rebate program for zero-emission units
April 4, 2024	Working Group Meeting #4	• Follow-up to stakeholder comments from Working Group Meeting #3 • Summary of site visits to mobile homes • Discussion of wall and floor furnaces • Discussion of commercial space heating • Cost-effectiveness for wall and floor furnaces, and commercial furnaces • Proposed rule concepts
June 20, 2024	Working Group Meeting #5	• Follow-up to stakeholder comments from Working Group Meeting #4 • Summary of site visits to multifamily buildings • Rule language proposals
August 15, 2024	Working Group Meeting #6	• Follow up to stakeholder comments from Working Group Meeting #5 • Summary of site visit to single family home and multifamily homes • Feasibility of 120V heat pump water heaters • Tenant protections

Date	Meeting Title	Highlights
		• Updates to rule language
October 3, 2024	Public Workshop	• Background on Rule 1111 and Rule 1121 • PAR 1111 rule language • PAR 1121 rule language
October 18, 2024	Stationary Source Committee	• Regulatory history and background • Estimated emission reductions • Anticipated challenges and proposed solutions
December 4, 2024	Working Group Meeting #7	• Staff outreach efforts • Updates to cost-effectiveness • Replacement cost examples • Updates to proposed rule language • Go Zero rebate program development
December 20, 2024	Stationary Source Committee	• Public outreach updates • Site visits • Anticipated challenges and proposed solutions • Affordability and cost examples
February 13, 2025	Working Group Meeting #8	• Staff outreach efforts • Summary of concerns about previous rule concepts • New rule concept proposal • Go Zero rebate program development
February 21, 2025	Stationary Source Committee	• Updated public outreach efforts • Presented new rule concept with compliance targets and mitigation fees • Updates to emissions reductions
March 6, 2025	Public Consultation Meeting	• Detailed the third preliminary draft PAR 1111 and PAR 1121 • Discussed updated cost effectiveness analysis
March 21, 2025	Stationary Source Committee	• Updated committee on rule development progress • Discussed mitigation fee options
April 18, 2025	Stationary Source Committee	• Updated committee on key issues • Discussed recent outreach on proposed rules
May 16, 2025	Stationary Source Committee	• Updated committee on key issues • Summarized key changes to rule language

Staff held many meetings with stakeholders who are potentially impacted by this rulemaking. In addition, staff conducted dozens of site visits with stakeholders as listed in the following table.

Table 1-5: Summary of Site Visits

Date	Location
March 15, 2023	Southern California Edison Energy Education Center
June 8, 2023	Southern California Edison Energy Education Center
August 29, 2023	Rheem Manufacturing Company, Raypak
December 8, 2023	Oakridge Mobile Home Park
January 11, 2024	Lake Los Serranos Mobile Home Park
January 17, 2024	Corona Del Rey Apartments
March 14, 2024	The Fountains Mobile Home Park
May 2, 2024	Jia (Multifamily)
May 2, 2024	Pearl MDR (Multifamily)
May 22, 2024	Ava Burbank (Multifamily)
May 22, 2024	Ava Toluca (Multifamily)
July 18, 2024	A Single-Family House in Mission Viejo (120V heat pump water heater)
August 7, 2024	Newport Ridge Apartment Homes (Multifamily)
August 7, 2024	San Paulo Apartment Homes (Multifamily)
August 7, 2024	New Construction Single Family Home in Irvine
September 5, 2024	Palmeras Apartments in Irvine
September 5, 2024	Baywood Apartments in Newport Beach
October 23, 2024	Mountain Communities Hospital
October 23, 2024	Indoor Weather Shop

Date	Location
October 23, 2024	Spade & Spatula
October 23, 2024	Dual Fuel Single-Family Residence
October 23, 2024	All Electric Single-Family Residence
October 23, 2024	Pali Adventure Camp
October 29, 2024	Centre Club (Multifamily)
January 7, 2025	University of California Irvine (UCI) All-Electric Hospital
February 11, 2025	California State University Dominguez Hills

CHAPTER 2: BARCT ASSESSMENT

INTRODUCTION OF BARCT ASSESSMENT

PAR 1111 BARCT ASSESSMENT

PAR 1121 BARCT ASSESMENT

COST-EFFECTIVENESS AND INCREMENTAL COST-EFFECTIVENESS

ADDITIONAL INFORMATION AND CHALLENGES

INTRODUCTION OF BARCT ASSESSMENT

The purpose of a BARCT assessment is to assess available pollution controls to establish emission limits for specific equipment categories consistent with state law. Under Health and Safety Code Section 40406, BARCT is defined as:

> "an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source."

The BARCT assessment follows a framework through the rule development process and includes public participation. The following figure illustrates the overall BARCT assessment approach.

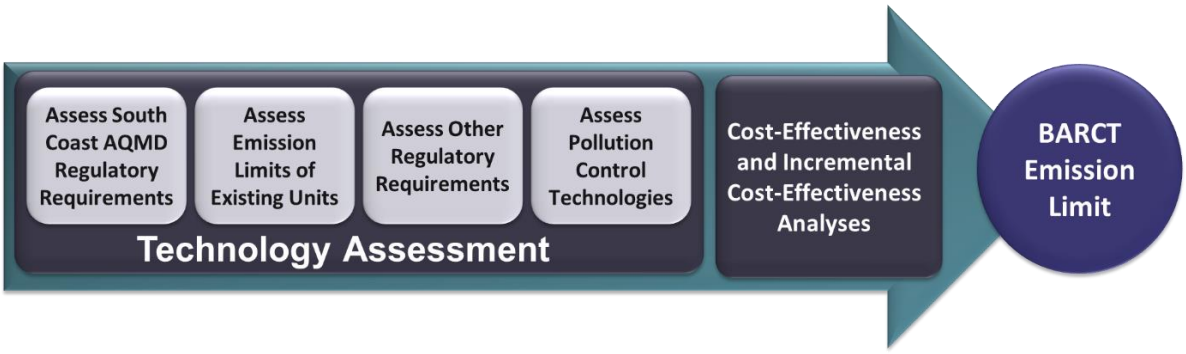

Figure 2-1. BARCT Assessment Approach

PAR 1111 BARCT ASSESSMENT

Assess South Coast AQMD Regulatory Requirements

Assessment of South Coast AQMD Regulatory Requirements

Staff reviewed existing South Coast AQMD NOx regulations for residential heating and small commercial heating. The following table summarizes the South Coast AQMD rules that staff evaluated as part of the BARCT technology assessment.

Table 2-1: South Coast AQMD Regulatory Requirements Similar to PAR 1111

Regulation/Rule Title	Relevant Unit/Equipment Size	Current or Future Effective NOx Emission Limits in ng/J or ppmv at 3 percent O_2, dry
Rule 1146.2 – Emissions of Oxides of Nitrogen (NOx) from Large Water Heaters, Small Boilers and Process Heaters	Large Water Heaters, Small Boilers and Process Heaters (less than or equal to 2,000,000 Btu/hr rated heat input capacity, excluding tank type water heaters subject to Rule 1121)	0 ppmv with compliance dates between 2026-2033: • Type 1 Units • Instantaneous Water Heaters ≤200,000 Btu/hr • Instantaneous Water Heaters >200,000 Btu/hr • Type 1 Pool Heaters • Type 2 Units • Type 1 High Temperature Units, and • Type 2 High Temperature Units
Rule 1147 – NOx Reductions From Miscellaneous Sources	Combustion equipment which require an AQMD permit but are not applicable to other Rules	• 60 ppmv for afterburners, burn-off furnaces, dryers over 1,200°F, kilns, and other units • 30 ppmv for ovens, dryers, kilns and furnaces under 1,200°F, and make-up air heaters, carpet dryers and other units
Rule 1121 – Control of Nitrogen Oxides from Residential-Type, Natural Gas-Fired Water Heaters	Residential-Type, Natural Gas-Fired Water Heaters (less than 75,000 Btu/hr rated heat input capacity)	• 10 ng/J or15 ppmv • 40 ng/J or 55 ppmv for mobile home water heaters

Emission Level of Existing Units

The next step of the BARCT assessment is to evaluate the emission of existing units operating within the South Coast AQMD. Condensing, non-condensing, and weatherized furnaces subject to Rule 1111 are certified to meet the 14 ng/J NOx emission limit; the applicable mobile home furnaces are meeting the 40 ng/J NOx emission limit. PAR 1111 applies to furnaces with a rated heat input capacity of up to 175,000 Btu/hr. Wall furnaces and floor furnaces, which are currently not subject to an emission limit. Staff conducted a review of currently available wall furnace and floor furnace product sheets and found several units with ultra-low NOx burners (14 ng/J) and units that do not state the NOx emission levels. Staff, therefore, assumed a NOx emission of 40 ng/J for wall and floor furnaces to account for units that do not have a stated emission level.

Other Regulatory Requirements

Staff reviewed regulatory requirements from other agencies for identical or similar equipment. The purpose of this step is to determine if there are more stringent regulations in other jurisdictions that should be considered, as NOx reduction rules enforced by the South Coast AQMD cannot be less stringent.

Table 2-2: Other Regulatory Requirements Similar to PAR 1111

Regulatory Entity	Regulation/Rule	Relevant Emission Limits
San Joaquin Valley Air Pollution Control District (Valley Air District)[(2)]	Rule 4905 – Natural Gas-Fired, Fan-Type Central Furnaces (units with a rated heat input capacity less than 175,000 Btu/hr, and for combination heating and cooling units with a rated cooling capacity of less than 65,000 Btu/hr) – Exempts furnaces that are to be installed with a propane conversion kit	14 ng/J (allows mobile home furnaces to meet 40 ng/J if a per unit emission fee is paid)
Bay Area Air Quality Management District (BAAQMD)[(3)]	Rule 9-4 – Nitrogen Oxides Emissions from Natural Gas-Fired Furnaces (units with total rated heat input capacity of less than 175,000 Btu/hr) adopted in March 2023	• Zero-emission limits with implementation in 2029 • Emission standards not applicable to furnaces used in mobile homes
California Air Resources Board (CARB)[(4)]	2022 State Strategy for the State Implementation Plan (adopted September 22, 2022) proposed measures for residential and commercial buildings; Anticipating Board consideration for rule adoption in 2026	Proposed zero-emission limits (GHG, NOx) for new equipment and appliances sold for use in both residential and commercial buildings, with implementation in 2030

[(2)] San Joaquin Valley Air Pollution Control District, Rule 4905, https://ww2.valleyair.org/media/haahtjed/rule-4905.pdf

[(3)] Bay Area Air Quality Management District, Rule 9-4, https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-9-rule-4-nitrogen-oxides-from-fan-type-residential-central-furnaces/2021-amendments/documents/20230315_rg0906-pdf.pdf?rev=436fcdb037324b0b8f0c981d869e684d&sc_lang=en

[(4)] California Air Resources Board, 2022 State SIP Strategy, p. 30, https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf

Assessment of Pollution Control Technologies

The next step is to research the commercially available emission control technologies and seek information on any emerging emission control technologies. As part of this assessment, staff met with multiple manufacturers. Rule 1111 is technology and fuel neutral and is focused on achieving the maximum NOx emission reductions possible.

Staff assessed different pollution control technologies as part of the BARCT assessment. Staff presented and discussed the pollution control technology assessment in working group meetings. The objective is to identify and evaluate control technologies, approaches, and potential emission reductions.

Zero-Emission Technology and Emerging Technology

Zero-emission technologies such as heat pumps, electric resistance, and fuel cell technologies were explored as part of the BARCT assessment, all of which are proven technologies that have been in operation for decades. Staff conducted internet searches and met with stakeholders to gather more information on zero-emission technologies and emerging technology.

Heat Pump Technology for Heating, Ventilation, and Air Conditioning

Common zero-emission heating technology includes heat pumps. This technology can be over three times more efficient than conventional appliances and can be used for water heating, space heating, and cooling.

Unlike natural gas fired furnaces that generate heat directly, heat pumps use the principle of energy transfer to transport energy from an outside medium (such as the ground or outside air) to the interior, using a refrigerant cycle. Heat pumps typically consist of an indoor unit and an outdoor unit. Compared to traditional furnaces, heat pumps have the additional benefit of cooling. Different types of heat pumps cater to various HVAC needs, each offering unique advantages. The indoor unit of ducted heat pumps are integrated into a ductwork system, distributing heated or cooled air throughout a building. They are ideal for houses with pre-existing central heating and cooling but require installation of a ducting system for houses that do not. On the other hand, ductless mini-split heat pumps operate without ducts, using individual air handing units mounted inside individual rooms for zonal heating and cooling. These units offer more flexibility in temperature control and installation, making them suitable for spaces lacking ductwork or requiring independent temperature control. Window heat pumps are compact units designed to fit into windows, offering localized heating and cooling for single rooms or small areas. They are easy to install and provide immediate temperature control but are less efficient compared to their ducted or ductless system counterparts.

All air-source heat pumps draw heat from the outside air, which means they will gradually lose performance as the outside temperature drops. Ground-source heat pumps, on the other hand, have refrigerant lines underground to take advantage of the ground's relatively constant temperature. This provides consistent high performance but requires significantly higher installation costs.

Electric Resistance Technology for Space Heating

Electric resistance furnaces use resistance elements, such as heating coils or strips to warm the air, which can then be used in conjunction with air handlers, ductworks, and thermostats to deliver

controlled heat through a residential or commercial space. This technology converts nearly all incoming electricity and converts it to heat directly. Some heat pumps have an electric resistance element used for backup heating since a heat pump's efficiency may decrease due to extreme cold conditions or inadequate spacing.

Electric resistance heaters have fewer requirements for installations compared to natural gas fired heaters, as they do not require a flue or venting system. This allows electric resistance to be installed in a wide range of indoor spaces and is suitable for spaces where natural gas availability is limited or undesirable.

Electric resistance wall heaters are mounted directly onto walls and use electric resistance coils to warm the surrounding air. This warm air then rises naturally, creating convection currents that circulate through the room, gradually raising the ambient temperature. Similarly, electric resistance floor heaters use the same principle, but are generally installed along the baseboards of walls. Both wall and floor heaters are often used in residential and commercial spaces where localized space heating is needed and oftentimes, where a central heating system is not sufficient or not practical.

However, electric resistance furnaces are not as efficient as heat pumps since they convert electricity to heat in a nearly one-to-one ratio.

Solar Technology for Heating, Ventilation, and Air Conditioning

Solar heating technology collects thermal energy from the sun to heat space or water. Active and passive solar heating are the two most common types of solar heating. Active solar air heating systems use solar collectors to heat air, which is then circulated through the home using fans or ducts. This method is often used in conjunction with a traditional heating system to provide supplemental heat. Solar technology is commonly used to generate electricity for storage or to power an existing HVAC system. Due to the reliance on available sunlight, solar HVAC systems may need to have a back-up system when sunlight is not available. Solar HVAC systems are commonly coupled with mini split heat pumps, leveraging the use of a renewable energy source to power the HVAC system. Passive solar heating systems rely on building design elements, such as windows, walls, and floors, to collect, store, and distribute the solar energy naturally.

Mobile Homes

Mobile home furnaces have specific design and size requirements that are different from those of a traditional home furnace. There are various zero emission technologies for mobile home space heating, including solar, electric resistance, and heat pumps. Heat pump technologies include ductless mini-split, package, central air, and geothermal systems that have high energy efficiency and are gaining more popularity. Package heat pump systems do not have the concern of physical design for space and air flow as they do not require a separate indoor unit. Packaged heat pump systems combine the heating and cooling components into one outdoor unit and connect to the home's ductwork to distribute warm or cool air throughout the living space.

PAR 1121 BARCT ASSESSMENT

Assessment of South Coast AQMD Regulatory Requirements

Staff reviewed existing South Coast AQMD NOx regulations for residential water heating. The following table summarizes the South Coast AQMD rules that staff evaluated as part of the BARCT technology assessment.

Table 2-3: South Coast AQMD Regulatory Requirements Similar to PAR 1121

Regulation/Rule Title	Relevant Unit/Equipment Size	Current and Future Effective NOx Emission Limits in ng/J or ppmv at 3 percent O_2, dry
Rule 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters	Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (greater than or equal to 5,000,000 Btu/hr rated heat input capacity)	• 7-9 ppm for units burning gaseous fuels 5,000,000 to less than 20,000,000 Btu/hr; • 5-9 ppmv for units burning gaseous fuels greater than 20,000,000 Btu/hr and less than 75,000,000 Btu/hr; • 5 ppmv for units burning natural gas greater than or equal to 75,000,000 Btu/hr; • 12 ppmv for thermal fluid heaters burning gaseous fuels; • 40 ppmv for nongaseous fuels; • 12 ppmv for atmospheric units; • 15 ppmv for units burning digester gas; • 25 ppmv for units burning landfill gas
Rule 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters	Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (greater than 2,000,000 Btu/hr and less than 5,000,000 Btu/hr rated heat input capacity)	• 7-9 ppmv for units greater than 2 MMBtu/hr and less than 5,000,000 Btu/hr burning natural gas; • 12 ppmv for atmospheric units; • 12 ppmv for thermal fluid heaters; • 15 ppmv for units burning digester gas; • 25 ppmv for units burning landfill gas

Regulation/Rule Title	Relevant Unit/Equipment Size	Current and Future Effective NOx Emission Limits in ng/J or ppmv at 3 percent O_2, dry
Rule 1146.2 – Emissions of Oxides of Nitrogen (NOx) from Large Water Heaters, Small Boilers and Process Heaters	Large Water Heaters, Small Boilers and Process Heaters (less than or equal to 2,000,000 Btu/hr rated heat input capacity, excluding tank type water heaters subject to Rule 1121)	0 ppmv with compliance dates between 2026-2033: • Type 1 Units • Instantaneous Water Heaters ≤200,000 Btu/hr • Instantaneous Water Heaters >200,000 Btu/hr • Type 1 Pool Heaters • Type 2 Units • Type 1 High Temperature Units, and • Type 2 High Temperature Units
Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired Furnaces	Gas-fired fan-type space heating furnaces with a rated heat input capacity of less than 175,000 Btu/hr or, for combination heating and cooling units, with a cooling rate of less than 65,000 Btu per hour	• 14 ng/J • 40 ng/J before October 1, 2025 with mitigation fee alternative compliance option, and 14 ng/J on and after October 1, 2025, for mobile home furnaces

Emission Level of Existing Units

Currently, Rule 1121 water heaters are required to be certified at the NOx emissions limit of 10 ng/J, whereas mobile home water heaters are required to be certified at an emissions limit of 40 ng/J. The list of units certified for use in the South Coast AQMD can be found on the South Coast AQMD website[(5)].

Other Regulatory Requirements

Staff reviewed regulatory requirements from other agencies for identical or similar equipment. The purpose of this step is to determine if there are more stringent regulations in other jurisdictions that should be considered, as rules

[(5)] South Coast AQMD Certified and Approved Equipment, https://www.aqmd.gov/home/programs/business/business-detail?title=certified-equipment&parent=certified-products

enforced by the South Coast AQMD cannot be less stringent than another air district rule unless compliance is not achievable. .

Table 2-4: Other Regulatory Requirements Similar to PAR 1121

Regulatory Entity	Regulation/Rule	Relevant Emission Limits
San Joaquin Valley Air Pollution Control District (Valley Air District)[6]	Rule 4308 – Boilers, Steam Generators, and Process Heaters (units with a total rated heat input capacity of greater than or equal to 75,000 Btu/hr and less than 2,000,000 Btu/hr) – Exempts units installed in manufactured homes, units installed in recreational vehicles, and hot water pressure washers	20 ppmv (except for pool heaters greater than or equal to 75,000 Btu/hr and less than or equal to 400,000 Btu/hr, which are at 55 ppmv)
Bay Area Air Quality Management District (BAAQMD)[7]	Rule 9-6 – Nitrogen Oxides Emissions from Natural Gas-Fired Boilers and Water Heaters (units with total rated heat input capacity of 75,000 Btu/hr – 2,000,000 Btu/hr) adopted in March 2023	Zero-emission limits with implementation in 2027 for small water heaters with rated heat input capacity greater than or equal to 75,000 Btu/hr and in 2031 for others – Exempts units installed in manufactured homes (40 ng/J limit), units installed in recreational vehicles, and pool/spa heaters with less than 400,000 Btu/hr rated heat input capacity used exclusively to heat swimming pools, hot tubs, or spas
California Air Resources Board (CARB)[8]	2022 State Strategy for the State Implementation Plan (adopted September 22, 2022) proposed measures for residential and commercial buildings; Anticipating Board consideration for rule adoption in 2026	Proposed zero-emission limits (GHG, NOx) for new equipment and appliances sold for use in both residential and commercial buildings, with implementation in 2030

[6] San Joaquin Valley Air Pollution Control District, Rule 4308, https://ww2.valleyair.org/media/o5pdu0oe/rule-4308.pdf

[7] Bay Area Air Quality Management District, Rule 9-6, https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-9-rule-4-nitrogen-oxides-from-fan-type-residential-central-furnaces/2021-amendments/documents/20230315_rg0906-pdf.pdf?rev=436fcdb037324b0b8f0c981d869e684d&sc_lang=en

[8] California Air Resources Board, 2022 State SIP Strategy, p. 30, https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf

Assessment of Pollution Control Technologies

The next step is to research the commercially available emission control technologies and seek information on any emerging emission control technologies. As part of this assessment, staff met with multiple manufacturers. South Coast AQMD Rule 1121 is technology and fuel neutral and is focused on achieving the maximum NOx emission reductions possible.

Staff assessed different pollution control technologies as part of the BARCT assessment. Staff presented and discussed the pollution control technology assessment in working group meetings. The objective is to identify and evaluate control technologies, approaches, and potential emission reductions.

Zero-Emission Technology and Emerging Technology

Zero-emission technologies such as heat pumps, electric resistance, and fuel cell technologies were explored as part of the BARCT assessment, all of which are proven technologies that have been in operation for decades. Staff conducted internet searches and met with stakeholders to gather more information on zero-emission technologies and emerging technology.

Heat Pump Technology for Water Heating

Common zero-emission heating technology includes heat pumps. This technology can be over three times more efficient than conventional appliances and can be used for water heating, space heating, and cooling.

Unlike natural gas-fired water heaters that generate heat directly, heat pump water heaters use the principle of energy transfer to transport energy from the surrounding air to the water, using a refrigerant cycle. The most common type of heat pump water heaters are integrated heat pump water heaters, where the heat pump and storage tank are in a single unit. These are ideal for smaller spaces where installation flexibility is limited, as these offer the convenience of a "drop-in" replacement. Additionally, there are split system heat pump water heaters, where the heat pump unit is separated from the water storage tank. This allows the heat pump unit to be installed in a less-obtrusive area, such as outdoors or a basement, whereas the storage tank can be installed in a different location indoors. In split systems, the heat pump takes heat from where the heat pump unit is installed. The split system, however, is not a "drop-in" replacement for a conventional tank-type water heater and may necessitate higher upfront costs for installation.

Two of the most common types of integrated heat pump water heaters, 240-volt (240V) and 120-volt (120V), are differentiated by the power supply required to operate. 240V heat pump water heaters generally are hybrid electric water heaters, where the heat pump water heater can use a back-up heating element to accommodate for high water usage to increase the recovery rate. Compared to 120V heat pump water heaters, 240V heat pump water heaters have a higher efficiency, but require a power supply that may not be available for all installations. 120V heat pump water heaters offer a solution for a wider range of installations, but they do not have a back-up heating element which results in a slower recovery rate.

120V heat pump water heaters can reduce costs and installation complexity that customers may face when retrofitting a heat pump water heater, compared to 240V heat pump water heaters. New Buildings Institute (NBI) worked closely with 120V heat pump water heater manufacturers and utilities in California on a statewide 120-volt heat pump water heater field validation program from

2021 to 2023. NBI installed 120V heat pump water heaters for 32 customers in most climate zones across California.[9] Based on the study findings, they saved between $800 and $15,000 per household compared to 240V heat pump water heater installation, primarily due to the minimal electrical interventions. These are very low amperage draw water heaters, they were pulling 4-6 amps of current during the monitoring period, despite being rated for 15 amps. From the installer feedback, 120V heat pump water heaters were also faster to install, making them ideal for emergency replacements. 120V heat pump water heaters were introduced to the market in 2022. Currently, there are two manufacturers (i.e., Rheem & A. O. Smith) with 120V heat pump water heaters commercially available with sizes ranging from 40 to 80 gallons. More manufacturers are expected to commercialize 120V heat pump water heaters. This type of heat pump water heater can plug into a standard wall outlet (shared circuit ≥ 15 amps) and can be installed like a standard gas water heater. Due to its slower heat recovery rate and lower first hour ratings compared to its gas-fired counterpart, manufacturers recommend upsizing for similar hot water availability, which means a larger footprint is required. For example, for A. O. Smith products, the heat pump water heater replacement typically is 4-6" larger in diameter and 3-8" taller. Another installation consideration is about ventilation. For a small space not meeting the air flow criteria, louvered door and inlet/outlet ducting may be considered.

The split system heat pump water heater offers a solution for small spaces. This technology is widely used in industrial and residential water heating applications in countries like Japan and Australia and are now gaining more adoption in the California market. The $SANCO_2$ heat pump water heater system has been observed in use for multifacility retrofit projects including the South Coast AQMD Multifamily Affordable Housing Electrification Project. [10] [11] Manufacturers are also developing 120V split system heat pump water heaters that minimize the need for electrical upgrades. EmberH2O Heat Pumps also have a 120V split system heat pump water heater [12]. The Hot Water Innovation Prize intends to reward manufacturers that develop innovative split system heat pump water heaters and bring the technology to market.[13]

Multi-function heap pumps are another emerging technology that uses one efficient compressor and outdoor heat exchanger coil to provide space cooling, space heating, and domestic hot water heating. For retrofits in buildings with existing air conditioning, this means that full size capacity air-to-air multi-function heap pumps can utilize existing air conditioning electrical circuits without modification. For buildings that do not have air conditioning, the air-to-air multi-function water heater is less likely to trigger the need for a service breaker panel or service wire upgrade compared to the typical separate heat pump HVAC and standalone heat pump water heater products. Harvest

[9] New Buildings Institute, https://newbuildings.org/resource/plug-in-heat-pump-water-heater-field-study-findings-market-commercialization-recommendations/
[10] Eco2 Systems, SANCO2 Water Heater, https://eco2waterheater.com/product-info/
[11] The South Coast AQMD, Governing Board Meeting January 2019, https://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2019/2019-jan4-002.pdf?sfvrsn=8
[12] Embertec, https://embertec.com/heat-pump(-water-heaters/
[13] Hot Water Solutions, Hot Water Innovation Prize, https://partners.hotwatersolutionsnw.org/hot-water-innovation-prize

Thermal[14] and Villara Aqua ThermAire[15] are market available multi-function water heater products and more developments are underway[16].

Some stakeholders have expressed concerns over how well heat pumps will operate in colder climates, such as the high-altitude locations within the South Coast AQMD. There are heat pump products available in the market that can operate at low temperatures, and the Northwest Energy Efficiency Alliance's Qualified Products List includes heat pump water heater products that are energy efficient in cold climates and products that can produce hot water via heat pump at negative 25 degrees Fahrenheit. Cold climate heat pumps can pull heat from the air even at sub-zero temperatures and are utilized in colder climates in the U.S. and abroad. Maine has one of highest per capita heat-pump adoption rates, outpacing Scandinavian countries, with rebates incentivizing installation of approximately 116,000 heat pumps in a state that has fewer than 600,000 occupied housing units. Heat pump technology is also being adopted in states such as Vermont and Alaska, and according to the International Energy Agency, 60 percent of Norway's buildings are fitted with a heat pump.

Electric Resistance Technology for Water Heating

Electric resistance water heating relies on electric heating elements immersed in a storage water tank to generate heat. These heating elements are submerged in water in the storage water tank and heat the water by converting the incoming electricity to heat. This technology converts nearly all incoming electricity and converts it to heat directly.

Thermostats monitor the water temperature inside the tank and cycle the heating elements on and off, as needed, to maintain a set temperature. Electric resistance water heaters are generally less efficient than heat pump water heaters, as it can only convert electricity to heat at a one-to-one ratio. Some heat pumps have an electric resistance element used for backup heating since a heat pump's efficiency may decrease due to extreme cold conditions or inadequate spacing.

Solar Technology for Water Heating

Solar thermal hot water systems include conventional-sized systems and consist of flat plate collectors, a controller, pump, and storage. The solar thermal collectors absorb sunlight and transfer the heat to the water or heat transfer fluid. Solar water heating can be active, by using pumps to circulate water, or passive, by relying on natural convection. Solar water heating is advantageous in warmer climates, as it depends on the availability of sunlight to function. Because of this, the use of a back-up water heater, be it a gas-fired, electric resistance, or a heat pump water heater, may be required.

Mobile Homes

Mobile home natural gas water heaters generally have lower capacity and are compatible for natural gas and propane use. Similar to mobile home space heating systems, mobile home water heaters need to be approved by HUD for safety standards. Considering the limited space of

[14] Harvest, https://www.harvest-thermal.com/
[15] AquaThermAire by Villara, https://villara.com/wp-content/uploads/2024/03/1.22-AquathermAire-One-Sheet.pdf
[16] CalNEXT, Residential Multi-Function Heat Pumps: Product Search, https://calnext.com/wp-content/uploads/2023/02/ET22SWE0021_Residential-Multi-Function-Heat-Pumps-Product-Search_Final-Report.pdf

manufactured homes, HUD requirements limit the options of water heater replacement in a mobile home. Some common zero-emission mobile home water heaters include electric tankless water heaters and electric storage water heaters. Manufactures are also providing heat pump water heaters that are HUD approved for mobile home installation. For example, Clayton Homes eBuilt shows a Rheem ProTerra heat pump water heater[17]. Some manufacturers have stated that they will continue their heat pump development to further address space constraints for some existing mobile homes as the market grows.

Fuel Cell Technology for Water Heating

Residential fuel cells that provide combined heat and power (referred to as micro-CHPs) are commercially available in Japan and Europe[18]. Most available micro-CHPs use natural gas, which is reformed into hydrogen gas and carbon dioxide (CO_2). The hydrogen is then sent to the fuel cell, which produces electricity and heat as a byproduct, producing zero NOx. This heat can be used to fulfill heating needs, including hot water and space heating. The same unit can use piped or bottled hydrogen gas, which also makes it an option to decarbonize home heating. However, most units also have a natural gas-fueled "top-up boiler" which provides additional needed heat at peak load.

In Japan, micro-CHPs have been heavily subsidized by the government under the Ene-Farm project, which is part of the larger "Hydrogen Society" policy to move Japan's infrastructure to hydrogen as a renewable fuel source. Japan has by far the largest market penetration of micro-CHPs, with 465,000 systems installed by 2022, though this amount was substantially fewer than the Japanese government's target of 1.4 million systems by 2020.

In Europe, adoption has been much lower. Two pilot projects, Ene-field and its successor PACE, have only installed 3,500 micro-CHPs, with the majority installed in Germany.

Staff from South Coast AQMD Technology Advancement Office met with representatives from SoCal Gas and fuel cell manufacturer Aisin to explore funding for a demonstration project to help bring this technology to the United States market.

Fuel cells have a broad range of applications from multi-megawatt systems to small units and continue to expand with emerging technologies[19]. Cost and durability are still critical challenges, and studies have indicated price ranges between $4,000 to $20,000 per kilowatt (kW). Natural gas fuel cells produce some NOx emissions. Fuel cell adoption in California currently is limited; however, fuel cell technology has the potential to replace existing units to meet the zero-emission limits.

COST-EFFECTIVENESS AND INCREMENTAL COST-EFFECTIVENESS

Initial BARCT Emission Limit and Other Considerations

After completing the technology assessment, staff recommends an initial BARCT NOx emission limit established using information gathered from the technology assessment. All provided emission concentration values (i.e., initial and final) in this report refer to concentration in terms of parts per million by volume (ppmv) based on a dry basis. Additionally, staff evaluates other considerations that could affect the emission limits that represent BARCT, including limits for

[17] Clayton Homes eBuilt, https://www.claytonbuilt.com/ebuilt
[18] Aisin, Energy Solutions, https://www.aisin.com/en/product/energy/
[19] U.S. Department of Energy, Multi-Year Research, Development, and Demonstration Plan, https://www.energy.gov/sites/default/files/2017/05/f34/fcto_myrdd_fuel_cells.pdf

those units operating close to the BARCT NOx limits. Heat pump technologies are still the main technologies that can achieve in the nearer term the NOx concentration limits proposed in PAR 1111 and PAR 1121. The summary of the BARCT assessment and staff's recommendations based on feasibility is discussed in the next section.

Method for Cost-Effectiveness and Incremental Cost-Effectiveness Analysis

The South Coast AQMD routinely conducts cost-effectiveness analyses for proposed rules and proposed amended rules and regulations that result in the reduction of criteria pollutants (NOx, sulfur oxides, volatile organic compounds, particulate matter, and carbon monoxide). The analysis is used as a measure of the relative effectiveness of a proposal. It is generally used to compare alternative means of emissions control relating to the cost of purchasing, installing, and operating control equipment to achieve the projected emission reductions. The major components of the cost-effectiveness analysis are capital costs, annual operation and maintenance costs, emission reductions, discount rate, and equipment useful life. The cost-effectiveness for PAR 1111 and PAR 1121 was completed using the discounted cash flow method, which is explained as follows:

Discounted Cash Flow (DCF)

The DCF method converts all costs, including initial capital investments and costs expected in the present and all future years of equipment useful life, to present value. Conceptually, it is as if calculating the number of funds that would be needed at the beginning of the initial year to finance the initial capital investments and to set aside to pay off the annual costs as they occur in the future. The fund that is set aside is assumed to be invested and generates a rate of return at the discount rate chosen. The final cost-effective measure is derived by dividing the present value of total costs by the total emissions reduced over the equipment useful life. The following equation is used for calculating cost-effectiveness with DCF. Note, the "Annual O&M Costs" denoted in the equation include fuel switching costs. The equation was presented in the 2022 AQMP Socioeconomic Report Appendix 2-B (p. 2-B-3):

$$Cost - effectiveness = \frac{Initial\ Capital\ Investments\ +\ (Annual\ O\&M\ Costs\ \times\ PVF)}{Annual\ Emission\ Reductions\ \times\ Years\ of\ Equipment\ Life}$$

Where O&M = Operation and Maintenance; and

PVF = Present Value Factor.

Equation 2-1. Discounted Cash Flow Cost-Effectiveness Equation

The PVF is calculated as follows:

$$PVF = \frac{(1+r)^N - 1}{r * (1+r)}$$

Where r = real interest rate (discount rate); and
N = years of equipment life.

Equation 2-2: PVF Equation

Lastly, Health and Safety Code Section 40920.6 (a)(3) states that an incremental cost-effectiveness assessment should be performed on identified potential control options that meet air quality objectives. To determine the incremental cost-effectiveness under this paragraph, South Coast

AQMD calculates the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option. Once the BARCT assessment is complete and NOx limits are established, staff considers incrementally more stringent options to demonstrate that the NOx limit represents the "maximum degree of reduction achievable by each class or category." The equation for incremental cost-effectiveness is provided as follows:

$$I\text{-}CE\left(\$/_{tons\ NOx\ reduced}\right) = \frac{Incremental\ Difference\ in\ Cost\ (Present\ Worth\ Value)}{Incremental\ Difference\ in\ Emission\ Reductions\ (Lifetime\ Reductions)}$$

Where I-CE = Incremental Cost-Effectiveness

Equation 2-3: Incremental Cost-Effectiveness Equation

The 2022 AQMP's objective is to meet the 2015 federal ozone standard through further emission reductions by transitioning to zero-emission technologies wherever feasible. For PAR 1111 and PAR 1121, staff identified technically feasible, commercially available, zero-emission control technologies for each category of equipment subject to PAR 1111 and PAR 1121. Staff did not identify less stringent control options that would meet the 2022 AQMP's air quality objective.

For the incremental analysis, staff considered a NOx technology that is incrementally more stringent than the current NOx limits. South Coast AQMD funded a project (Request For Proposal #P2018-06) in 2019 – 2023 for Lantec Products to develop prototype residential furnaces with NOx emissions lower than the current PAR 1111 Table 1 NOx limits. However, considering those prototype furnaces currently are not commercially available, and a number of zero-emission technologies are widely commercially available, staff did not consider the prototype low-NOx furnaces to be a feasible option that would achieve the 2022 AQMP's objectives. In conclusion, staff did not identify multiple control technologies for PAR 1111 and PAR 1121 that can achieve the 2022 AQMP's NOx reduction objective other than to transition to zero-emission technologies; therefore, an incremental cost-effectiveness assessment was not conducted.

Although the BARCT assessment only identified zero-emission technologies, there are a variety of control options that one can choose to meet the zero-emission limit. As discussed in earlier sections, heat pump, electric resistance, solar, and fuel cell are the viable zero-emission technologies that are relying on various fuel sources in alignment with the South Coast AQMD fuel neutral policy. In addition, each type of those technologies has multiple features and options for various applications. For example, heat pump water heaters have product lines for 240V and 120V applications to suit different electric and space setting, split systems that separate the tanks and compressor to save indoor space, multi-function systems that combine and streamline the HVAC and water heating to minimize the need of service upgrade. Cost-effectiveness varies depending on the control option selected to meet the zero-emission limit. For example, a heat pump HVAC replacing both space heating and cooling systems is much more cost effective than replacing just a space heating system, with cost saving estimated.

Cost Assumptions

Project Costs

For the purposes of this report, project costs includes equipment, installation, and any electrical service upgrades needed for installation. In order to determine project costs for heat pumps for PAR 1111 and PAR 1121, staff utilized the data published by TECH Clean California. TECH requires contractors who receive the rebates to report a wide variety of information on the project, including cost. Staff used the public data set for December 2024, choosing the median costs in the four-county area for installations of single-family and multifamily from January 2024 to December 2024. The median costs of each county are weighted by county population to generate average project cost for the South Coast AQMD region. For the costs of the natural gas units, staff took capital costs categories by climate zone and building stock from the 2019 E3 "Residential Building Electrification in California"[(20)]. Subsequently, staff determined the costs for each county under the specified climate zones, calculated weighted average costs based on building stock distribution for each county by 2023 Census data, generate average capital cost for the region with the county average costs, and adjusted the cost for inflation to 2024 dollars[(21)]. For homes with air conditioning (AC), combined costs of the heating and cooling systems were considered, as the proposed heat pump replacement provides both heating and cooling. To estimate the percentage of homes with AC and without AC, staff relied on the US Census American Housing Survey[(22)] which for the Los Angeles-Orange-San Bernardino-Riverside area estimates that 87 percent of homes have AC.

Estimating Fuel Switching Cost

The analysis considered the cost impacts of transitions from conventional combustion heating that uses natural gas to zero-emission technologies that use electricity as part of the cost-effectiveness assessment. For this assessment, the analysis relied on fuel price estimates derived from a combination of the California Energy Commission's (CEC) Integrated Energy Policy Reports (IEPR)[(23)] with the 2023 report for natural gas rates and the 2024 updated report for electricity rates, along with national-level forecasts from the Energy Information Administration (EIA). The current CEC forecast extends to 2040. These forecasts are extended into 2050 by applying the growth rates of forecasted electricity and natural gas prices in the EIA national level projections to the final year of forecasted CEC prices. Electricity forecasts are based on the Los Angeles Department of Water and Power (LADWP) and Southern California Edison (SCE) planning areas. Natural gas forecasts are only based on Southern California Gas Company (SoCalGas) forecasts, as SoCalGas is the primary gas utility in the region. Forecasted prices will not match observed electric and natural gas prices in any given year and may differ materially. Current prices are affected by demand and supply shocks, geopolitical factors, and other considerations which are all unforecastable. However, the CEC forecasts are created through a rigorous modeling process and

[(20)] Energy and Environmental Economics, Inc., https://www.ethree.com/e3-quantifies-the-consumer-and-emissions-impacts-of-electrifying-california-homes/
[(21)] United States Census Bureau, American Community Survey, https://data.census.gov/table/ACSDT1Y2022.B25034?q=B25034&g=040XX00US17$1600000
[(22)] United State Census Bureau, American Housing Survey, https://www.census.gov/programs-surveys/ahs.html
[(23)] California Energy Commission, Integrated Energy Policy Report (IEPR), https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report-iepr

reflect the best available expectation for future prices in the region. CEC forecasts are released every two years.

The analysis utilizes the residential utility rate forecast. Since the forecasted prices for LADWP and SCE differ, staff calculated a weighted average price based on the population served by each utility as follows:

LADWP: 4 million ÷ 17.2 million (Population served by LADWP ÷ regional population) = 0.23
SCE: 13.2 million ÷ 17.2 million = 0.77

Staff averaged the utility rates over the equipment lifetime, starting with the first compliance year. For PAR 1111 residential rates, staff used the cost averages for the period of 2027 – 2050, which are $2.45 per therm for natural gas and $0.32 per kWh for electricity. For PAR 1121, staff used the cost average for the period of 2027 – 2041, which are $2.23 per them for natural gas and $0.31 per kWh for electricity.

Using the annual fuel usage for both electricity and gas and the projected utility rates, the fuel switching cost was calculated on a per-year basis using Equation 2-4.

$$Fuel\ switching\ cost\ (\$) = annual\ electricity\ cost\ for\ replacement\ (\$) - annual\ gas\ cost\ (\$)$$

annual gas cost ($) = annual gas use (therm) * projected gas rate ($/therm)

annual electricity cost for replacement ($) = annual electricity use for replacement (kWh) * projected electricity rate ($/kWh)

Equation 2-4: Fuel Switching Cost Equation

The fuel switching costs were calculated over the span of the useful life of the equipment and averaged.

Electrical Panel Upgrade Cost

The TECH dataset for project costs include costs for equipment, installation, any needed panel upsizing and other electrical work for the project. Some projects had panel upsizing or electrical work, while some others did not need it. Therefore, the project costs used for the cost-effectiveness are accounted for the proportion of installations that would require an electrical service upgrade. For more information regarding an analysis of the TECH dataset, please refer to Additional Analysis: Electrical Service Upgrades in a later section of this Chapter. Cost-Effectiveness Screening Threshold

The 2022 AQMP established a cost-effectiveness screening threshold of $325,000 per ton of NOx reduced based on 2021 dollars. The 2022 AQMP stated that this screening threshold will be adjusted based on the annual California Consumer Price Index (CPI). PAR 1111 and PAR 1121 currently considers a $383,000 per ton of NOx reduced cost-effectiveness screening threshold using 2024 dollars. The 2022 AQMP threshold is neither considered a starting point for control costs, nor an absolute cap.

Cost-Effectiveness Analysis

To determine cost-effectiveness for the proposed BARCT limits, cost information and estimates for the control equipment were obtained. Staff utilized the public database of the TECH Clean

California heat pump rebate program[24] to collect information on the project costs, which includes equipment, installation, and electrical service upgrade costs, for heat pumps. After cost information was obtained, a bottom-up approach evaluated each unit category subject to PAR 1111 and PAR 1121 and cost-effectiveness analysis was conducted to estimate cost per ton of NOx emissions reduced over appliance lifetime on a per equipment basis. Baseline emissions for each equipment were calculated using the assumption methodology outlined in Chapter 5.

Cost-Effectiveness Analysis for PAR 1111

Using Equation 2-1, the cost-effectiveness of Rule 1111 was calculated. For PAR 1111, the annual operating and maintenance cost is the fuel switching costs.

Project Costs for PAR 1111

Staff utilized the public database of the TECH Clean California to determine the cost of a heat pump retrofit. These costs were used for both single-family and multifamily installations. For NOx-emitting project costs, staff used E3 study and adjusted numbers to 2024 to account for inflation, as explained in an earlier section. A summary of the project costs can be found in Table 2-5.

Table 2-5: Summary of Project Costs for PAR 1111

Property Type	Existing NOx-Emitting Appliance	Zero-NOx Emission Replacement	Zero-NOx Emission Project Cost ($)	NOx-Emitting Unit Project Cost ($)	Additional Project Cost for Zero-Emission Units ($)
Single-Family	Furnace + AC	Heat Pump	19,000	20,000	-1,000
	Furnace Only	Heat Pump	19,000	11,000	+8,000
Multifamily (Cost per unit)	Furnace + AC	Heat Pump	5,900	12,000	-6,100
	Furnace Only	Heat Pump	5,900	7,300	-1,400

Operating Costs for PAR 1111

Staff used the annual fuel use by climate zones for heat pumps and natural gas-fired furnaces in the 2019 Residential Appliance Saturation Study (RASS). [25] Five climate zones were identified for four counties in the South Coast AQMD as detailed in Table 2-6. While the South Coast AQMD encompasses more than the five climate zones, such as climate zone 15, fuel use data for other climate zones were not available and therefore excluded from this analysis. Staff calculated the average annual fuel use for each county with the fuel use of all the climate zones under the county and subsequently determined the fuel switch cost of each county. This approach aligns with

[24] TECH Clean California, Heat Pump Data, https://techcleanca.com/public-data/
[25] California Energy Commission, 2019 California Residential Appliance Saturation Study (RASS), https://www.energy.ca.gov/publications/2021/2019-california-residential-appliance-saturation-study-rass

TECH dataset that has a breakdown of project costs by county. The RASS includes information on the energy use of both electrical and natural gas appliances in Californian homes.

Table 2-6: Climate Zones and County Fuel Use

Climate Zone	County Fuel Use
6	Los Angeles and Orange
8	
9	
10	Riverside and San Bernardino
16	

Staff selected the tabulations for the SCE and SoCalGas as the most representative of the South Coast AQMD region. When estimating fuel use in single-family homes, staff used the fuel use tables in the RASS for single-family. Similarly, when estimating fuel use in multifamily homes, staff used tables in the RASS for multifamily.

A summary of the fuel switching costs can be found in Table 2-7. Fuel switching for furnace and AC and furnace only replacements on an annual basis are the same since the fuel switching costs are calculated based on the energy used for strictly for heating.

Table 2-7: Summary of Fuel Switching Costs for PAR 1111

Property Type	Existing NOx-Emitting Appliance	Zero-NOx Emission Replacement	Fuel Switching Cost
Single-Family	Furnace + AC	Heat Pump	-$750
	Furnace	Heat Pump	-$750
Multifamily (Cost per unit)	Furnace + AC	Heat Pump	-$200
	Furnace	Heat Pump	-$200

Present Value Factor for PAR 1111

According to the Air Conditioning, Heating, and Refrigeration Institute (AHRI), air conditioners have an expected lifetime of 12-15 years.[26] In the Department of Energy's 2023 Energy Conservation Standards for Consumer Furnaces[27], it was assumed consumer furnaces not in the north of the country had an expected lifetime of 20.2 years, but noted replacement was likely to be

[26] AHRI, Air-Conditioning and Heat Pump Efficiency 101, https://www.ahrinet.org/certification/cee-directory/air-conditioning-and-heat-pump-efficiency-101

[27] Energy Conservation Program: Energy Conservation Standards for Consumer Furnaces, https://www.federalregister.gov/documents/2023/12/18/2023-25514/energy-conservation-program-energy-conservation-standards-for-consumer-furnaces

linked to the replacement of a central air conditioner. The California Public Utilities Commission (CPUC) proposed a 36-year expected useful lifetime for central and wall furnaces[28]. The most recent amendment to Rule 1111 also assumed a 25-year equipment lifetime. Given the equipment lifetime ranges from 12 – 36 years, staff, assumed a lifetime of 25 years for residential furnaces and a four percent discount rate and thus a PVF of 15.62 as calculated per Equation 2-2: PVF Equation~~Equation 2-2: PVF Equation~~Equation 2-2: PVF Equation~~Equation 2-2: PVF Equation~~.

Lifetime Emissions Reductions for PAR 1111

Staff evaluated the lifetime emissions reductions, using a bottom-up approach from the annual fuel use from the California RASS. The lifetime emissions reductions is approximately 0.004 tons for single-family and 0.008 for multifamily.

Residential Furnaces: Cost-Effectiveness for PAR 1111

Staff estimated cost-effectiveness for using heat pumps replacing furnaces in homes with AC and without AC.

The project costs and fuel switching costs used for the cost-effectiveness can be found in Table 2-5 and Table 2-7 respectively and are detailed in the following analysis. A summary of cost-effectiveness for zero-NOx emission heat pump replacements in single-family and multifamily housing is provided in Table 2-8.

Table 2-8: PAR 1111 Cost-Effectiveness for Zero-NOx Unit Replacement

Property Type	Scenario	Cost-Effectiveness ($/ton NOx)
Single-Family	Heat Pump Replacing Furnace + AC	-592,000
	Heat Pump Replacing Furnace	+1,730,000
Multifamily (Per Unit)	Heat Pump Replacing Furnace + AC	-785,000
	Heat Pump Replacing Furnace only	-197,000

The cost-effectiveness is below the screening threshold for a heat pump replacing a HVAC system which includes both space heating furnace and air conditioning system; however, staff estimated high cost-effectiveness for heat pump replacing a furnace only. The incremental cost is much higher but the consumer gets the added benefit of space cooling.

The furnace only replacement scenario may be low within the South Coast AQMD as 87 percent of homes in the region have AC. There may also be instances where homes have newer ACs, and the homeowners opt to only replace the furnace, which would be a costly upgrade. Electric resistance furnaces are another option for replacing a NOx-emitting furnace. The upfront cost for NOx-emitting and electric resistance furnaces is similar; however, the cost to operate an electric resistance furnace is high because they are not as efficient as a heat pump. Electric resistance

[28] Residential HVAC and DHW Measure Effective Useful Life Study Final Report, https://www.calmac.org/publications/CPUC_Group_A_2023_Res_HVAC_and_DHW_EUL_Study_Final_Report.pdf

furnaces could be solution for furnace only replacement with low fuel use (e.g., coastal communities).

The 2022 AQMP states "if a proposed BARCT emission standard has a cost-effectiveness that is above the screening threshold, staff will hold a public meeting to discuss other options at or below the proposed screening threshold." Staff presented the ZEM Manufacturer Alternative Compliance Option at Working Group Meeting #8, the Public Consultation held on March 6, 2025, and Stationary Source Committee Meetings held in February 2025 and March 2025. To address the high cost scenario, PAR 1111 is proposing to include the ZEM Alternative Compliance Option that set manufacturer compliance targets for selling both NOx-emitting and zero-NOx emission space heating appliances. For scenarios with high cost-effectiveness to install a zero-NOx emission unit, consumers would likely make the choice to install a NOx-emitting furnace, as the ZEM alternative compliance option allows. There will be circumstances when a consumer does opt to replace their furnace with a heat pump, likely for the added benefit of space cooling, which is becoming more of a necessity as temperature increase in the region. While the furnace only to heat pump scenario is over the cost-effectiveness threshold, the ZEM alternative compliance option addresses the high cost and allows the consumer to choose to install a NOx-emitting appliance in cases where there is a high upfront cost for zero-NOx emission space heating appliances.

Cost-Effectiveness for the ZEM Alternative Compliance Option

Staff estimated the weighted average cost-effectiveness for implementing the ZEM alternative compliance option. For this estimation, staff assumed a range of 10 to 20 percent of consumers would choose to replace their furnace with a heat pump resulting with a range of weighted cost-effectiveness. For any scenario that staff estimated to have cost savings, staff assumed zero cost impact.

A summary of weighed cost-effectiveness for each implementation phase with the proposed ZEM compliance targets is provided in Table 2-9. More details on the estimation for each phase with 10 or 20 percent of furnace only replacement by heat pumps are provided in Table 2-10. Weighted cost-effectiveness for the rule by ZEM alternative compliance option varies depending on what product consumers would choose but is estimated to be lower than the screening threshold using reasonable assumptions on consumer behavior.

Table 2-9: PAR 1111 Cost-Effectiveness for ZEM Alternative Compliance Option

Dates **Phase**	**2027 - 2028** Phase I	**2029 - 2032** Phase II	**2033 - 2035** Phase III	**2036 and after** Phase IV
Targets	70% NO-Emitting 30% Zero-NOx	50% NO-Emitting 50% Zero-NOx	25% NO-Emitting 75% Zero-NOx	10% NO-Emitting 90% Zero-NOx
Weighed Cost-Effectiveness ($/Ton NOx)	$35,000 – $69,000	$69,000 – $140,000	$110,000 – $220,000	$140,000 - $280,000

Table 2-10: PAR 1111 Cost-Effectiveness for ZEM Alternative Compliance Option

Phase 1						
Target Goal	**Action**	**Cost Impact**	**Percent Impact**	**Overall**	**Number of Units**	**Weighted C/E**
70%	Gas Unit Install	$0	100%	96.0 - 98.0%	192,000 - 196,000	0
10%	New builds	$0	100%			
20%	HVAC to HP	$0	80 - 90%			
	HP to HP	$0				
	Furnace only to HP	$1,730,000	10 - 20 %	2.0 - 4.0%	4,000 - 8,000	34,600 - 69,200
				Totals	200,000	34,600 69,200
Phase II:						
Target Goal	**Action**	**Cost Impact**	**Percent Impact**	**Overall**	**Number of Units**	**Weighted C/E**
50%	Gas Unit Install	$0	100%	92.0 - 96.0%	184,000 - 192,000	0
10%	New builds	$0	100%			
40%	HVAC to HP	$0	80 - 90%			
	HP to HP	$0				
	Furnace only to HP	$1,730,000	10 - 20%	4.0 - 8.0%	8,000 - 16,000	69,200 - 138,400
				Totals	200,000	69,200 - 138,400
Phase III:						
Target Goal	**Action**	**Cost Impact**	**Percent Impact**	**Overall**	**Number of Units**	**Weighted C/E**
25%	Gas Unit Install	$0	100%	87.0 - 93.5%	174,000 - 187,000	0
10%	New builds	$0	100%			
65%	HVAC to HP	$0	80 - 90%			
	HP to HP	$0				
	Furnace only to HP	$1,730,000	10 - 20%	6.5 - 13.0%	13,000 - 26,000	112,450 - 224,900
				Totals	200,000	112,450 - 224.900

Phase IV:						
Target Goal	**Action**	**Cost Impact**	**Percent Impact**	**Overall**	**Number of Units**	**Weighted C/E**
10%	Gas Unit Install	$0	100%	84.0 - 92.0%	168,000 - 184,000	0
10%	New builds	$0	100%			
80%	HVAC to HP	$0	80 - 90%			
	HP to HP	$0				
	Furnace only to HP	$1,730,000	10 - 20%	8.0 - 16.0%	16,000 - 32,000	138,400 - 276,800
				Totals	200,000	138,400 – 276,800

Cost-Effectiveness Analysis for PAR 1121

The cost-effectiveness of PAR 1121 was calculated Using Equation 2-1 and Equation 2-4, as described in an earlier section.

Project Costs for PAR 1121

Staff utilized the public database of the TECH Clean California to determine the cost of a heat pump retrofit. Since insufficient data was available for all four counties for multifamily, these costs were used for both single-family and multifamily installations. For NOx-emitting project costs, staff used E3 study and adjusted numbers to 2024 to account for inflation, as explained in an earlier section. A summary of the project costs can be found in Table 2-11 below.

Table 2-11: Summary of Project Costs for PAR 1121

Property Type	~~Zero-NOx Emission Project Cost ($)~~NOx-Emitting Project Cost	~~NOx-Emitting Project Cost~~Zero-NOx Emission Project Cost ($)	Additional Project Cost for Zero-Emission Units ($)
Single-Family	3,300	5,400	+2,100
Multifamily	3,300	5,400	+2,100

Operating Costs for Rule 1121

While the RASS included information on energy use for natural gas water heaters, no information was provided on electricity use of heat pump water heaters. Therefore, staff relied on annual

electricity use estimates provided by EnergyStar[29] for certified products. Using an average of five different heat pump water heaters ranging from 55 gallons to 65 gallons, an average annual electricity usage was calculated to be 1036 kWh. An annual use of 188 therms/year and 192 therms/year were found from EnergyStar for 45- and 55-gallon water heaters respectively; staff used the average equating to 190 therms/year annual gas usage. Staff did not analyze fuel use costs based on climate zones for PAR 1121. Unlike space heating appliances, water heating fuel use is not significantly impacted by climate zone, and residential type water heater costs for single-family and multifamily are expected to be similar. A summary of the fuel switch costs can be found in Table 2-12.

Table 2-12: Summary of Fuel Switching Costs for PAR 1121

Property Type	Existing NOx-Emitting Appliance	Zero-NOx Emission Replacement	Fuel Switching Cost
Single-Family	Water Heater	Heat Pump	-$1,100
Multifamily (Cost Per Unit)	Water Heater	Heat Pump	-$1,100

Present Value Factor for PAR 1121

For storage water heaters, U.S. DOE estimates a useful life of 10 to 15 years.[30] For the 2024 amendment of Rule 1146.2, Type 1 storage water heaters were assumed to have a 15-year useful life. For this reason, analysis assumes residential water heaters have a 15-year useful life and four percent discount rate and thus a PVF of 11.118 as calculated per Equation 2-2: PVF Equation~~Equation 2-2: PVF Equation~~~~Equation 2-2: PVF Equation~~

Lifetime Emissions Reductions for PAR 1121

Using the annual fuel use for water heating, staff used a bottom-up approach to calculate the lifetime emissions reductions. The lifetime emissions reductions for both single-family and multifamily is approximately 0.0025 tons.

Single Family and Multifamily Water Heaters: Cost-Effectiveness

Since hot water demand is closely correlated to the number of residents in a household, staff assumed the costs of single-family and multifamily replacements would be the same[31].

The analysis considered the replacement of a NOx-emitting residential water heater less than 75,000 Btu/hr with a heat pump. The project costs and fuel switching costs used for the cost-effectiveness can be found in Table 2-11 and Table 2-12 respectively.

A summary of cost-effectiveness for zero-NOx emission heat pump replacements in single-family and multifamily housing is provided in Table 2-13.

[29] Energy Star, Heat Pump Water Heaters, https://www.energystar.gov/productfinder/product/certified-heat-pump-water-heaters/results
[30] U.S. Department of Energy, Tankless or Demand-Type Water Heaters, https://www.energy.gov/energysaver/tankless-or-demand-type-water-heaters
[31] U.S. Department of Energy, Sizing a New Water Heater, https://www.energy.gov/energysaver/sizing-new-water-heater

Table 2-13: PAR 1121 Cost-Effectiveness for Zero-NOx Unit Replacement

Property Type	Scenario	Cost-Effectiveness ($/ton NOx)
Single-Family	Heat Pump Water Heater Replacing NOx-Emitting Gas Water Heater	405,000
Multifamily (Per Unit)	Heat Pump Water Heater Replacing NOx-Emitting Gas Water Heater	405,000

Cost-effectiveness for a replacement of a NOx-emitting water heater with a heat pump water heater is $405,000, which is over the cost-effectiveness screening threshold. To address the high cost-effectiveness, PAR 1121 proposes to include a ZEM alternative compliance option that sets manufacturer compliance targets for selling both NOx-emitting and zero-NOx emission water heating appliances. For installations with high cost to install a zero-NOx emission unit, consumers would likely choose to install a NOx-emitting water heater, as the ZEM alternative compliance option allows. New technologies, such as the 120-V heat pump water heaters and incentives, such as the Go Zero program, will help lower upfront costs.

Cost-Effectiveness for the ZEM Alternative Compliance Option

Staff estimated the weighted average cost-effectiveness for implementing the ZEM alternative compliance option. For this estimation, staff assumed zero-cost impacts for new buildings transitioning to zero-NOx emission units and zero-impact for the installation of NOx-emitting unit.

A summary of weighted cost-effectiveness for each implementation phase with proposed manufacturer compliance target is provided in Table 2-14. More details on the estimation for each phase are provided in Table 2-15. Weighted cost-effectiveness for the rule by ZEM alternative compliance option varies depending on what product consumers would choose but is estimated to be lower than the screening threshold using reasonable assumptions.

Table 2-14: PAR 1121 Cost-Effectiveness for Manufacturer Alternative Compliance Option

Dates **Phase**	**2027 - 2028** Phase I	**2029 - 2032** Phase II	**2033 - 2035** Phase III	**2036 and after** Phase IV
Targets	70% NO-Emitting 30% Zero-NOx	50% NO-Emitting 50% Zero-NOx	25% NO-Emitting 75% Zero-NOx	10% NO-Emitting 90% Zero-NOx
Weighed Cost-Effectiveness ($/Ton NOx)	$81,000	$160,000	$260,000	$320,000

Table 2-15: PAR 1121 Cost-Effectiveness for the ZEM Alternative Compliance Option

Phase I:					
Target Goal	**Action**	**Cost Impact**	**Percent Impact**	**Number of Units**	**Weighted C/E**
70%	Gas Unit Install	$0	70%	233,333	0
10%	New builds	$0	10%	33,333	0
20%	Existing to HP	$405,000	20%	66,667	81,000
			Total	333,333	81,000
Phase II:					
Target Goal	**Action**	**Cost Impact**	**Percent Impact**	**Number of Units**	**Weighted C/E**
50%	Gas Unit Install	$0	50%	166,667	0
10%	New builds	$0	10%	33,333	0
40%	Existing to HP	$405,000	40%	133,333	162,000
			Total	333,333	162,000
Phase III:					
Target Goal	**Action**	**Cost Impact**	**Percent Impact**	**Number of Units**	**Weighted C/E**
25%	Gas Unit Install	$0	25%	83,333	0
10%	New builds	$0	10%	33,333	0
65%	Existing to HP	$405,000	65%	216,667	263,250
			Total	333,333	263,250
Phase IV:					
Target Goal	**Action**	**Cost Impact**	**Percent Impact**	**Number of Units**	**Weighted C/E**
10%	Gas Unit Install	$0	10%	33,333	0
10%	New builds	$0	10%	33,333	0
80%	Existing to HP	$405,000	80%	266,667	324,000
			Total	333,333	324,000

PROPOSED BARCT EMISSIONS LIMIT

Health and Safety Code Section Sections 40920.6(a)(1) and 40920.6(a)(2) require that prior to adopting rules to meet the requirement of BARCT, one or more potential control options which achieve the emission reduction objectives of the rule must be identified, and the cost-effectiveness assessment of the potential control option(s) must be conducted. The final proposed BARCT emission limit for each class and category is the emission limit that achieves the maximum degree of emission reductions and is determined to be cost-effective. The following tables summarize the proposed NOx emission limits that represent BARCT for each equipment category.

Table 2-16: PAR 1111 BARCT NOx Emission Limits and Compliance Schedule

Equipment Category	NOx Emission Limit (ng/J)	Building Type	Compliance Date
Residential Fan-Type Central Furnace*	0	New	January 1, 2027
		Existing	January 1, 2029
Mobile Home Furnace	0	New	January 1, 2027
Wall Furnaces and Floor Furnaces	0	New	January 1, 2027
		Existing	January 1, 2029

* Includes Condensing, Non-Condensing, and Weatherized Furnaces.

Table 2-17: PAR 1121 BARCT NOx Emission Limits and Compliance Schedule

Equipment Category	NOx limit (ng/J)	Building Type	Compliance Date
Water Heater*	0	New	January 1, 2027
	0	Existing	January 1, 2029
Mobile Home Water Heater	0	New	January 1, 2027

* Excluding Mobile Home Water Heater

Future implementation dates will allow for an increase in the supply of zero-emission technology in the market. Manufacturers are currently producing heat pumps for both HVAC and water heating and might modify their business strategies in response to policy changes and market dynamics. It is anticipated that the supply chain will adapt to evolving market conditions.

According to the 2022 AQMP, the established cost-effectiveness screening threshold is considered neither a starting point for control costs, nor an absolute cap. During the rulemaking process, if a proposed emission standard has a cost-effectiveness that is above the threshold, staff will hold a public meeting to discuss other emission standards with a cost-effectiveness at or below the proposed screening threshold and/or compliance or implementation options to address an emission standard that is above the proposed screening threshold.

Staff recognized that cost-effectiveness for implementing zero-NOx emission limit is over the ~~2033-2035~~ screening threshold for furnace only and water heater replacements. At the Working Group Meeting #8 on February 13, 2024, staff introduced the ZEM alternative compliance option with compliance targets (see Table 2-18) that will allow the sales of both zero-emission electric units and NOx-emitting natural gas-fired units. The discussion of the ZEM alternative compliance option has been conducted in every public meeting since February 13, 2024, including Public Consultation meetings on March 6, 2025, the Stationary Source Committee Meetings held ~~in~~since February 2025 ~~and March 2025~~, and outreach presentations in public meetings of many cities and various organizations. This alternative compliance option satisfies the direction set forth by 2022 AQMP for rule amendments that exceed the cost-effectiveness screening threshold.

Table 2-18: ZEM Alternative Compliance Option with Compliance Targets

Target Dates	2027-2028	2029-2032	2033-2035	2036 and after
NOx Emitting Units	70%	50%	25%	10%
Zero-NOx Emission Units	30%	50%	75%	90%

The ZEM compliance option also includes a mitigation fee for the sale of all NOx-emitting appliances, with higher over-target mitigation fees for the NOx-emitting appliances sold over the compliance target. The fees will ~~increase~~ be adjusted by the CPI for each year past the initial ZEM phase in the 2027 calendar year. The mitigation fees, including the over-target mitigation fees, are less than the cost difference between the NOx-emitting units and zero-NOx emissions units with cost-effectiveness above the threshold, e.g., the fees do not exceed the reasonable cost of providing the benefit of not having to sell a zero-emission unit. The ZEM alternative compliance option is detailed in Chapter 3 and Chapter 4.

ADDITIONAL INFORMATION AND CHALLENGES

Additional Analysis: Electrical Service Upgrades

Staff analyzed TECH Clean California data to further understand the frequency of electrical service upgrades needed for retrofit installations. Electrical service upgrade, as defined by the TECH dataset, is "whether the contractor upgraded the amperage capacity of the home's electrical panel as part of the installation."[32] Staff also evaluated the percentage of installations in disadvantaged communities, which is defined as, "whether a project occurred in a Census Tract

[32] TECH Clean California, Working Data Set, https://techcleanca.com/documents/5564/Data_Dictionary_-_TECH_Working_Data_Set_Single_Family_z3GmSQV.xlsx

labeled as a Disadvantaged Community per CalEnviroScreen 4.0."[32] For this analysis, staff evaluated installations from January 2024 to December 2024 in Los Angeles, Orange, Riverside, and San Bernardino counties.

For single-family space heating, there was a total of 3,074 installations in the South Coast AQMD with 3.7 percent needing an electrical service upgrade and 13.6 percent installed in a disadvantaged community.

For multifamily space heating, staff evaluated data from January 2023 to December 2024 since the 2024 dataset did not have installation data from all counties. There were a total of 1,060 installations across 839 properties with 6.7 percent requiring an electrical service upgrade and 25 percent installed in a disadvantaged community. Multifamily space heating had a higher percentage of installations requiring an electrical service upgrade and higher percentage of installations in a disadvantaged community.

For single-family water heating, there were a total of 1,212 installations with 15.8 percent requiring electrical service upgrades and 46.7 percent installed in a disadvantaged community. Since the percentage requiring electrical service upgrades is higher than space heating, staff further evaluated the types of equipment installed. Of the 1,212 installations, 1,006 installations were 240V heat pump water heaters, where 18.6 percent of the 240V installations required an electrical service upgrade. On the other hand, 206 of the 1,212 installations were 120V heat pump water heaters with 2.4 percent requiring an electrical service upgrade. 120V heat pump water heaters offer a solution for an array of installation types, due to its ease of installation only requiring a 120V outlet. Because of this, installation of 120V heat pump water heater may not need an electrical service upgrade as frequently as a 240V heat pump water heater because of the lower electrical demand. Adoption of 120V heat pump water heaters may increase over time since this technology was introduced into the market in 2022, thus making it relatively new compared to 240V heat pump water heaters. Increased market adoption will also likely lead to costs decreasing.

Due to insufficient data for the AQMD for multifamily water heating, staff relied upon the single-family data for this analysis.

Grid Reliability

2023 Integrated Energy Policy Report (IEPR) projects a peak demand increase of 18,000 MW by 2040 due to transport electrification and building electrification. Meanwhile, the Tracking Energy Development (TED) Taskforce, which is comprised of CEC, CPUC, CAISO, and Governor's Office, is tracking[33] 18,000 MW of new energy procurements which will be available by 2028.

In 2021, renewable generation accounted for 33.6 percent of the total California Power Mix, not including solar photovoltaic systems installed on residential and commercial buildings that are less than one megawatt (MW) as they are typically considered distributed generation and not required to report to CEC.[34] The California Power Mix is the percentage of specified fuel types derived from the California Energy Mix, and the California Energy Mix is the total in-state electric generation plus energy imports. There is expected to be more renewables adoption by states in the future, and California Senate Bill 100 called for a Renewables Portfolio Standard of 60 percent by

[33] CPUC, Tracking Energy Development, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/summer-2021-reliability/tracking-energy-development

[34] CEC, 2021 Total System Electric Generation, https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation

2030. Electricity imports account for approximately 30 percent of total system electric generation, with other states pursuing Renewable Portfolio Standards and state energy goals.

The CEC, CPUC, and CARB are working to coordinate across efforts, identify issues not covered by ongoing efforts, and assess needed actions to better align the energy system with the state's climate targets. Related initiatives include the CPUC's proceeding to support decarbonizing buildings in California (R.19-01-011), which eliminated gas line extension subsidies for new gas hookups to homes and commercial buildings effective July 1, 2023.[35] In February 2023, the CPUC ordered load serving entities to procure an additional 4,000 MW of Net Qualifying Capacity for 2026 and 2027, in addition to the mid-term reliability procurement requirements ordered in 2021 (11,500 MW, enough to power approximately 2.5 million homes). The CPUC also approved four energy storage contracts totaling 372 MW for SCE and recommended an electric resource portfolio for use in the California Independent System Operator's (CAISO) 2023-24 Transmission Planning Process. The recommended portfolio includes over 85 gigawatts (GW) of new resources by 2045, including 54,000 MW of renewable resources; over 28,000 MW of batteries; 2,000 MW of long-duration storage; and 1,100 MW of demand response.

The CEC adopts IEPR every two years and an update every other year. The 2022 IEPR has recognized the proposed zero-emission requirements for residential and commercial buildings in California and included recommendations and updates to the energy demand forecast.[36] The IEPR update released on January 1, 2024, provided forecasts for future natural gas and electricity rates, which staff utilized in the cost-effectiveness analysis. Staff used the cost averages for the period of 2024 – 2050, which are $1.71 per therm or 5.84 cents/kWh for natural gas and 24.81 cents/kWh for electricity commercial rates. For residential rates, staff used the cost averages for the period of 2024 – 2050, which are $2.31 per therm or 7.88 cents/kWh for natural gas and 29.85 cents/kWh for electricity.

Under Assembly Bill 3232 (Friedman, Chapter 373, Statutes of 2018), the CEC must assess the feasibility of reducing greenhouse gas emissions in residential and commercial buildings to 40 percent below 1990 levels by January 1, 2030. Statewide electricity consumption was over 280,000 GWh in 2021 and is forecasted to be 358,738 GWh in 2035. The 2022 Planning Scenario peak forecast for CAISO, which manages roughly 80 percent of California's load, reaches 55,117 MW by 2035. CAISO is planning $11 billion in transmission capacity projects over the next 20 years, which covers 80 percent of the entire state service area. The 20-Year Transmission Outlook document from May 2022 considers transmission needs to meet load and renewable energy growth aligned with state policy. The plan describes $11 billion in upgrades to the existing CAISO transmission footprint.[37] In addition, solar photovoltaic generation continues to increase as shown in the following figure .[38] Between 2022 and 2035, behind-the-meter photovoltaic generation is expected to grow on average by about six percent, reaching annual photovoltaic generation of 55,740 GWh by 2035.

[35] CPUC, Press Release, https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M496/K979/496979465.PDF
[36] CEC, 2022 Integrated Energy Policy Report Update, https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2022-integrated-energy-policy-report-update
[37] California ISO, 20-Year Transmission Outlook, http://www.caiso.com/InitiativeDocuments/20-YearTransmissionOutlook-May2022.pdf
[38] CEC, 2022 Electric Generation and Capacity, https://www.energy.ca.gov/media/3757

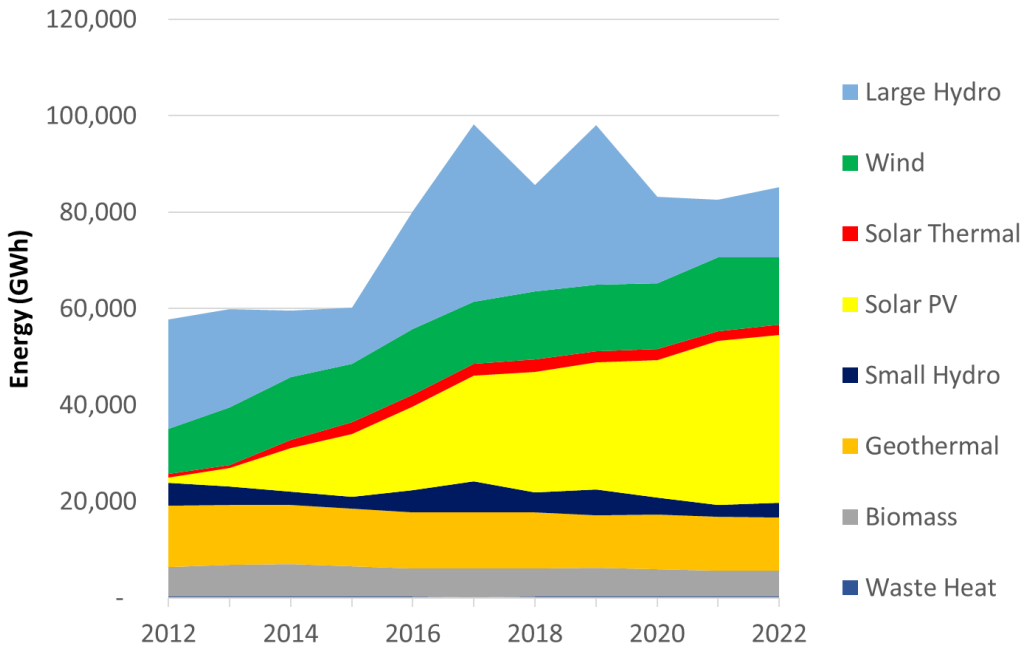

Figure 2-2: In-State Electric Generation – Select Fuel Types, Sourced from CEC Quarterly Fuels and Energy Reporting Regulations

According to SCE's 2021 Sustainability Report, SCE is expected to invest over $5 billion annually in the electric grid, with approximately 3,400 MW of energy storage installed or contracted. In 2021, SCE procured 530 MW of energy storage through three new contracts from third parties and in the same year, entered an engineering, procurement, and construction agreement to construct approximately 535 MW of utility-owned storage. SCE also expected increases in Distributed Energy Resources such as residential solar.[(39)] In the Pathway to 2045 document, SCE expected a 60 percent increase in electricity load and 40 percent increase in peak load by 2045, with building electrification responsible for 15 percent of load by 2045. SCE noted that the grid will still be summer peaking due to air conditioning.[(40)]

Staff recognizes the importance of electric grid reliability for electric units, but also for natural gas units, which often require electricity to operate. In 2021, the CPUC created new programs and modified existing programs to reduce energy demand and increase energy supply during critical hours of the day.[(41)] Per Senate Bill 350 (De León, 2015), the CPUC developed an integrated resource planning process to ensure that California's electric sector meets its greenhouse gas reduction goals while maintaining reliability at the lowest possible costs.[(42)] Staff recognizes that there are externalities for both electric and natural gas production and distribution. Staff also recognizes the need for regulation of emissions from electricity generation. South Coast AQMD

[(39)] SCE, Sustainability Report, https://www.edison.com/sustainability/sustainability-report
[(40)] SCE, Pathway 2045, https://www.edison.com/our-perspective/pathway-2045
[(41)] California Public Utilities Commission, CPUC Ensures Electricity Reliability During Extreme Weather for Summers 2022 and 2023, https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-ensures-electricity-reliability-during-extreme-weather-for-summers-2022-and-2023
[(42)] California Public Utilities Commission, CPUC Approves Long Term Plans To Meet Electricity Reliability and Climate Goals, https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-approves-long-term-plans-to-meet-electricity-reliability-and-climate-goals

Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities, is a rule that aims to lower emissions from electricity generation.[43] Regarding the natural gas system, natural gas leaks into the atmosphere from natural gas wells, storage tanks, pipelines, and processing plants. In 2020, methane emissions from natural gas and petroleum systems and from abandoned oil and natural gas wells were source of approximately 33 percent of U.S. methane emissions and approximately four percent of U.S. greenhouse gas emissions. In the South Coast AQMD region, there have been examples of large leaks such as Aliso Canyon, where 109,000 metric tons of methane emissions were released between October 2015 and February 2016.

For this rulemaking, staff did not conduct lifecycle analyses related to the BARCT assessment for either the electricity or natural gas systems as a lifecycle analysis is not required by Health and Safety Code Section 40406 for a BARCT assessment. However, other organizations have conducted lifecycle analyses which show overall NOx reductions when moving to zero-emissions. A 2021 Northeast States for Coordinated Air Use Management (NESCAUM) study estimating NOx reductions for residential scenarios where fossil fuel-burning furnaces are replaced with heat pumps found significant reductions in NOx along with sulfur dioxide and carbon dioxide.[44] A 2023 NESCAUM study also found emission reductions for different scenarios.[45] A 2022 Energy Innovation Policy & Technology study found that switching to heat pumps for industrial processes reduces NOx emissions.[46]

Senate Bill 410: Powering Up Californians Act

Senate Bill 410 (SB 410) was approved on October 7, 2023, and requires the Public Utilities Commission to set targets for how quickly new customers should be connected to the electric grid and create a process for reporting delays. The requirements of SB 410 are effective starting on or before September 30, 2024. Additionally, utility companies must report their current and future staffing needs, including how staff will be trained, to project how future electrical demands will be met. Utility companies may also request cost recovery for cost associated with connecting new customers to the grid with oversight from an independent auditor. SB 410 aims to ensure that the electrical grid is ready for future demand and growth by reducing the time required to connect to the grid, increasing the number of staff and staff training, and allowing for a cost safety net for the utility companies.

Rent Stabilization and Tenant Protections

One of the concerns of stakeholders regarding the adoption of zero-emission technology is that the incremental costs for landlords and property owners to install and operate zero-emission technologies can result in pass-through costs absorbed by tenants. Pass-through costs are fees in addition to base rent, including utilities, property improvements, or renovations. Other agencies have discussed these concerns and solutions regarding rental units, and this is an ongoing topic for

[43] South Coast AQMD, Rule 1135, http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1135.pdf
[44] NESCAUM, Estimating the Emissions Benefits of Switching to Heat Pumps for Residential Heating, https://otcair.org/upload/Documents/Reports/nescaum-otc-emission-reduction-analysis-for-residential-heating-202106.pdf
[45] NESCAUM and OTC, Residential Building Electrification in the Northeast and Mid-Atlantic, https://otcair.org/upload/Documents/Reports/Residential%20Building%20Electrification%20Final%20Report%20August%202023.pdf
[46] Energy Innovation Policy & Technology LLC, https://energyinnovation.org/wp-content/uploads/2022/10/Decarbonizing-Low-Temperature-Industrial-Heat-In-The-U.S.-Report-2.pdf

state and local agencies. According to the U.S. Census, the percentage of renter-occupied households range from 30 to 55 percent in the South Coast AQMD jurisdiction (54 percent in Los Angeles County; 45 percent in Orange County; 28 percent in San Bernardino County; 32 percent in Riverside County).

There are state laws for rent stabilization and tenant protection, such as:

- Costa–Hawkins Rental Housing Act, effective January 1, 1996, which prohibits rent control over certain kinds of residential units (e.g., single-family dwellings and condominiums, and newly constructed apartment units);
- AB 1482 – California Tenant Protection Act of 2019, effective January 1, 2020, which limits annual rent increases to no more than five percent plus local inflation, or 10 percent, whichever is lower; applies to apartments and other multifamily (two units or more) buildings constructed more than 15 years ago; and does not apply to housing regulated by local rent control ordinances;
- SB 567 – Termination of Tenancy, effective April 1, 2024, which requires an owner who displaces a tenant to substantially remodel to provide the tenant with written notice with information regarding description of remodel, expected completion date, and copy of permits required to remodel.

Challenges with state laws involve the ability for landlords to evict tenants to renovate a unit or building for substantial remodels (any modification that requires a permit or abatement of hazardous materials that cannot be safely accomplished within 30 days); the cost of obtaining permits may not deter landlords as costs can be recovered by evictions and relisting with increased rent; and owners can reset rents to market rate at vacancy and then resume conforming to the annual cap of five percent plus inflation.

There are also local regulations for rent stabilization and tenant protection. According to Tenants Together, 39 out of 482 cities in California have "strong" tenant protections.[47] ~~lo~~At least 13 cities in the South Coast AQMD jurisdiction have rent control, with at least 11 of these cities in Los Angeles County. The maximum allowable increase generally ranges from 2.5 to 5 percent. For the most part, cities in Orange, San Bernardino, and Riverside Counties do not have local rent control ordinances. Some cities that have local regulations include rent control in Santa Ana (Orange County) and Palm Springs (Riverside County). On the local level, some cities might have rent control but no rent board, while other cities might have both. Cities without more stringent rent controls are subject to state laws for rental stabilization and tenant protection.

With building appliances rules by CARB on the state level and rules by local air districts, there is the concern that landlord or property owners may use building appliance upgrades as justification for substantial remodels; utility upgrades could potentially trigger no-fault cause evictions. No-fault causes include: the intent to demolish or substantially remodel the property; compliance with a local ordinance or order issued by a governmental agency. Another concern is that most local and state laws do not directly protect tenants from pass-through expenses; the base cost of rent is controlled, and the allowance of pass-through costs (i.e. costs in addition to base rent) differ across cities.

[47] Tenants Together, Rent Control by City, https://www.tenantstogether.org/resources/list-rent-control-ordinances-city

CARB is considering these state-wide challenges and potential solutions to mitigate the impact of building appliance rules on rental properties. They hired third-party contractor, Strategic Actions for a Just Economy (SAJE), who made the following recommendations[48,49]:

- Prohibit evictions for home modifications that objectively improve quality of housing or help advance climate goals, such as replacing appliances;
- Amend AB 1482 to adjust rent caps to no more than 3 percent, close the substantial remodel loophole, and remove no-fault evictions;
- Amend California Health and Safety code to state heating and cooling must operate with electric (after 2030);
- Provide financial assistance to small landlords in exchange for stronger rent protections (e.g. through the Equitable Building Decarbonization Program);
- Support city-level policy to:
    - Include penalties for illegal construction;
    - Adopt proactive inspection programs;
    - Verify appliance compliance via habitability inspections.

Local agencies can also contribute to solutions for rental protection:

- Support updates to AB 1482 to explicitly limit pass-throughs for decarbonization and zero-NOx retrofits
    - Clarify if upgrading to zero-NOx appliances triggers "substantial repair" clauses in laws;
- Support local agencies (i.e. "rent boards") to consider policies to prohibit or limit pass-through costs for zero-NOx upgrades, especially for low-income tenants;
- Expand education on renter protection laws and resources providing low-cost/free legal support;
- Support local governments to clarify that end-of-life equipment replacements for services already provided (i.e. heat and hot water) qualify as regular operations & maintenance costs, not capital improvements;
- Perform a risk assessment (data-based estimate of the likelihood that impact will occur) to better inform policy and incentive program changes in the long term.
- Rental protection challenges and solutions cannot be addressed in the PAR 1111 and 1121 language or requirements, and staff will continue to meet with different local and state agencies to work on solutions and conduct outreach and education on rent stabilization and tenant protection as part of building appliances rule implementation and Go Zero outreach.

[48] SAJE, Decarbonizing California Equitably, https://www.saje.net/wp-content/uploads/2023/09/Decarbonizing-California-Equitably-Report-1.pdf
[49] The South Coast AQMD, Working Group Meeting #6, https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm6-august-2024.pdf?sfvrsn=18

Mobile Homes

Mobile homes, also known as manufactured homes, must comply with federal construction and safety standards, which are different from those for traditional homes. These standards are enforced by the U.S. Department of Housing and Urban Development (HUD). California Department of Housing and Community Development (HCD) also protects families and individuals who live in mobile homes by inspecting mobile home parks for health and safety violations in areas where the local government has not assumed enforcement. HCD further protects consumers by enforcing regulations for those who build and sell manufactured homes. Mobile home manufacturers also need to meet the energy efficiency standards by the Department of Energy. A manufactured home may be installed under the provisions of Health and Safety Code Section 18551 or the California Code of Regulations, Title 25.

On April 24, 2020, the CPUC approved the Mobile Home Park Utility Conversion Program[(50)]. This program allows mobile home park and manufactured housing communities the opportunity to replace privately owned, master-metered/sub-metered or non-sub metered electric and gas distribution systems with direct service for mobile home residents. Applications for the new program began January 1, 2021, and will continue through 2030 with a goal to convert total of 50 percent of mobile home park spaces in each utility territory to direct gas and/or electric utility service. SCE is targeting 3,300 mobile home conversions per year from list of 72,000 mobile homes. This program will benefit many mobile home residents by providing safer and more reliable utility services.

Mobile home units are currently designed to be certified at 40 ng/J NOx. Mobile home furnaces comply with the 14 ng/J standard by the existing mitigation fee alternative compliance option. Manufacturers have zero-NOx emission units commercially available and installed in new mobile homes.

There are unique challenges to implementing zero-NOx emission appliances for mobile homes. In addition to the issues on special design, additional regulations, and technology readiness for existing mobile homes, stakeholders also expressed the concerns that mobile homeowners may have lower incomes.

Mobile home units for existing buildings will continue to comply with current standard, and the exiting mitigation fee alternative compliance option for mobile home furnaces will continue to be provided. Mobile home units for new buildings, not including new buildings in master-metered park, will start to transition to zero-NOx emission appliances effective in a future date. PAR 1111 and 1121 propose to exempt new and existing mobile homes located in master-metered parks from the zero-NOx emission standards due to the limited electricity available. Mobile homes will be required to transition to zero-NOx appliances once the mobile home parks are converted to direct utility service.

Refrigerants

Another concern highlighted by stakeholders is increasing the number of heat pumps will necessarily increase the amount of refrigerant escaping into the atmosphere. The EPA has updated technologies that may no longer use high global warming potential (GWP) hydrofluorocarbons

[(50)] CPUC Mobile Home Park Utility Conversion Program, https://www.cpuc.ca.gov/regulatory-services/safety/mhp/mobilehome-park-utility-upgrade-program

(HFCs) or HFC blends, which will be effective beginning January 1, 2025[51]. Many refrigerants currently in use, such as R-410A and R-134A, GWP thousands of times higher than CO_2. While the refrigerant circuit in a heat pump is sealed, leaks in the system can result in the refrigerant escaping. When evaluating greenhouse gas emissions from these leaks, it is important to recognize that natural gas fired equipment emit greenhouse gases as a result of normal operations. The E3 Building Electrification in California Study analyzed potential emissions from heat pumps and concluded overall greenhouse gas emissions would be lower for heat pumps than combustion equipment. Furthermore, in 2020 the American Innovation and Manufacturing Act granted the EPA the authority to phasedown production of high GWP refrigerants, encouraging the adoption of lower GWP refrigerants. Several of these low GWP refrigerants also have the co-benefit of increased performance, with R-290 (propane) and R-744 (CO_2) able to operate at much lower temperatures than other refrigerants currently in use.

Table 2-19: Common Refrigerants

Refrigerant	GWP	Notes
R-134a	1,430	Part of EPA phasedown
R-410a	2,087	Part of EPA phasedown
R-32	675	Part of EPA phasedown
R-1234ze	<10	
R-744	1	CO_2, low temperature applications
R-290	3	Propane, low temperature applications

([51]) EPA, Technology Transitions HFC Restrictions by Sector, https://www.epa.gov/climate-hfcs-reduction/technology-transitions-hfc-restrictions-sector

CHAPTER 3: PROPOSED AMENDED RULE 1111

INTRODUCTION

PROPOSED AMENDED RULE 1111

INTRODUCTION

The main objective of PAR 1111 is to propose NOx limits that represent BARCT for the applicable equipment. PAR 1111 also removes obsolete language, reorganizes the rule structure to reflect recently amended and adopted rules, and includes an alternative compliance subdivision.

PROPOSED AMENDED RULE 1111

PAR 1111 reorganizes the rule structure to reflect recently amended and adopted rules and includes new subdivisions. Table 3-1 summarizes the changes to the subdivisions to PAR 1111 from Rule 1111.

Table 3-1: Rule 1111 and PAR 1111 Rule Structure

Subdivision	Rule 1111	PAR 1111
(a)	Purpose and Applicability	Purpose
(b)	Definitions	Applicability
(c)	Requirements	Definitions
(d)	Certification	Requirements
(e)	Identification of Compliant Units	Certification
(f)	Enforcement	Alternative Compliance Options
(g)	Exemptions	Informative Materials, Labeling, Recordkeeping, and Reporting
(h)	(N/A)	Exemptions
(i)	(N/A)	Severability

PAR 1111 (a) - Purpose

The purpose of PAR 1111 is to reduce NOx emissions from NOx-emitting furnaces used for interior space heating.

PAR 1111 (b) – Applicability

Subdivision (b) is separated into its own subdivision to align with recently amended and adopted rules. PAR 1111 applies to manufacturers, distributors, retailers, resellers, and installers of NOx-emitting furnaces with a rated heat input capacity less than 175,000 Btu/hr used for comfort heating or a cooling rate of 65,000 Btu/hr for combination heating and cooling units. The applicability is expanded from fan-type central furnaces to include floor and wall furnaces.

The provisions of the rule are enforced through the supply chain (i.e. manufacturers, distributors, retailers, etc.). Resellers and retailers are also added to applicability. Sellers were subject to Rule 1111 but have been removed to avoid redundancy.

PAR 1111 (c) – Definitions

Subdivision (c) was previously subdivision (b) in Rule 1111. Subdivision (c) lists the definitions used in PAR 1111. For all definitions, refer to PAR 1111 released with the staff report.

The following definitions have been added to PAR 1111:

- Consumer Price Index (CPI)
- Existing Building
- Floor Furnace
- Furnace
- High-Altitude
- Informative Materials
- Install
- Installer
- Master-Metered Mobile Home Park
- New Building
- Non-Condensing Furnace
- Reseller
- ~~Residential Fan-Type Central Furnace~~
- Wall Furnace
- Zero-NOx Emission Unit

Install, installer, and reseller are defined to clarify who is subject to the rule. Furnace is defined to include residential fan-type central furnace, floor furnace, and wall furnace. Wall and floor furnaces have not been regulated by Rule 1111 or other rules at the South Coast AQMD. Existing building and new building are defined to differentiate between compliance dates. The term for high-altitude is defined to accommodate the revision and streamlining of the existing high-altitude provisions. Informative materials is defined to clarify the information needed in subdivision (~~f~~)g. Master-metered mobile home parks are defined as installations in master-metered mobile home parks are exempted from Zero-NOx emission standards. Zero-NOx emission unit is defined to clarify what appliances for space heating have zero-NOx emissions, which will be used in the new provision for the manufacturer alternative compliance option. Consumer Price Index (CPI) is defined, and the California annual average increase is used for mitigation fee adjustment as specified in the rule. The definition for Residential Fan Type Central Furnace was initially added using the existing definition for Fan Type Central Furnace, to differentiate from commercial furnaces. It was essentially a name revision without definition content change. Since the revised rule proposal will not expand rule applicability to commercial furnaces, the name for Residential Fan Type Central Furnace was reverted to Fan Type Central Furnace.

The following definitions have been revised in PAR 1111:

- Condensing Furnace
- Downflow Furnace
- Heat Input
- Mobile Home
- Mobile Home Furnace
- NOx Emissions

- Rated Heat Input Capacity
- Weatherized

Condensing furnace, downflow furnace, mobile home furnace, and weatherized are revised to align with the newly added definitions and to clarify which furnaces fall under the different equipment categories. Heat input, NOx emissions, and rated heat input capacity are revised to align with amended Rule 1146.2 (Adopted June 7, 2024). Mobile home definition is revised to align with the definitions by California Energy Commission and Federal Department of Housing and Urban Development.

The following definitions have been removed from Rule 1111, as they are obsolete or unnecessary definitions:

- Btu
- Dual Fuel System
- ~~Fan Type Central Furnace~~
- Heat Pump
- Single Firing Rate
- Variable Firing Rate

PAR 1111 (d) – Requirements

Subdivision (d) was previously subdivision (c) in Rule 1111. Paragraph (c)(5) in Rule 1111 regarding mitigation fees was removed from this section and relevant paragraphs were moved to subdivision (f) under Alternative Compliance Options for a streamlined rule structure. Subdivision (d) outlines the compliance dates for each equipment category.

Paragraph (d)(1) – Current Rule 1111 Emission Limits

Paragraphs (c)(1) to (c)(3) from Rule 1111 were removed and (c)(4) was revised for PAR 1111 paragraph (d)(1) to consolidate the existing requirements. Paragraph (d)(1) specifies the current NOx emission limits for residential fan-type furnaces for each equipment category in PAR 1111 Table 1 (presented in this Staff Report as Table 3-2).

PAR 1111 Table 1 limits are applicable prior to PAR 1111 Table 2 zero-NOx emission limit compliance date, except for mobile home furnaces in existing buildings. PAR 1111 does not propose zero-emission limit for mobile home furnaces in existing buildings, which will remain subject to their Table 1 limit.

Paragraph (d)(1) states that no person shall manufacture, supply, sell, resell, offer for sale, import, or install for use within the South Coast AQMD, any following furnace unless the furnace is certified pursuant to subdivision (e) not to exceed the applicable NOx emission limits in Table 1 that are expressed as nanograms of NOx per joule of useful heat delivered to the heated space (ng/J).

Paragraph (d)(1) includes that no person shall resell or import within the South Coast AQMD in addition to the previous requirements (i.e. manufacture, supply, sell, offer for sale, or install).

Table 3-2: PAR 1111 Table 1 Residential Fan-Type Central Furnace NOx Limits

Equipment Category	NOx Emission Limit (ng/J)
Condensing Furnace	14
Non-Condensing Furnace	14
Weatherized Furnace	14
Mobile Home Furnace	14

Paragraph (d)(2) – PAR 1111 BARCT Emission Limit for New and Existing Buildings

Paragraph (d)(2) sets the updated BARCT emission limits for the applicable equipment categories in PAR 1111 Table 2 (presented in this staff report as Table 3-3). This paragraph states that a person shall only manufacture, supply, sell, resell, offer for sale, import, or install, for use in the South Coast AQMD, a zero-NOx emission unit by the Table 2 compliance dates, unless the NOx-emitting Furnace is included in the ZEM manufacturer alternative compliance option pursuant to paragraph (f)(2) as indicated in the informative materials for the water heater pursuant to subparagraph (g)(1)(C). The applicable Table 2 compliance dates for new buildings shall be determined based on the construction or alteration completion date. The construction or alteration completion means finishing all the installation to ensure the functionality and aesthetics of the space as specified in the approved building permit. Mobile home furnaces for installation in existing buildings are not subject to zero-NOx emission limit. Staff intends the zero-NOx emission limit to allow near zero technologies that emit less than 1 ng/J of NOx that rounds down to zero (e.g. 0.4 ng/J).

Table 3-3: PAR 1111 Table 2 Zero-NOx Emission Limit Compliance Schedule

Equipment Category	Building Type	Compliance Date
Residential Fan-Type Central Furnace[1]	New	January 1, 2027
	Existing	January 1, 2029
Mobile Home Furnace	New	January 1, 2027
Wall Furnace and Floor Furnace	New	January 1, 2027
	Existing	January 1, 2029

[1] Includes Condensing, Non-Condensing, and Weatherized Furnaces.

PAR 1111 (e) – Certification

Subdivision (e) provides guidance to manufacturers to certify furnaces. Certification was originally subdivision (d) in Rule 1111.

Paragraph (e)(1) – Testing Requirements

Subdivision (e)(1) was edited for clarity, including the addition of the South Coast AQMD Rule 1111 Nitrogen Oxides Emissions Compliance Testing for Natural Gas-Fired, Fan-Type Central Furnaces certification protocol to the valid operation procedures[(52)].

Paragraph (e)(2) – Determining NOx Emissions

Paragraph (e)(2) was edited to clarify the equations to be used to determine the nanograms of NOx per joule of useful heat to the delivered space. Other edits made are to clarify nomenclature.

Paragraph (e)(3) – Applying for Furnace Certification

Reworded source test requirement to better align with the same section in PAR 1121.

Paragraph (e)(4) – Timeline

Added a requirement for the manufacturer to submit the items identified in paragraph (e)(3) no more than 180 days after the date of source test identified in subparagraph (e)(3)(D). This was added to align with the certification requirements of Rule 1121.

Former PAR 1111 (e) – Identification of Compliant Units

Staff relocated the requirements in existing subdivision (e) and included them in subdivision (g) – Informative Materials, Labeling, Recordkeeping, and Reporting, because the provision were all for labeling requirements.

PAR 1111 (f) – Alternative Compliance Options

Subdivision (f) is a new subdivision to address alternative compliance options that includes existing requirements regarding mitigation fees in Rule 1111 paragraph (c)(5) with revision and proposed new alternative compliance option(s).

Paragraph (f)(1) – Mitigation Fee Alternative Compliance Option for Mobile Home Furnaces

Prior to the applicable Table 2 compliance date, a manufacturer of mobile home furnaces may elect to pay a per unit mitigation fee for selling or enabling distributors, retailers, resellers, or installers to sell mobile home furnaces certified to meet the 40 ng/J NOx emission limit in lieu of the 14 ng/J NOx emission limit. The manufacturer must comply with the following requirements:

- Pay a per unit mitigation fee of $150 for each mobile home furnace distributed or sold into or within the South Coast AQMD until September 30, 2025;
  - On and after October 1, 2025, the per unit mitigation fee is $100 for each mobile home furnace distributed or sold into or within the South Coast AQMD
- Submit an alternative compliance plan, no later than 60 days prior to each 12-month compliance period that begins on October 1st , during which the manufacturer elects to pay the mitigation fee in lieu of meeting the NOx emission limit;
  - Clauses (f)(1)(B)(i) to (f)(1)(B)(iv) detail what should be included with the alternative compliance plan; and

[(52)] The South Coast AQMD, Protocol, https://www.aqmd.gov/docs/default-source/laboratory-procedures/methods-procedures/r1111_protocol.pdf

- Submit to the Executive Officer a report signed by the responsible official for the manufacturer no later than 90 days after the end of each 12-month mitigation fee alternate compliance period. The report shall, for the applicable 12-month alternate compliance period, identify each model number and the quantity of mobile home furnaces distributed or sold into or within South Coast AQMD; and include the payment of mitigation fees.

Paragraph (f)(2) – Zero-Emission Manufacturer (ZEM) Alternative Compliance Option

In lieu of complying with paragraph (d)(2) a manufacturer of furnaces, other than mobile home furnaces, can elect to comply with the ZEM alternative compliance option. This alternative compliance option allows for the sale of NOx emitting furnaces, including residential fan-type central furnaces certified to emit 14ng/J of NOx or less or wall or floor furnaces, given:

- The manufacturer submits an alternative compliance plan no later than November 1, 2026, detailing the requirements in paragraph (f)(2)(A);
- The manufacturer sells, or enables distributors, retailers, resellers, or installs to sell Zero-NOx emission units into or within the South Coast AQMD at a percentage greater than or equal to the Zero-NOx emission unit sales targets specified in PAR 1111 Table 3 (presented as Table 3-4 in this staff report);
- Equations are provided for calculating zero-NOx emission unit and furnace sales percentages. Each zero-NOx emission unit that utilizes ductwork to distribute heated air through the home or does not utilize ductwork for heat distribution but is a multiple zone system with one outdoor unit will be counted as one unit for the calculation. Each zero-NOx emission unit that does not utilize ductwork to distribute heated air through the home (e.g., a mini-split) shall be counted as a half unit.
- The manufacturer pays a $100 mitigation fee for each furnace sold in 2027 and adjusted by the CPI annual percent increase for each subsequent year after 2027. If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year; and
- The manufacturer submits a report and mitigation fee payment pursuant to paragraph (g)(2) no later than 90 days after the end of each calendar year utilizing this alternative compliance option.
- The manufacturer complies with the informative material requirements pursuant to paragraph (g)(1)

Table 3-4: PAR 1111 Table 3 ZEM Alternative Compliance Option Targets

Compliance phase	Phase 1	Phase 2	Phase 3	Phase 4
Calendar Years	**2027 - 2028**	**2029 - 2032**	**2033-2035**	**2036 and after**
Zero-NOx Emission Unit Sales Target	30 percent	50 percent	75 percent	90 percent
Furnace Sales Target	70 percent	50 percent	25 percent	10 percent

Paragraph (f)(3) – ZEM Alternative Compliance Option Sales Target Deviation
Any furnace manufacturer that elects to comply with the ZEM alternative compliance option and sells more NOx-emitting furnaces than furnace sales target in Table 3 in one calendar year must pay the per unit mitigation fee outlined in Table 3 for each unit sold above the sales target. The mitigation fee for each furnace sold over target is $500 for the calendar year 2027 and adjusted by the CPI annual percent increase for each subsequent year after 2027. If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year.

Below are ~~two~~three examples for determining the mitigation fee when a manufacturer sold more NOx-emitting furnaces than Furnace Sales Target.

Example 1:

From January 1, 2027, to December 31, 2027, a manufacturer sold 1,000 units with sales for NOx emitting furnaces and zero-NOx emission units 800 (80 percent) and 200 (20 percent) respectively.

Since the 2027 NOx-emitting furnaces sales were over the 70 percent furnace sales target, the mitigation fee should be calculated as below:

- Number of NOx-emitting furnaces within the target = 1,000 x 70% =700
- Mitigation fee for units within the target per PAR 1111 subparagraph (f)(2)(F) = $100 x 700 = $70,000
- Mitigation fee for furnaces sold over target = $500 x (800 -700) = $50,000
- Total mitigation fee this manufacture should pay for 2027 = $70,000 + $50,000 = $120,000

Example 2:
From January 1, 2028, to December 31, 2028, a manufacturer sold 1,000 units with sales for NOx emitting furnaces and zero-NOx emission units 750 (75 percent) and 250 (25 percent) respectively.

Since the 2028 NOx-emitting furnaces sales were over the furnace sales target that is 70 percent, the mitigation fee should be calculated as below:

- Number of NOx-emitting furnaces within the target = 1,000 x 70% =700

- Since it is after 2027, the mitigation fee rates should be CPI adjusted. Assuming California CPI annual percent increase for 2028 is 2.8 percent, within target mitigation fee rate is adjusted to \$100 x (1+2.8%) =\$102.8; over target mitigation fee rate is adjusted to \$500 x (1+2.8%) = \$514.0
- Mitigation fee for units within the target per PAR 1111 subparagraph (f)(2)(F) = \$102.8 x 700 = \$71,960
- Mitigation fee for furnaces sold over target = \$514 x (750-700) = \$25,700
- Total mitigation fee this manufacture should pay for 2028 = \$71,960 + \$25,700 = \$97,660

Example 3: From January 1, 2029, to December 31, 2029, a manufacturer sold 1,000 units with sales for NOx emitting furnaces and zero-NOx emission units 600 (60 percent) and 400 (40 percent) respectively.

Since the 2029 NOx-emitting furnaces sales were over the furnace sales target that is 50 percent, the mitigation fee should be calculated as below:

- Number of NOx-emitting furnaces within the target = 1,000 x 50% =500
- Since it is after 2027, the mitigation fee rates should be CPI adjusted. Assuming California CPI annual percent increase is 2.8 percent for 2028 and 3.5 percent for 2029, we will use 3.0 percent for 2029 CPI adjustment since it is higher than 3.0 percent. Within target mitigation fee rate is adjusted to \$100 x (1+2.8%)(1+3.0%) =\$105.9; over target mitigation fee rate is adjusted to \$500 x (1+2.8%)(1+3.0%) = \$529.4
- Mitigation fee for units within the target per PAR 1111 subparagraph (f)(2)(F) = \$105.9 x 500 = \$52,950
- Mitigation fee for furnaces sold over target = \$~~514~~529.4 x (600-500) = \$~~51,400~~52,940
- Total mitigation fee this manufacture should pay for 2028 = \$52,950 + \$~~51,400~~52,940 = \$~~104,350~~105,890

~~If the annual percentage of sales of zero-NOx emission units exceeds the Zero-NOx Emission Unit Sales Target in Table 3, a discounted mitigation fee for the reporting year is determined by the following equation:~~

$$\textit{Discounted Mitigation Fee} = F - F \times \frac{(P - T)}{(100 - T)}$$

~~Where:~~

~~F = Annual Mitigation Fee pursuant to subparagraph (f)(2)(F)~~

~~P = Reported Percent Zero-NOx Emission Units~~

~~T = Zero-NOx Emission Unit Sales Target~~

~~Equation 3-2: PAR 1111 Equation 5 Discounted Mitigation Fee~~

~~Below is an example for discounted mitigation fee determination.~~

~~*Example 3:* From January 1, 2027, to December 31, 2027, a manufacturer sell 1,000 units with sales for zero-NOx emission units and NOx-emitting furnaces 400 (40 percent) and 600 (60 percent) respectively.~~

~~Since the 2027 zero-NOx emission unit sales were over the target which is 30 percent, a discounted fee should be calculated as below:~~

- ~~Annual mitigation fee pursuant to PAR 1111 subparagraph (f)(2)(F) = $100 x 600 = $60,000~~
- ~~Discounted mitigation fee = $60,000 – ($60,000 x (40 - 30)/(100 – 30)) = $51,429~~
- ~~Total mitigation fee this manufacture should pay for 2027 is $51,429~~

PAR 1111 (g) – Informative Materials, Labeling, Recordkeeping, and Reporting

Subdivision (g) is a new subdivision that details the informative materials, labeling, recordkeeping, and reporting requirements. Informative materials and labeling requirements are important tools for enforcement, especially when some units distributed to the market can only be installed under certain conditions. While manufacturers ship units into many markets, to ensure the labels are only included on units sold into or within the South Coast AQMD, they may elect to send a sticker or label to their distributors so they can be applied at the point of sale.

Paragraph (g)(1) –Informative Materials for Furnaces

Three types of NOx-emitting furnaces are subject to this provision for informative materials, which are:

- Any mobile home furnace that is for distribution or sale inside of the South Coast AQMD that is using an alternative compliance plan in lieu of meeting the 14 ng/J certification limit;
- Any furnace that is for distribution or sale inside of the South Coast AQMD for installation at high-altitude in a downflow configuration ~~persuade~~ pursuant to paragraph (h)(3); and
- Any furnace sold under the ZEM alternative compliance option pursuant to paragraph (f)(2) in lieu of complying with paragraph (d)(2).

Those furnaces that are for distribution or sale inside of the South Coast AQMD shall distribute or publish informative materials that clearly display the language outlined in paragraph (~~h~~g)(1). Informative materials include: the consumer brochure for the furnace, technical specification sheet for the furnace, and the manufacturer's website that promotes, discusses, or lists the furnace. The manufacturer may use alternative language to the language in subparagraph (g)(1)(A), (g)(1)(B), or (g)(1)(C), provided that the language is similar and is approved.

Paragraph (g)(2) – Reporting and Recordkeeping Requirements for ZEM Alternative Compliance Option

The manufacturer of a furnace supplied or offered for use within the South Coast AQMD in accordance with the ZEM alternative compliance option shall submit to the Executive Officer a report, signed by the responsible official for the manufacturer no later than 90 days after the

end of each calendar year using the alternative compliance option. The report shall include the information specified in subparagraph (g)(2)(A)for the applicable calendar year.

The manufacturer shall also maintain records for at least five years, including, but not limited to, the information listed in subparagraph (g)(2)(B).

Paragraph (g)(3) –Labeling and Reporting for Propane Conversion Kit Furnace

This provision is an existing requirement. The manufacturer, distributor, or installer of any furnace that elects to use the exemption in paragraph (h)(1) for furnaces to be installed with a propane conversion kit must clearly display on the shipping carton or the name plate of the furnace "This furnace is to be installed for propane firing only. Operating in natural gas mode is in violation of the South Coast AQMD Rule 1111." They must also submit a report by March 1st of the following calendar year to the Executive Officer, which consists of, but is not limited to, the quantity of propane conversion kits for furnaces distributed or sold for use into the South Coast AQMD for the applicable compliance plan period, and the quantity of propane conversion kits for furnaces distributed or sold for use into the South Coast AQMD during the 12-month period of July 1 to June 30, prior to the applicable compliance date.

Paragraph (g)(4) – New and Existing Building Labeling Requirements

A manufacturer can elect to comply with paragraph (d)(2) directly or through alternative compliance option by paragraph (f)(2).

This provision specifies labeling requirement for any manufacturer that is not electing to comply using alternative compliance option by paragraph (f)(2). As specified in paragraph (d)(2), the manufacturer will be subject to the zero-NOx emission compliance date for new buildings on January 1, 2027, for existing buildings on January 1, 2029, except for mobile home furnaces.

PAR 1111 proposes a labeling requirement for the period between the new building compliance date and existing building compliance date for each furnace, except for mobile home furnaces.

Subparagraph (g)(4)(A) specifies the labeling language. Subparagraph (g)(4)(B) allows manufacturers flexibility in the labeling by posting alternative language as long as the language is similar to (g)(4)(A) and approved.

Clause (g)(4)(B)(ii) requires the manufacturer to use the language in (g)(4)(A) if the alternative language is not approved.

Paragraph (g)(5) – Identification of Furnaces Complying with Subdivisions (d) and (e)

This provision is an existing requirement, as paragraph (e)(1) in Rule 1111. It requires manufacturers of NOx emitting furnaces to display the model number, heat input capacity, applicable NOx emission limit, and date of manufacturer or date code.

Paragraph (g)(6) – Identification of Non-Certified Furnaces

This provision is an existing requirement, as paragraph (e)(2) in Rule 1111. It requires any non-certified Furnace shipped to a location in the South Coast AQMD for distribution or sale outside of the South Coast AQMD shall have a label on the shipping container identifying the Furnace as not certified for use in the South Coast AQMD.

PAR 1111 (h) – Exemptions

Subdivision (h) was previously subdivision (g) in Rule 1111. After rule structure streamlining` and removal of obsolete paragraphs, subdivision (h) specifies exemptions for propane-fire furnaces, zero-NOx emission limit, and downflow furnaces for high-altitude installations.

Paragraph (h)(1) – Propane-Fired Furnaces

This is an existing exemption in Rule 1111 paragraph (g)(4). The manufacturer of any natural gas-fired furnace that is not certified to meet the 14 ng/J of NOx emission limit and is to be installed with a propane conversion kit for propane firing only in the South Coast AQMD, is exempt from subdivisions (d) and (e), provided that the labeling and reporting requirements in (g)(3) are met. Its labeling and reporting requirements under the same paragraph have been moved to PAR 1111 paragraph (g)(3) for a streamlined rule structure.

Paragraph (h)(2) – Exemption from Zero-NOx Emission Limit

Three types of NOx-emitting furnaces are subject to this provision for exemption from zero-NOx emission limit, which are:

- Mobile home furnaces in compliance with paragraph (d)(1) for installation in existing buildings;
- Mobile home furnaces in compliance with paragraph (d)(1) for installation or use in new buildings or existing buildings located in master-metered mobile home parks, which are mobile home parks that take electricity through a master meter and then distribute it to park residents through their own system; and
- Furnaces in compliance with paragraph (d)(1) that will be installed or used in new buildings with building permit issued prior to [Date of Adoption] by the appropriate enforcement agency.

Mobile home furnaces in existing mobile homes are exempt from zero-NOx emission requirements due to unique challenges on zero-NOx emission implementation for mobile homes as discussed in Chapter 2.

With the consideration that master-metered mobile homes may currently not have sufficient electrical service to install-emission appliances, subparagraph (h)(2)(B) provides them an exemption from zero-NOx emission requirements. The CPUC Mobile Home Park Utility Conversion Program plans to convert 50 percent of mobile home park spaces to a direct utility service by 2030.[(53)]When mobile homes are converted, they are no longer be exempt by this provision.

Due to potentially long timelines between building permit approval and actual installation of a furnace, subparagraph (h)(2)(C) exempts installations in new buildings if the furnace permit was granted prior to the date of rule adoption. The building permit must be issued by the appropriate enforcing agency according to the California Building Code, either city, county, or state. For example, if a building is in the process of being constructed and the building owner obtains a permit from the city to install a furnace that complies with the current Rule 1111 NOx limit of 14 ng/J, but the furnace is not installed until after the PAR 1111 zero-emission

[(53)] CPUC, Mobilehome Park Utility Conversion Program, https://www.cpuc.ca.gov/regulatory-services/safety/mhp/mobilehome-park-utility-upgrade-program

effective date of January 1, 2027, the furnace would be exempt from the zero-emission limit and allowed to be installed.

Paragraph (h)(3) – Downflow furnaces for High-Altitude

Existing Rule 111 paragraph (i)(3) provides an exemption from 14 ng/J NOx limit for downflow furnaces rated less than 175,000 Btu/hr and condensing or non-condensing furnaces greater than 100,000 Btu/hr installed at high-altitude.

As suggested by stakeholders of high-altitude communities, staff will retain the downflow furnace exemption in PAR 1111 for high-altitude installation. Downflow furnaces certified to meet the 40 ng/J NOx limit are exempted from 14 ng/J NOx and zero-NOx emission standards. Large condensing or non-condensing furnaces greater than 100,000 Btu/hr for high-altitude installation are no longer exempted, effective at the date of rule adoption.

PAR 1111 (i) – Severability

Subdivision (i) was added regarding rule implementation if a lawsuit would be filed after the rule adoption. If any provision is invalidated by a judicial order, such order will not affect the implementation of the remainder of the rule according to this rule provision.

CHAPTER 4: PROPOSED AMENDED RULE 1121

INTRODUCTION

PROPOSED AMENDED RULE 1121

INTRODUCTION

The main objective of PAR 1121 is to propose NOx limits that represent BARCT for the applicable equipment. PAR 1121 also removes obsolete language, reorganizes the rule structure to reflect recently amended and adopted rules, and includes an alternative compliance subdivision.

PROPOSED AMENDED RULE 1121

PAR 1121 reorganizes the rule structure to reflect recently amended and adopted rules and includes new subdivisions. Table 4-1 summarizes the changes to the subdivisions in PAR 1121 from Rule 1121.

Table 4-1: Rule 1121 and PAR 1121 Rule Structure

Subdivision	Rule 1121	PAR 1121
(a)	Applicability	Purpose
(b)	Definitions	Applicability
(c)	Requirements	Definitions
(d)	Certification	Requirements
(e)	Mitigation Fee	Certification
(f)	Enforcement	Alternative Compliance Options
(g)	Exemptions	Informative Materials, Labeling, Recordkeeping, and Reporting
(h)	Final Progress Report	Exemptions
(i)	Program Administration	~~(N/A)~~ Severability

PAR 1121 (a) – Purpose

The purpose of PAR 1121 is to reduce NOx emission from NOx-emitting water heaters. Subdivision (a) is a new subdivision added to align with recently amended and adopted rules to standardize the rule structure.

PAR 1121 (b) – Applicability

Subdivision (b) was previously subdivision (a) in Rule 1121. PAR 1121 applies to manufacturers, distributors, retailers, resellers, and installers of NOx-emitting water heaters with a rated heat input capacity less than 75,000 Btu/hr.

The provisions of the rule are primarily enforced through the supply chain (i.e., manufacturers, distributors, retailers, installers, etc.). Resellers are also added to applicability since they are part of the supply chain.

PAR 1121 (c) – Definitions

Subdivision (c) was previously subdivision (b) in Rule 1121. Subdivision (c) lists the definitions used in PAR 1121. For all definitions, refer to PAR 1121 released with the staff report.

The following definitions have been added to PAR 1121:

- Consumer Price Index (CPI)
- Existing Building
- Informative Materials
- Install
- Installer
- Master-Metered Mobile Home Parks
- Mobile Home
- New Building
- Parts Per Million by Volume
- Reseller
- Responsible Official
- Standard Conditions
- Zero-NOx Emission Units

Install, installer, and reseller are defined to clarify who is subject to the rule. Existing building, mobile home, and new building are defined to differentiate between compliance dates. The term Informative materials is defined to clarify the information needed in subdivision (g). Master-metered mobile home parks are defined as installations in master-metered mobile home parks are exempted from Zero-NOx emission standards. Zero-NOx emission unit is defined to clarify what appliances for space heating have zero-NOx emissions, which will be used in the new provision for manufacturer alternative compliance option. The term responsible official is also needed for the new provision for manufacturer alternative compliance option. Consumer Price Index (CPI) is defined, and the California annual average is used for mitigation fee adjustment as specified in the rule.

The following definitions have been revised in PAR 1121:

- Heat Input
- Heat Output
- Independent Testing Laboratory
- Mobile Home Water Heater
- NOx Emissions
- Protocol
- Rated Heat Input Capacity
- Recreational Vehicle
- Water Heater

Heat input, heat output, rated heat input capacity, and recreational vehicle are revised to align with their definitions in Rule 1146.2, which was amended on June 7, 2024. Independent testing laboratory, NOx emissions, protocol, and rated heat input capacity are revised for clarity. Water heater is revised to ensure this term includes mobile home water heaters. Mobile home definition

is revised to align with the definitions by California Energy Commission and Federal Department of Housing and Urban Development.

The following definitions are considered obsolete or unnecessary and have been removed from Rule 1121:

- Btu
- Direct Vent Water Heater
- Mitigation Fee
- Power Vent Water Heater
- Power Direct Vent Water Heater

PAR 1121 (d) – Requirements

Subdivision (d) was previously subdivision (c) in Rule 1121. Paragraphs (c)(1) to (c)(8) in Rule 1121 were removed and the relevant equipment and NOx emission limits are summarized in paragraph (d)(1).

Paragraph (d)(1) – Current Rule 1121 Emission Limits

Paragraph (d)(1) specifies the current NOx emission limits for water heaters and mobile home water heaters in PAR 1121 Table 1 (presented in this Staff Report as Table 4-2)

Paragraph (d)(1) states that no person shall manufacture, supply, sell, resell, offer for sale, import, or install, for use in the South Coast AQMD, any water heater unless the water heater is certified pursuant to subdivision (e) and does not exceed the Table 1 NOx limit, expressed by ng/J or ppmv. Paragraph (d)(1) includes that no person shall supply, resell, or import within the South Coast AQMD in addition to the previous requirements (i.e. manufacture, sell, offer for sale, or install).

Table 4-2: PAR 1121 Table 1 Emission Limits

Equipment	NOx Emission Limits	
	ng/J	ppmv
Water Heater*	10	15
Mobile Home Water Heater	40	55

* Excluding Mobile Home Water Heater

Paragraph (d)(2) – PAR 1121 BARCT Emission Limit for New and Existing Buildings

Paragraph (d)(2) sets the updated BARCT emission limits for water heaters and mobile home water heaters as shown in PAR 1121 Table 2 (presented in this Staff Report as Table 4-3). This paragraph specifies that a person shall only manufacture, supply, sell, resell, offer for sale, import, or install for use in the South Coast AQMD a zero-NOx emission unit by the Table 2 compliance dates, unless the NOx-emitting Water Heater is included in the zero-NOx emission manufacturer alternative compliance option pursuant to paragraph (f)(1) as indicated in the Informative Materials for the Water Heater pursuant to paragraph (g)(2). The applicable PAR 1121 Table 2 compliance dates for New Building types shall be determined based on the construction or alteration completion date. Mobile home water heaters for installation in

existing buildings are not subject to zero-NOx emission limit. They will continue to comply with paragraph (d)(1) Table 1 NOx limit. Staff intends the zero-NOx emission limit to allow near zero technologies that emit less than 1 ng/J of NOx that rounds down to zero (e.g. 0.4 ng/J).

Table 4-3: PAR 1121 Table 2 Zero-Emission Limits and Compliance Schedule

Equipment Category	Building Type	Compliance Date
Water Heater*	New	January 1, 2027
	Existing	January 1, 2029
Mobile Home Water Heater	New	January 1, 2027

* Excluding Mobile Home Water Heater

PAR 1121 (e) – Certification

Subdivision (e) provides guidance to manufacturers to certify water heaters. Subdivision (e) was originally subdivision (d) in Rule 1121. Obsolete language, which are paragraphs (d)(4), (d)(5), and (d)(6) in Rule 1121, were removed from this subdivision.

Paragraph (e)(1) – Tests by Independent Testing Laboratory

Contains revisions to defined terms and clarification that natural gas-fired water heaters and water heaters designed to be fired with natural gas are subject to certification. Certification is based on emissions tests conducted by independent testing laboratories in accordance to the protocol.

The manufacturer shall obtain confirmation that each model of water heater complies with the applicable requirements of paragraph (d)(1) from an independent testing laboratory, prior to applying for certification for a natural gas-fired water heater or a water heater designed to be fired with natural gas. This confirmation shall be based on emission tests conducted pursuant to the protocol of a randomly selected unit of each model.

Paragraph (e)(2) – Applying for Water Heater Certification

Paragraph (e)(2) remains mostly unchanged with an update to the reference in subparagraph (e)(2)(A).

When applying for certification of water heaters, the manufacturer shall submit to the Executive Officer the following: a statement that the model is in compliance with paragraph (d)(1) signed and dated by the manufacturer, attesting to the accuracy of all statements; general information, including name and address of manufacturer, brand name, trade name, and model number as it appears on the water heater rating plate; a description of each model being certified, and a source test report verifying compliance with paragraph (d)(1) for each model to be certified. The source test report shall be prepared by the confirming independent testing laboratory and contain all elements identified in the protocol for each unit tested.

Paragraph (e)(3) – Timeline

When applying for certification of water heaters, the manufacturer shall submit the items identified in paragraph (e)(2) no more than 180 days after the date of the source test identified in subparagraph (e)(2)(D).

PAR 1121 (f) – Alternative Compliance Options

Subdivision (f) is a new subdivision that details the alternative compliance options.

Paragraph (f)(1) – Zero-Emission Manufacturer (ZEM) Alternative Compliance Option

In lieu of complying with paragraph (d)(2) a manufacturer of water heaters, other than mobile home water heaters, can elect to comply with the ZEM alternative compliance option. This alternative compliance option allows for the sale of NOx emitting water heaters certified to emit 10 ng/J of NOx (or 15 ppmv) or less, given:

- The manufacturer submits an alternative compliance plan no later than November 1, 2026, detailing the requirements in paragraph (f)(1)(A);
- The manufacturer sells, or enables distributors, retailers, resellers, or installs to sell Zero-NOx emission units into or within the South Coast AQMD at a percentage greater than or equal to the Zero-NOx emission unit sales targets specified in PAR 1121 Table 3 (presented as Table 3-4 in this Staff Report);
- The manufacturer pays a $50 mitigation fee for each NOx-emitting water heater sold for the calendar year 2027 and adjusted by the CPI annual percent increase for each subsequent year after 2027. If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year; and
- The manufacturer submits a report and mitigation fee payment pursuant to paragraph (g)(2) no later than 90 days after the end of each calendar year utilizing this alternative compliance option.

Table 4-4: PAR 1111 Table 3 ZEM Alternative Compliance Option Targets

Compliance phase	Phase 1	Phase 2	Phase 3	Phase 4
Calendar Years	**2027 - 2028**	**2029 - 2032**	**2033-2035**	**2036 and after**
Zero-NOx Emission Unit Sales Target	30 percent	50 percent	75 percent	90 percent
NOx-emitting Water Heater Sales Target	70 percent	50 percent	25 percent	10 percent

Paragraph (f)(2) – ZEM Alternative Compliance Option Sales Target Deviation

Any water heater manufacturer that elects to comply with the ZEM alternative compliance option and sells more NOx-emitting water heaters than water heater sales target in Table 3 in one calendar year must pay the per unit mitigation fee outlined in Table 3 for each unit sold above the sales target. The mitigation fee for each water heater sold over target is $250 for the calendar year 2027 and adjusted by the CPI annual percent increase for each subsequent year

after 2027. If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year.

Below are ~~two~~three examples for determining the mitigation fee when a manufacturer sold more NOx-emitting water heaters than water heater sales target.

Example 1: From January 1, 2027, to December 31, 2027, a manufacturer sold 1,000 units with sales for NOx emitting water heaters and zero-NOx emission unit and 800 (80 percent) and 200 (20 percent) respectively.

Since the 2027 NOx-emitting water heater sales were over the water heaters sales target that is 70 percent, the mitigation fee should be calculated as below:

- Number of NOx-emitting water heaters within the target = 1000 x 70%=700
- Mitigation fee per PAR 1121 subparagraph (f)(1)(F) = $50 x 700 = $35,000
- Mitigation fee for water heaters sold over target = $250 x (800-700) = $25,000
- Total mitigation fee this manufacture should pay for 2027 = $35,000 + $25,000 = $60,000

Example 2: From January 1, 2028, to December 31, 2028, a manufacturer sold 1,000 units with sales for NOx emitting water heaters and zero-NOx emission units 750 (75 percent) and 250 (25 percent) respectively.

Since the 2028 NOx-emitting water heater sales were over the water heater sales target that is 70 percent, the mitigation fee should be calculated as below:

- Number of NOx-emitting water heaters within the target = 1,000 x 70% =700
- Since it is after 2027, the mitigation fee rates should be CPI adjusted. Assuming California CPI annual percent increase for 2028 is 2.8 percent
- Mitigation fee rate for water heaters sold within the target is adjusted to $50 x (1+2.8%) =$51.4 per water heater
- Mitigation fee rate for water heaters sold over the target is adjusted to $250 x (1+2.8%) = $257.0 per water heater
- Mitigation fee for water heaters within the target per PAR 1111 subparagraph (f)(1)(F) = $51.4 x 700 = $35,980
- Mitigation fee for water heaters sold over target = $257.0 x (750-700) = $12,850
- Total mitigation fee this manufacture should pay for 2028 = $35,980+ $12,850= $48,830

Example 3: From January 1, 2029, to December 31, 2029, a manufacturer sold 1,000 units with sales for NOx emitting water heaters and zero-NOx emission units 600 (60 percent) and 400 (40 percent) respectively.

Since the 2029 NOx-emitting water heater sales were over the water heater sales target that is 50 percent, the mitigation fee should be calculated as below:

- Number of NOx-emitting water heater within the target = 1,000 x 50% =500

- Since it is after 2027, the mitigation fee rates should be CPI adjusted. Assuming California CPI annual percent increase is 2.8 percent for 2028 and 3.5 percent for 2029, we will use 2.8 percent for 2028 but 3.0 percent for 2029 CPI adjustment since it is higher than 3.0 percent
- Mitigation fee rate for water heaters sold within the target is adjusted to \$50 x (1+2.8%)(1+3.0%) =\$52.9 per water heater
- Mitigation fee rate for water heaters sold within the target is adjusted to \$250 x (1+2.8%)(1+3.0%) = \$264.7 per water heater
- Mitigation fee for units within the target per PAR 1111 subparagraph (f)(1)(F) = \$52.9 x 500 = \$26,450
- Mitigation fee for water heaters sold over target = \$264.7 x (600-500) = \$26,470
- Total mitigation fee this manufacture should pay for 2028 = \$26,450 + \$26,470 = \$52,920

~~If the annual percentage of sales of zero-NOx emission units exceeds the Zero-NOx Emission Unit Sales Target in Table 3, a discounted mitigation fee for the reporting year is determined by the following equation:~~

$$\textit{Discounted Mitigation Fee} = F - F \times \frac{(P - T)}{(100 - T)}$$

~~Where:~~

~~F = Annual Mitigation Fee pursuant to subparagraph (f)(1)(D)~~

~~P = Reported Percent Zero-NOx Emission Units~~

~~T = Zero-NOx Emission Unit Sales Target~~

~~**Equation 4-2: Discounted Mitigation Fee**~~

~~Below is an example for discounted mitigation fee determinization.~~

~~*Example 3:* From January 1, 2027, to December 31, 2027, a manufacturer's sales for zero-NOx emission unit and NOx-emitting water heaters were 400 (40 percent) and 600 (60 percent) respectively.~~

~~Since the 2027 zero-NOx emission unit sales were over the target which is 30 percent, a discounted fee should be calculated as below:~~

- ~~Annual mitigation fee pursuant to PAR 1121 subparagraph (f)(1)(F) = \$50 x 600 = \$30,000~~
- ~~Discounted mitigation fee = \$30,000 - (\$30,000 x (40 - 30)/(100 - 30)) = \$25,714~~
- ~~Total mitigation fee this manufacture should pay for 2027 is \$25,714~~

PAR 1121 (g) – Informative Materials, Labeling, Recordkeeping, and Reporting

Subdivision (g) is a new subdivision that details the informative materials, labeling, recordkeeping, and reporting requirements. Informative materials and Labeling requirements are important tools for enforcement, especially when some units distributed to the market can only be installed under certain conditions. While manufacturers ship units into many markets, to ensure the labels are only

included on units sold into or within the South Coast AQMD, they may elect to send a sticker or label to their distributors so they can be applied at the point of sale.

Paragraph (g)(1) –Informative Materials for Water Heaters

Two types of NOx-emitting water heaters are subject to this provision for informative materials, which are:

- Any mobile home water heater that is for existing building or any mobile homes in a master metered mobile home park; and
- Any water heater sold under the ZEM alternative compliance option pursuant to paragraph (f)(1) in lieu of complying with paragraph (d)(2).

Those water heaters that are for distribution or sale inside of the South Coast AQMD shall distribute or publish informative materials that clearly display the language outlined in paragraph (g)(1). Informative materials include: the consumer brochure for the water heater, technical specification sheet for the water heater, and the manufacturer's website that promotes, discusses, or lists the water heater. The manufacturer may use alternative language to the language in subparagraph (g)(1)(A) or (g)(1)(B), provided that the language is similar and is approved.

Paragraph (g)(2) – Reporting and Recordkeeping Requirements for ZEM Alternative Compliance Option

The manufacturer of a water heater supplied or offered for use within the South Coast AQMD in accordance with the ZEM alternative compliance option shall submit to the Executive Officer a report, signed by the responsible official for the manufacturer no later than 90 days after the end of each calendar year using the alternative compliance option. The report shall include information specified in subparagraph (g)(2)(A) for the applicable calendar year.

The manufacturer shall also maintain records for at least five years, including, but not limited to, the information listed in subparagraph (g)(2)(B).

Paragraph (g)(3) – New and Existing Building Labeling Requirements

A manufacturer can elect to comply with paragraph (d)(2) directly or through alternative compliance option by paragraph (f)(1).

This provision specifies labeling requirement for any manufacturer that is not electing to comply using alternative compliance option by paragraph (f)(1). As specified in paragraph (d)(2), the manufacturer will be subject to the zero-NOx emission compliance date for new buildings on January 1, 2027, for existing buildings on January 1, 2029, except for mobile home water heaters.

PAR ~~1111~~ 1121 proposes a labeling requirement for the period between the new building compliance date and existing building compliance date for each water heater, except for mobile water heaters.

Subparagraph (g)(3)(A) specifies the labeling language. Subparagraph (g)(3)(B) allows manufacturers flexibility in the labeling by posting alternative language as long as the language is similar to (g)(3)(A) and approved.

Subparagraph (g)(3)(~~C~~B)(ii) requires the manufacturer to use the language in (g)(3)(A) if the alternative language is not approved.

Paragraph (g)(4) – Shipping Carton and Name Plate Labeling

The manufacturer of any water heater manufactured for sale in the South Coast AQMD shall clearly display the following on the shipping carton and name plate of the water heater: model number, date of manufacture, and certification status.

PAR 1121 (h) – Exemptions

Subdivision (h) details the exemptions to the rule. This subdivision was previously subdivision (g) in Rule 1121. While paragraphs (h)(1) and (h)(2) are existing provisions, PAR 1121 proposes new exemptions in paragraphs (h)(3) .

Paragraph (h)(1) – Recreational Vehicle Exemption

PAR 1121 shall not apply to water heaters used in recreational vehicles.

Paragraph (h)(2) – Rule 1146.2 Exemption

PAR 1121 shall not apply to water heaters subject to Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters.

Paragraph (h)(3) – Exemption from Zero-NOx Emission Limit

Three types of NOx-emitting water heaters are subject to this provision for exemption from zero-NOx emission limit, which are:

- Mobile home water heaters in compliance with paragraph (d)(1) for installation in existing mobile homes;
- Mobile home water heaters in compliance with paragraph (d)(1) for installation or use in new buildings or existing buildings located in master-metered Mobile Home parks, which are Mobile Home parks that take electricity through a master meter and then distribute it to park residents through their own system; and
- Water heaters in compliance with paragraph (d)(1) that will be installed or used in new buildings with building permit issued prior to [Date of Adoption] by the appropriate enforcement agency.

Mobile home water heaters in existing mobile homes are exempt from zero-NOx emission requirements due to unique challenges on zero-NOx emission implementation for mobile homes as discussed in Chapter 2.

With the consideration that master-metered mobile homes may currently not have sufficient electrical service to install-emission appliances, subparagraph (h)(3)(B) provides them an exemption from zero-NOx emission requirements. The CPUC Mobile Home Park Utility Conversion Program plans to convert 50 percent of mobile home park spaces to a direct utility service by 2030.[(54)]When mobile homes are converted, they are no longer be exempt by this provision.

Due to potentially long timelines between building permit approval and actual installation of a water heater, subparagraph (h)(3)(C) exempts installations in new buildings if the water heater permit was granted prior to the date of rule adoption. The building permit must be issued by the appropriate enforcing agency according to the California Building Code, either city,

[(54)] https://www.cpuc.ca.gov/regulatory-services/safety/mhp/mobilehome-park-utility-upgrade-program

county, or state. For example, if a building is in the process of being constructed and the building owner obtains a permit from the city to install a water heater that complies with the current Rule 1121 Table 1 NOx emission limit, but the water heater is not installed until after the PAR 1121 zero-emission effective date of January 1, 2027, the water heater would be exempt from the zero-emission limit and allowed to be installed.

PAR 1121 (i) – Severability

Subdivision (i) was added regarding rule implementation if a lawsuit would be filed after the rule adoption. If any provision is invalidated by a judicial order, such order will not affect the implementation of the remainder of the rule according to this rule provision.

CHAPTER 5: IMPACT ASSESSMENT

INTRODUCTION

EMISSIONS INVENTORY AND EMISSION REDUCTIONS

COST-EFFECTIVENESS AND INCREMENTAL COST-EFFECTIVENESS

SOCIOECONOMIC IMPACT ASSESSMENT

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) ANALYSIS

DRAFT FINDINGS UNDER HEALTH AND SAFETY CODE

COMPARATIVE ANALYSIS

INTRODUCTION

Both PAR 1111 and PAR 1121 are each expected to impact over 5 million units located in the South Coast AQMD region, for a total of 10 million units.

EMISSIONS INVENTORY AND EMISSION REDUCTIONS

PAR 1111 total NOx emissions inventory is estimated to be 4.5 tpd and the PAR 1121 NOx emissions inventory is estimated to be 2.3 tpd. The 2022 AQMP indicated a total of 351 tpd of NOx emitted from all sources in the region in 2018, the base-year of the emissions inventory and modeling analysis in the plan. Appliances used in residential and commercial buildings, which primarily include space and water heaters, cooking devices, and some other appliances combusting natural gas, emit about 26.8 tpd of NOx[(55)]. Given these data, PAR 1111 and PAR 1121 account for 25.4 percent of NOx emissions from appliances used in residential and commercial buildings.

Estimated Number of Units

PAR 1111 will impact 5,217,000 units, the applicable ~~residential~~ fan-type central furnaces, mobile home furnaces, wall furnaces and floor furnaces. PAR 1121 will impact 5,128,000 units, the applicable small tank type water heaters. To estimate the baseline emissions for both PAR 1111 and PAR 1121, staff evaluated the following information:

- Baseline emissions factor in pounds per million Btu (lbs/MMBtu) from current rule emission limit
- Estimated annual fuel use
- Estimated universe by category
- Useful life (years)

Estimated Emissions Inventory

For all categories, the following equation was used to calculate the emission inventory in tpd:

$$\begin{aligned} &Emission\ Inventory\ (tpd) \\ &\quad = Baseline\ Emissions\ Factor\ \left({}^{lbs}/_{MMBtu}\right) \\ &\quad * Annual\ fuel\ use\ \left({}^{MMBtu}/_{(year * unit)}\right) * Estimated\ Universe\ (units) \\ &\quad * \frac{1\ ton}{2000\ lbs} * \frac{1\ year}{365\ days} \end{aligned}$$

Equation 5-1: Baseline Emissions Calculation

The baseline emissions factor was calculated, using the current NOx emission limits. For PAR 1111, an emission limit of 40 ng/J for wall, and floor furnaces was used and 14 ng/J for ~~residential~~ fan-type central furnaces was used. Similarly, the baseline emissions factor for 1121 was calculated, using the current emission limit of 10 ng/J. An efficiency factor of 75 percent was used, as the efficiency of gas-fired furnaces and water heaters range from 60-95 percent.

[(55)] https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/appendix-iii.pdf

The CEC's RASS in 2019[56] was used for the average annual gas unit energy consumption for primary heat for homes with SoCalGas as a provider, which include resident fan-type central furnaces, wall furnaces, and floor furnaces. For high-altitude homes, fuel use for Climate Zone 16 was used instead. Annual fuel use for residential water heating was taken from EnergyStar.

The total estimated universe for PAR 1111 ~~residential~~ fan-type central furnaces, wall, and floor furnaces was estimated using the American Housing Survey. PAR 1121 estimated universe was also extrapolated from the American Housing Survey. For the total number of commercial units, the CBECS microdata for the Pacific Census Division was used. The number of estimated units and baseline emissions are detailed in Table 5-1: PAR 1111 and PAR 1121 Baseline Emissions Estimate ~~**Error! Reference source not found.**~~. By the ZEM alternative compliance option that sets zero-NOx emission target at 90 percent by 2036, at the full implementation in 2061 the NOx emission reductions would be 6.12 tons per day.

Table 5-1: PAR 1111 and PAR 1121 Baseline Emissions Estimate

Rule	Equipment Category	Estimated Universe	Baseline Emissions (tpd)
PAR 1111	~~Residential~~ Fan-Type Central Furnace	4,200,000	3.99
	Wall Furnaces and Floor Furnaces	1,037,000	0.52
PAR 1121	Water Heaters	5,128,000	2.32
Total		10,365,000	6.83

COST-EFFECTIVENESS

Health and Safety Code Section 40920.6 requires a cost-effectiveness analysis when establishing BARCT requirements. The cost-effectiveness of a control technology is measured in terms of the control cost in dollars per ton of air pollutant reduced for each class and category of equipment. The costs for the control technology include purchasing, installation, operating, and maintaining the control technology.

As detailed in chapter two, the South Coast AQMD typically relies on the DCF method which converts all costs, including initial capital investments and costs expected in the present and all future years of unit useful age, to a present value.

The following tables summarize the cost-effectiveness estimates for each category of PAR 1111 and PAR 1121, for both zero-NOx emission units replacement and using ZEM alternative compliance option.

[56] California Energy Commission, 2019 California Residential Appliance Saturation Study (RASS), https://www.energy.ca.gov/publications/2021/2019-california-residential-appliance-saturation-study-rass

Table 5-2: PAR 1111 Cost-Effectiveness for Zero-NOx Unit Replacement

Property Type	Scenario	Cost-Effectiveness ($/ton NOx)
Single-Family	Heat Pump Replacing Furnace + AC	-592,000
	Heat Pump Replacing Furnace	+1,730,000
Multifamily (Per Unit)	Heat Pump Replacing Furnace + AC	-785,000
	Heat Pump Replacing Furnace only	-197,000

Table 5-3: PAR 1111 Cost-Effectiveness for ZEM Alternative Compliance Option

Dates Phase	2027 - 2028 Phase ~~I~~1	2029 - 2032 Phase ~~II~~2	2033 - 2035 Phase ~~III~~3	2036 and after Phase ~~IV~~4
Targets	70% NO-Emitting 30% Zero-NOx	50% NO-Emitting 50% Zero-NOx	25% NO-Emitting 75% Zero-NOx	10% NO-Emitting 90% Zero-NOx
Weighed Cost-Effectiveness ($/Ton NOx)	$35,000 – $69,000	$69,000 – $140,000	$110,000 – $220,000	$140,000 - $280,000

Table 5-4: PAR 1121 Cost-Effectiveness for Zero-NOx Unit Replacement

Property Type	Scenario	Cost-Effectiveness ($/ton NOx)
Single-Family	Heat Pump Water Heater Replacing NOx-Emitting Gas Water Heater	405,000
Multifamily (Per Unit)	Heat Pump Water Heater Replacing NOx-Emitting Gas Water Heater	405,000

Table 5-5: PAR 1121 Cost-Effectiveness for ZEM Alternative Compliance Option

Dates Phase	2027 - 2028 Phase ~~I~~1	2029 - 2032 Phase ~~II~~2	2033 - 2035 Phase ~~III~~3	2036 and after Phase ~~IV~~4
Targets	70% NO-Emitting 30% Zero-NOx	50% NO-Emitting 50% Zero-NOx	25% NO-Emitting 75% Zero-NOx	10% NO-Emitting 90% Zero-NOx
Weighed Cost-Effectiveness ($/Ton NOx)	$80,000	$160,000	$260,000	$320,000

The proposed BARCT emission limits will take effect in future years for installations in new buildings and at the end of the equipment life in existing buildings, and the full implementation will be achieved 25 years for PAR 1111 and 15 years for PAR 1121 after their latest compliance date. The future effective compliance dates, implementation at equipment natural turnover, and the ZEM alternative compliance option will allow for market growth for emerging technologies that typically includes a price decrease.

SOCIOECONOMIC IMPACT ASSESSMENT

~~A socioeconomic impact assessment has been conducted and released for public review and comment as a separate document at least 30 days prior to the South Coast AQMD Governing Board Hearing for PAR 1111 and PAR 1121, which is scheduled for May 2, 2025 (subject to change).~~ A Draft Socioeconomic Impact Assessment for PAR 1111 and PAR 1121 was released for public review and comment on March 31, 2025. The Final Socioeconomic Impact Assessment is available in the June 6, 2025 Governing Board Package.

California Environmental Quality Act (CEQA) Analysis

Pursuant to the California Environmental Quality Act (CEQA) and South Coast AQMD's certified regulatory program (Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l); codified in South Coast AQMD Rule 110), the South Coast AQMD, as lead agency for PAR 1111 and PAR 1121, prepared a Subsequent Environmental Assessment (SEA) for the proposed project. The SEA is a substitute CEQA document prepared pursuant to CEQA Guidelines Section 15252 and in lieu of a Subsequent Environmental Impact Report (EIR). The SEA tiers off of the Final Program EIR for the 2022 AQMP, as allowed by CEQA Guidelines Sections 15152, 15162, and 15385. The Draft SEA was released for a 46-day public review and comment period to provide public agencies and the public an opportunity to obtain, review, and comment on the environmental analysis. The South Coast AQMD received three comment letters relative to the analysis in the Draft SEA and responses to the comments have~~will~~ been included in the Final SEA, which is available in the June 6, 2025 Governing Board Package.

Requirements to Make Findings

Health and Safety Code Section 40727 requires that prior to adopting, amending, or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing, and in the staff report.

Necessity

PAR 1111 and PAR 1121 are needed to establish BARCT requirements and achieve emission reductions proposed by 2022 AQMP Control Measure R-CMB-02 and R-CMB-01 in order to meet the National Ambient Air Quality Standards for ozone.

Authority

The South Coast AQMD Governing Board has authority to adopt amendments to Rule 1111 and Rule 1121 pursuant to the Health and Safety Code Sections 39002, 40000, 40001, 40440, 40702, 40725 through 40728.5, and 41508.

Clarity

PAR 1111 and PAR 1121 are written or displayed so that their meanings can be easily understood by the persons directly affected by them.

Consistency

PAR 1111 and PAR 1121 are in harmony with and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations.

Non-Duplication

PAR 1111 and PAR 1121 will not impose the same requirements as any existing state or federal regulations. The proposed amended rules are necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

Reference

In amending Rule 1111 and Rule 1121, the following statutes which the South Coast AQMD hereby implements, interprets or makes specific are referenced: Health and Safety Code Sections 39002, 40000, 40001, 40440, 40702, 40725 through 40728.5, and 41508.

Comparative Analysis

Under Health and Safety Code Section 40727.2, the South Coast AQMD is required to perform a comparative analysis when adopting, amending, or repealing a rule or regulation. The comparative analysis is relative to existing federal requirements, existing or proposed South Coast AQMD rules and air pollution control requirements and guidelines which are applicable to combustion equipment subject to PAR 1111 and PAR 1121. A comparative analysis has been prepared and is included in the table below.

Table 5-6. Comparative Analysis for PAR 1111

Rule Element	PAR 1111	Bay Area AQMD Rule 9-4	CARB 2022 State Sip Strategy	CARB In-Progress Rulemaking
Unit Applicability	Natural gas-fired Furnaces less than 175 kBtu/hr used for interior space heating	Natural gas-fired furnace	New equipment and appliances sold for use in both residential and commercial buildings	TBD: In an effort to align with PAR 1111 and Bar Area AQMD Rule 9-4
Requirements (All parts per million (ppmv) emission limits are referenced at three percent volume stack gas oxygen on a dry basis averaged over a period of 15 consecutive minutes)	NOx limits: Proposed future limit: 0 ppmv (zero-emission) with a ZEM alternative compliance option that set compliance targets and allows for NOx-emitting furnace sales	NOx limits: Natural gas: 0.0 ppmv (zero-emission)	Zero-emission standards implemented in 2030 for space and water heating	TBD: Anticipated zero-emission (GHG, NOx)
Labeling or Informative Materials	Required for units that use mitigation fee option, propane kits, and alternative compliance options and for units during a specified period that can be installed in existing buildings but not new buildings			
Reporting	Reports for units sold using the ZEM alternative compliance option, for mobile home furnace sales	N/A	To be determined in rulemaking	TBD

Rule Element	PAR 1111	Bay Area AQMD Rule 9-4	CARB 2022 State Sip Strategy	CARB In-Progress Rulemaking
	by mitigation fee option and for quantity of propane conversion kits sold for furnaces distributed or sold for use into South Coast AQMD			
Monitoring	Certification test for non-zero-emission standards	Certification test for units that combust liquid fuels	To be determined in rulemaking	TBD
Recordkeeping	Records for using alternative compliance options and temporary exemptions	N/A	To be determined in rulemaking	TBD

Table 5-7. Comparative Analysis for PAR 1121

Rule Element	PAR 1121	Rule 1146.2	Rule 1146.1	Rule 1146	Bay Area AQMD Rule 9-6	CARB 2022 State Sip Strategy	CARB In-Progress Rulemaking
Unit Applicability	Natural gas-fired water heaters with heat input rates less than 75 kBtu/hr	Large water heaters, small boilers and process heaters less than or equal to 2 MMBtu/hr	Boilers, steam generators, and process heaters with maximum rated heat input capacities greater than 2 MMBtu/hr and less than 5 MMBtu/hr	Boilers, steam generators, and process heaters with maximum rated heat input capacities greater than or equal to 5 MMBtu/hr	Natural gas-fired water heater, rated heat input capacity 75 kBtu/hr – 2 MMBtu/hr	New equipment and appliances sold for use in both residential and commercial buildings	TBD: In an effort to align with PAR 1121 and Bar Area AQMD Rule 9-6
Requirements (All parts per million (ppmv) emission limits are referenced at three percent volume stack gas oxygen on a dry basis averaged over a period of 15 consecutive minutes)	NOx limits: Proposed future limit: 0 ppmv (zero-emission) with a ZEM alternative compliance option that set compliance targets and allows for NOx-emitting furnace sales.	NOx and CO limits: Natural gas: 0 ppmv (zero-emission)	NOx limits: Digester gas: 15 ppmv Landfill gas: 25 ppmv Natural gas: 7 or 9 ppmv, 12 ppmv for atmospheric, and 12 ppmv for thermal fluid heaters All others: 30 ppmv CO limit: 400 ppmv	NOx limits: Digester gas: 15 ppmv Landfill gas: 25 ppmv Natural gas: 5 ppmv for ≥75 MMBtu/hr, 7 or 9 ppmv for 20–75 MMBtu/hr, 12 ppmv for atmospheric, and 12 ppmv for thermal fluid heaters	NOx limits: Natural gas: 0 ppmv (zero-emission)	zero-emission standards implemented in 2030 for space and water heating	TBD: Anticipated zero-emission (GHG, NOx)

Rule Element	PAR 1121	Rule 1146.2	Rule 1146.1	Rule 1146	Bay Area AQMD Rule 9-6	CARB 2022 State Sip Strategy	CARB In-Progress Rulemaking
				For other types of fuels: 30 ppmv for other gaseous fuels; 40 ppmv for nongaseous fuels CO limit: 400 ppmv			
Labeling or Informative Materials	Required for units that use alternative compliance options and for units during a specified period that can be installed in existing buildings but not new buildings						
Reporting	Annual reporting requirement for units sold	Manufacturers every year after Table 3 compliance	N/A	Every 6 months for units greater than or equal	N/A	To be determined in rulemaking	TBD

Rule Element	PAR 1121	Rule 1146.2	Rule 1146.1	Rule 1146	Bay Area AQMD Rule 9-6	CARB 2022 State Sip Strategy	CARB In-Progress Rulemaking
	using the ZEM alternative compliance option	dates – product models, unit number, rated heat input capacity, applicable equipment category		to 40 MMBtu/hr and an annual heat input greater than 200 x 109 Btu per year (Rule 218)			
Monitoring	Certification test for non-zero-emission units	Source test report Requirements by alternative compliance options	Source testing once every 5 years	A continuous in-stack NOx monitor for units greater than or equal to 40 MMBtu/hr and an annual heat input greater than 200 x 109 Btu per year Source testing once every 3 – 5 years for other units	N/A	To be determined in rulemaking	TBD

Rule Element	PAR 1121	Rule 1146.2	Rule 1146.1	Rule 1146	Bay Area AQMD Rule 9-6	CARB 2022 State Sip Strategy	CARB In-Progress Rulemaking
Recordkeeping	Records for using alternative compliance options and temporary exemptions	Maintenance records = 3 years Rated heat input capacity & modification documentation	Source test records = 2 years (5 years if Title V) Monitoring data = 2 years (5 years if Title V)	Source test records Maintenance & emission records = 2 years Monitoring data = 2 years (5 years if Title V)	N/A	To be determined in rulemaking	TBD

APPENDICES: RESPONSES TO COMMENTS

APPENDIX A **GENERAL RESPONSE TO COMMENTS**

APPENDIX B **RESPONSE TO COMMENTS RECEIVED AFTER PUBLIC CONSULTATION MEETING (NEW RULE CONCEPT)**

APPENDIX C **RESPONSE TO COMMENTS RECEIVED AFTER PUBLIC WORKSHOP (ORIGINAL RULE CONCEPT)**

APPENDIX D **RESPONSE TO COMMENTS SENT TO BOARD AND COMMITTEE MEMBERS**

APPENDIX E **COMMENT LETTERS RECEIVED AFTER CLOSE OF COMMENT PERIOD**

Throughout the development of PAR 1111 and PAR 1121, staff shared rule concepts and preliminary draft rule language through public meetings such as Working Group Meetings, Public Consultations, and a Public Workshop. Staff shared the preliminary draft PAR 1111 and PAR 1121 with the original rule proposal at the Public Workshop on October 3, 2024. Based on stakeholder comments, staff revised the original rule proposal and proposed a new rule concept in the Working Group Meeting #8 presentation released on February 7, 2025.

Staff has received over 12,00014,000 written comments and many verbal comments since the Public Workshop on October 3, 2024, including over 9,80010,000 comments on the original rule concept and the remaining comments on the new rule concept.

The "Responses to Comments" document consists of five appendices. Appendix A includes general responses to similar comments that were raised by multiple letters. Appendix B includes verbal comments received at the Public Consultation Meeting and written comments received during the public comment period for the new rule concept from February 8, 2025, to March 20, 2025. Appendix C includes verbal comments received at the Public Workshop and written comments received on the original rule concept from October 3, 2024, to February 7, 2025. Appendix D includes all comment letters that were addressed to the South Coast AQMD Governing Board and Stationary Source Committee members by March 20, 2025. Appendix E includes comment letters receive after March 20, 2025, till May 16, 2025, after the close of the public comment period for the new rule concept, for which no response is provided.

Table APP-0-1: Comments Received on the Original and New Concepts

Appendix	Comments	Start Date	End Date	Number of Comments	Comment Number
Appendix A	General responses to similar comments	October 3, 2024	March 20, 2025 (End of the new comment period after Public Consultation)	Eleven general comments	GC-1 to GC-11
Appendix B	Comments addressed to staff after release of new rule concept; many comments still on original rule concept	February 8, 2025	March 20, 2025(End of the new comment period after Public Consultation)	48 written comments and 39 verbal comments at Public Consultation	1 – 48; and PC-01 – PC-39
Appendix C	Comments addressed to staff on original rule concept	October 3, 2024	February 7, 2025	108 written comments and 16 verbal comments at Public Workshop	1-108; and PW-1 – PW-16
Appendix D	Comments addressed to the Board within comment period	October 3, 2024	March 20, 2025 (End of the new comment period after Public Consultation)	11,773 written comments	Table Appendix D-1 1-48; Table Appendix D-2 1-63
Appendix E	Comments received beyond comment period	March 21, 2025	~~March 28~~May 16, 2025	~~122~~ 2,253 written comments	1-~~8~~95

APPENDIX A:
GENERAL RESPONSE TO COMMENTS

GENERAL RESPONSES

There are eleven general responses included in this chapter. They are:

1) Consumer Choice
2) Cost and Affordability of Zero-Emission Residential Space Heating and Water Heating Appliances
3) Electricity Demand and Grid Sustainability
4) Zero-Emission Technology Readiness
5) Outreach
6) Cost-Effectiveness Method
7) Emergency Replacement
8) High Altitudes
9) EPCA
10) Need for Rule Amendments
11) Need for Incentives

General Comment 1: Consumer Choice

Commenters expressed concerns about the original rule proposal on limiting consumer choice. Specifically, commenters would like to have the choice of installing natural gas units.

Response to General Comment 1

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

With the new rule concept, consumers will be able to choose either zero-emission appliance options or conventional natural gas-fired appliance options in the market. The new rule concept provides more options for consumers to choose from, whether it be a zero-emission unit or conventional natural-gas fired unit. For both PAR 1111 and PAR 1121, manufacturers can choose to enroll in the Zero-Emission Manufacturer program, which specifies the compliance target for zero-NOx emission units and NOx-emitting units that progresses over time. For each phase, the compliance target seeks an increasingly higher percentage of zero-NOx emission units, but manufacturers can continue to offer NOx-emitting units and meet consumer demand. Sales of NOx-emitting units above the goals will be subject to a higher mitigation fee. Manufacturers already supply zero-NOx emission units in the current market, and staff estimates that 20 percent to 30 percent of residential-type space and water heating units are already zero-NOx emission units in the South Coast AQMD region[(1)]. The new rule concept provides a pathway for more zero-NOx emission options in the market over time.

When consumers elect to install zero-NOx emission units, there are also many products they can choose. For instance, there are multiple air source heat pump original equipment manufacturers for residential space and water heating use. AHRI directory shows over 2,000,000 air-source heat

[(1)] https://www.eia.gov/consumption/residential/data/2020/

pumps being certified by over 600 brands, providing many options to consumers[(2)]. Many manufacturers and suppliers have committed to creating the capacity to achieve California's goal for heat pump market adoption[(3)].

General Comment 2: Cost and Affordability of Zero-Emission Residential Space Heating and Water Heating Appliances

This section addresses public comments on the costs of adopting zero-NOx emission technologies in buildings, particularly in residential buildings, that may cause an affordability issue, especially for low-income consumers.

Response to General Comment 2:

The new rule concept for Proposed Amended Rules 1111 and 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will further address the cost concern for zero-NOx emission units. The new rule proposal allows the sale of both zero-NOx emission units and NOx-emitting natural gas-fired units, allowing consumers to make individual decisions on the type of unit to install.

Staff summarized the cost examples on the clearinghouse webpage[(4)]. The estimated project costs for zero-NOx emission units shown on this page were compiled based on real-world heat pump installations by TECH Clean California from January 2024 to December 2024 in the four-county region of the South Coast AQMD that include unit cost, installation cost, and any electrical service upgrade costs. Comparing conventional unit project costs derived from the Energy and Environmental Economics (E3) study, staff estimates no additional cost for implementing PAR 1111 in a typical HVAC replacement (i.e., replacing both furnace and air conditioning system) for single-family homes, but does anticipate additional cost of up to $8,000 for furnace only replacement in homes without an existing air conditioning system but the heat pump includes the added value of space cooling. Staff estimates additional cost of $700 to $4,000 varied by counties, or about $2,100 for the region weighed by each county's population for a water heater replacement.

Local and state incentive programs are available to offset some of the upfront costs for implementing zero-NOx emission standards, including the upcoming South Coast AQMD Go Zero incentive program. The Go Zero pilot phase, funded with $21 million, will provide $1,000 to $4,000 in incentives for each installation which can be stacked with incentives from other programs. The Go Zero incentive program pilot phase will be launched in early 2025 and is estimated to expand by five-fold for future phases with current funding sources. Further, should the new rule concept be adopted, the manufacturer alternative compliance mitigation fee will provide a future revenue stream to keep that program viable in the future.

With regard to electric upgrade and utility costs for consumers who choose zero-NOx emission units, the project cost examples listed on the clearinghouse website include electric upgrade costs, which is also included in staff analysis of cost-effectiveness under Chapter 2 of the staff report.

(2) https://ahridirectory.org/
(3) https://www.gov.ca.gov/2022/07/22/governor-newsom-calls-for-bold-actions-to-move-faster-toward-climate-goals/
(4) https://www.aqmd.gov/home/rules-compliance/residential-and-commercial-building-appliances/cost

Given that 87 percent of homes in the South Coast AQMD region have air conditioning systems, most of the homes would not require electrical upgrades to install zero-NOx emission units. In addition, there are various zero-NOx emission options that do not need electrical upgrades, such as portable heat pumps for space heating and cooling and 120V plug-in heat pump water heaters. While an electrical upgrade may be needed in some cases, some planners such as Redwood Energy[(5)] believe it can be avoided, even with all electric appliances in a home. Staff gathered cost data for various types of furnaces and water heaters for the cost-effectiveness analysis described in Chapter 2 of this report. Electrical upgrades are considered in the costs to retrofit a zero-NOx emission appliance. Further, Chapter 2 provides discussion on new and emerging technologies that are less likely to require a panel upgrade such as 120V plug-in heat pump water heaters, portable heat pumps for space heating/cooling, and multi-functional heat pumps for water heating and space heating/cooling. Commercial and multifamily properties that already rely on AC for cooling are not anticipated to need electrical upgrades if they pursue zero-NOx emission options. If the electrical system can supply sufficient power to operate an AC, it can also support a heat pump system that both cools and heats. The addition of zero-NOx emission water heaters will add to the demand; however, 120V units designed for building retrofits are available and can be plugged into a standard outlet.

With regards to utility costs, staff considered the cost difference of operating a zero-NOx emission heat pump appliance versus a NOx-emitting natural gas fired appliance. While electricity rates in California are higher than natural gas rates, that does not mean operating costs for heat pumps will be higher than their gas counterparts because the utility rate is not the only determining factor for operational costs. When the efficiency of heat pumps is factored in, staff projects there will be lifetime utility cost savings because heat pumps can be over three times more efficient than NOx-emitting natural gas appliances used for water heating, space heating, and cooling. Chapter 2 of the staff report provides a summary of fuel switching cost for PAR 1111 and PAR 1121, which shows lifetime utility cost savings ranging between $200 and $1,100 depending on the equipment category.

With regards to consumers choosing zero-NOx emission options for the health of their communities, staff understands the costs associated with retrofitting zero-NOx emission appliances and anticipates that the new proposed amended rules will address concerns, while also sending a market signal to manufacturers, which will, in turn, drive down overall costs of zero-NOx emission units. Additionally, federal, state, and local incentives, including the upcoming South Coast AQMD Go Zero incentive program, will help alleviate the financial burden for those who pursue zero-NOx emission options.

For lower income consumers who choose to pursue zero-NOx emission units, with regards to mitigating the costs of more electrical appliances in households, the state legislature's Assembly Bill 205 creates a flat rate for electric bills, resulting in lower per kilowatt-hour charges. The IEPR forecast projects increasing natural gas prices, while electricity rates will go up more slowly. Lower annual operational costs are anticipated based on the fuel price estimates which are based on a combination of CEC's 2023 Integrated Energy Policy Report and Energy Information

[(5)] https://www.redwoodenergy.net/watt-diet-calculator

Administration national level forecasts. Overall, staff expects consumers to save money on operating costs when switching to zero-NOx emission units.

Staff conducted a socioeconomic impact assessment for the proposed amended rules. PAR 1111 and PAR 1121 are expected to yield an overall savings, mainly due to a savings from reduced energy bill costs over the equipment lifetime. For some equipment categories, upfront incremental costs associated with purchasing and installing zero-emission units will be incurred, but these upfront costs will be offset by an energy-cost savings over time, resulting in an overall savings. The present value cost savings over the forecast period (i.e., 2027 to 2060) is estimated to be $5.14 billion and $2.68 billion, for a discount rate of 1 percent and 4 percent, respectively. The annual average savings are estimated to be $250.34 million and $191.25 million, for a 1 percent and 4 percent real interest rate, respectively.

Staff recognizes the need to pursue emission reductions with an earlier timeframe to address the air quality needs of the South Coast AQMD and is committed to monitoring rule implementation after rule adoption.

General Comment 3: Electricity Demand and Grid Sustainability

Many commenters expressed concerns regarding power supply and grid sustainability if a zero-NOx emission standard would be required for all sales. Commenters also urged staff to work with utility providers for those concerns. Most of those comments were received on the original rule proposal before staff revised the rule concept.

Response to General Comment 3:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Consumers will have the choice to purchase conventional NOx-emitting units when an appliance needs to be replaced at end of unit life. The new rule concept means a slower transition to zero-emission by phased approach for compliance target and allowing NOx-emitting units and more time to enhance the grid and plan for electricity demand. The image below shows the proposed phased transition approach.

Target Dates	2027-2028	2029-2032	2033-2035	2036 and after
NOx Emitting Units (e.g. gas)	70%	50%	25%	10%
Zero-NOx Emission Units	30%	50%	75%	90%

Staff recognizes the importance of electric grid reliability for electric units, but also for NOx-emitting natural gas-fired units, which often require electricity to operate. Agencies and organizations throughout the state that are involved in energy distribution such as CEC, CPUC,

and local utilities such as Southern California Edison, are aware of the challenges ahead in terms of energy and infrastructure availability and are actively engaged in planning to anticipate future demand as the state moves toward a zero-emission future. The CEC, CPUC, and CARB are working to coordinate efforts, identify issues not covered by ongoing efforts, and assess needed actions to better align the energy system with the state's climate targets. The CEC adopts an IEPR every two years and an update every other year, and the 2022 IEPR has recognized the proposed zero-emission requirements for residential and commercial buildings in California and included recommendations and updates to the energy demand forecast. Furthermore, CAISO is planning billions of dollars in transmission capacity projects over the next 20 years, and the 20-Year Transmission Outlook document from May 2022 considers transmission needs to meet load and renewable energy growth aligned with state policy. In 2021, the CPUC created new programs and modified existing programs to reduce energy demand and increase energy supply during critical hours of the day. Per Senate Bill 350 (De León, 2015), the CPUC developed an integrated resource planning process to ensure California's electric sector meets its greenhouse gas reduction goals while maintaining reliability at the lowest possible costs.

Staff is also in regular contact with utility providers within the South Coast AQMD, such as Los Angeles Department of Water and Power, Clean Power Alliance (CPA; electricity provider for communities), and California Community Choice Association (CalCCA). SCE, one of the major local utilities, supports the proposed rule amendments and timelines in the rule. On the utility level, according to SCE's 2021 Sustainability Report, SCE is expected to invest significantly in the electric grid, including energy storage and increases in Distributed Energy Resources such as solar. In a current new study by E3[(6)] (contracted by SCE) on building electrification infrastructure impacts, SCE is estimating the required amount of energy demand and power generation, transmission, and distribution capacity, in preparation for the upcoming zero-emission building appliance rule implementation. SCE participated in the rule development for PAR 1111 and 1121 and submitted a comment letter (Comment Letter #21 in Appendix C) in support of the original rule proposals, which included a faster transition to zero-NOx emission building appliances.

Sustainable electricity supply is essential for both zero-NOx emission and NOx-emitting units. Many natural gas appliances also rely on electricity to operate. For example, all gas-fired fan-type central furnaces currently regulated by Rule 1111 require electricity to operate and therefore cannot operate during a power outage. Some older model water heaters may not need electricity to operate; however, newer features on modern water heaters require electricity to operate. Further, for tank type water heaters, the water in the tank will stay warm for several hours in the event of a power outage.

In addition to zero-NOx emission electric technology options, fuel cells and possibly other new technologies can be used to support the transition to a zero-NOx emission future. South Coast AQMD will continue working with developers and other agencies to deploy other types of clean energy such as fuel cells. Early planning and collaborative problem solving involving all stakeholders will be necessary to ensure grid readiness and infrastructure availability.

[(6)] https://etcc-ca.com/reports/grid-impacts-south-coast-aqmd-proposed-zero-nox-standards

General Comment 4: Zero-NOx Emission Technology Readiness

Many commenters expressed concerns about the readiness of zero-NOx emission technologies. Most of those comments were received on the original rule proposal before staff revised the rule concept.

Response to General Comment 4:

The new rule concept for Proposed Amended Rules 1111 and 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Consumers will have the choice to purchase conventional NOx-emitting units when an appliance needs to be replaced at end of unit life. This proposal means a slower transition to zero-emission and more time for zero-NOx emission technologies to develop and mature.

The 2022 AQMP's objective is to transition to zero-emission technologies, wherever feasible, and staff identified technically feasible zero-NOx emission control options for equipment subject to Rules 1111 and 1121. Staff identified various zero-NOx emission technologies that have been long-proven and are commercially available. As discussed in Chapter 2, South Coast AQMD is technology-neutral and fuel-neutral, and various technologies could achieve zero-NOx emission. Heat pumps may currently be a predominant zero-NOx emission technology in the market, and modern heat pumps can reach 300 to 400 percent efficiency or even higher efficiencies when operated in mild climates such as in the South Coast AQMD.

Heap pumps are a mature technology that have had great market adoption in the United States and other countries. According to the U.S. Energy Information Administration 2020 Residential Energy Consumption Survey, about 15 percent of existing U.S. homes and one-third of existing homes in southern states of the U.S. currently use electric heat pumps. The Air Conditioning, Heating, & Refrigeration Institute (AHRI) monthly shipment report indicates that more heat pumps have been sold in the U.S. for space heating than gas furnaces since 2021, and electric water heaters have made up the majority of both residential and commercial water heater shipments. To comply with federal energy efficiency standards[(7)], starting in 2029, most electric water heaters would require heat pump technology, further enhancing heat pump market adoption. Heat pumps have even higher adoption rates in Asian countries than in North America. About 90 percent of households in Japan have heat pumps for heating and cooling[(8)]. China has the largest number of new heat pump installations in the world with over 12 million residential air-source heat pumps installed by 2021[(9)]. Around 10 percent of space heating needs globally were met by heat pumps in 2021, but the pace of installation is growing rapidly[(10)].

(7) https://www.energy.gov/articles/doe-finalizes-efficiency-standards-water-heaters-save-americans-over-7-billion-household
(8) hpe-all.pdf
(9) China leads the world on heat-pump adoption - Chinadaily.com.cn
(10) Executive Summary – The Future of Heat Pumps – Analysis - IEA

Meanwhile, technologies such as fuel cells may be applicable in some cases. Other technologies are developing and emerging in the U.S. and abroad, with wider adoption and lower costs expected over time.

Manufacturers have suggested that a clear policy direction of future effective zero-NOx emission standards is needed to justify further product development. PAR 1111 and PAR 1121 will provide regulatory certainty for the manufacturers to further advance zero-NOx emission technologies and provide more products to the market.

General Comment 5: Outreach

Commenters expressed the need to increase the amount of outreach on the proposed rules. Commenters suggested expanding the types of outreach channels and increasing the number of contacts.

Response to General Comment 5:

The new rule concept for Proposed Amended Rules 1111 and 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. The concern about outreach was largely driven to inform consumers of the originally proposed mandate to transition to zero-NOx emission appliances so they could weigh in on the proposed changes to the rules and be better able to plan ahead and make any potential upgrades prior to appliance replacement. With the current proposal, consumers will have the choice to purchase conventional either NOx-emitting units or zero-NOx emission units when an appliance needs to be replaced at end of unit life, making outreach of the upcoming changes less critical.

PAR 1111 and PAR 1121 were developed through a public process that began in the last quarter of 2023 and included a series of Working Group Meetings, a Public Workshop, individual stakeholder meetings, and site visits to affected facilities. The working group is comprised of representatives from manufacturers, trade organizations, permit stakeholders, businesses, environmental groups, public agencies, consultants, and other interested parties. Notices of this rulemaking (e.g., Notice of Public Workshop and Notice of Public Hearing for the initial hearing date and the delayed hearing date) were also posted in five newspapers of four counties and announced via e-newsletters in September 2024, October 2024, and March 2025, respectively.

To address the comments, staff enhanced public outreach for the rule development, increased the email notification distribution list by four times, sent notifications to social media followers, developed additional outreach materials, and reached out to many organizations (e.g., Councils of Government, industries, trade, and community organizations) to present the rule proposal. Staff has received over ~~12,000~~14,500 comment letters as of the release of the draft staff report, far exceeding the number of comment letters typically received on an amendment to a South Coast AQMD rule, which demonstrates the impact of the enhanced outreach. Each person who submitted a comment was added to the subscribers list if an email address was provided and now the subscribers list has over ~~16,000~~ 17,000 email addresses. Staff sends all rule updates and outreach to that list of over ~~16,000~~ 17,000 subscribers.

While staff has worked hard to ensure stakeholders are aware of the current rulemaking, we recognize that public outreach and education should be ongoing and in a format that is easily understandable by members of the public. Staff is committed to conducting a rigorous outreach campaign if the proposed rules are adopted to ensure the public is aware of the future appliance regulations, available incentive funding, and the benefits of installing modern, clean, efficient zero-NOx emission technologies, such as heat pumps. The outreach portion of the upcoming Go Zero incentive program is intended not only to educate consumers about the rebates and heat pump appliances but also the Proposed Amended Rules 1111 and 1121. The Go Zero incentive program has also allocated funding for installer training sessions, which will not only teach contractors how to install zero-NOx emission appliances and related processes but also provide education on the rules that contractors can share with consumers. The anticipated launch of the Go Zero incentive program is 2025.

Finally, staff has redesigned the Residential Building Appliance Clearinghouse Webpage (https://www.aqmd.gov/home/rules-compliance/residential-and-commercial-building-appliances). This Clearinghouse webpage is a central source of all information related to PAR 1111 and PAR 1121, including proposed rule language, cost information, outreach efforts and materials, upcoming meetings, comments, the Go Zero incentive program, and other resources such as similar rulemakings by other agencies.

General Comment 6: Cost-Effectiveness Method

Many commenters asked for clarification on the cost-effectiveness method and analysis.

Response to General Comment 6:

The major components of the cost-effectiveness analysis included capital costs, emission reductions, discount rate, and equipment useful life. Staff revised the cost effectiveness write-up in the staff report and a detailed explanation be found in Chapter 2. Further, discussions and examples of the cost-effectiveness calculation can be found in the presentations for Working Group Meetings 2, 3, 4, 6, and 7[(11)].

According to the 2022 AQMP, the established cost-effectiveness screening threshold is considered neither a starting point for control costs, nor an absolute cap. During the rulemaking process, if a proposed emission standard has a cost-effectiveness that is above the threshold, staff will hold a public meeting to discuss other emission standards with a cost-effectiveness at or below the proposed screening threshold and/or compliance or implementation options to address an emission standard that is above the proposed screening threshold.

Staff recognized that zero-NOx emission limits are above the cost-effectiveness screening threshold for some categories. This is addressed with the ZEM manufacturer alternative compliance option that allows the sales of both zero-NOx emission appliances and NOx-emitting natural gas-fired appliances. Staff estimated the weighted average cost-effectiveness for implementing the manufacturer ZEM alternative compliance option, which is lower than the screening threshold using reasonable assumptions on consumer behavior, as explained in Chapter

[(11)] https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1111-and-rule-1121

2. This alternative compliance option satisfies the direction set forth by the 2022 AQMP for cost-effectiveness analysis. The alternative will address affordability as well as the higher cost-effective categories as NOx-emitting units will be allowed for sale. Staff discussed the cost-effectiveness and the ZEM alternative compliance option in several public meetings including Working Group Meeting #8, the Public Consultation held on March 6, 2025, and Stationary Source Committee Meetings held in February 2025 and March 2025.

In addition to the cost-effectiveness analysis detailed in Chapter 2, staff has prepared a Socioeconomic Impact Assessment that will be made available at least 30 days prior to the Public Hearing. The analysis considers the range of probable costs or savings, impact to small businesses, and impact on employment and the regional economy.

General Comment 7: Emergency Replacement

Stakeholders commented on the challenge of emergency replacement with zero-NOx emission units and the feasibility of an emergency replacement provision that allows short-term rental units. Some commenters also mentioned that the permitting process for installation of zero-NOx emission units could cause delay and add to the concerns for emergency replacement.

Response to General Comment 7:

Staff agrees with commenters on the challenge of implementing the initially proposed emergency replacement provision and thus removed it from the proposed amended rules. Staff has revised the original rule proposal and added a new rule concept for PAR 1111 and PAR 1121 that was released on February 7, 2025. The new rule concept includes zero-NOx emission sales targets for manufacturers and will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Consumers will have the choice to purchase conventional NOx-emitting units or zero-NOx emission units when an appliance needs to be replaced at end of unit life, which can address the emergency replacement concern.

For owners and operators who choose to install zero-NOx emission units at emergency replacement, many homes are ready for common zero-NOx emission space heating units such as 240V heat pump HVAC systems that can replace existing conventional HVAC systems with no need for complex construction or electrical upgrade. For homes that are not as ready, the owners and operators have the option to install plug-in units (e.g., 120V heat pump water heaters or portable heat pumps) that require minimum additional installation work. For permanent installations meeting zero-NOx emission limits, the upcoming South Coast AQMD Go Zero incentive program along with many other local, state, and federal-level incentives provide financial help to offset some of the upfront costs.

To further expedite the process of installing efficient, clean, heat pumps, SB 282 (Wiener), the Heat Pump Act, was introduced on February 5, 2025, and proposes to require automated permitting for standard heat pump water heater and HVAC installations, streamlining the permitting process for a key climate technology. While this is only a proposal, it demonstrates action being taken to try to reduce hurdles and costs when transitioning to zero-NOx emission appliances.

General Comment 8: High-Altitudes

Stakeholders from mountain communities expressed concerns about zero-NOx emission technologies and considerations for high altitudes. Most of those comments were received on the original rule proposal before staff shared the new rule concept.

Response to General Comment 8:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Consumers will have the choice to purchase conventional NOx-emitting units when an appliance needs to be replaced at end of unit life. This manufacturer alternative compliance option will provide flexibility, including for high-altitude installations.

Staff understands that the mountain communities have colder climates compared with the other areas of South Coast AQMD; however, as discussed in Chapter 2, zero-NOx emission technologies have been adopted in many cold climate regions. Cold climate heat pumps can pull heat from the air even at sub-zero temperatures and are utilized in colder climates in the U.S. and abroad. For example, Maine has one of highest per capita heat pump adoption rates, outpacing Scandinavian countries, with rebates incentivizing installation of approximately 116,000 heat pumps in a state that has fewer than 600,000 occupied housing units. Heat pump technology is also being adopted in states such as Vermont and Alaska, and according to the International Energy Agency, 60 percent of Norway's buildings are fitted with a heat pump. Heat pump technology that operates in cold climates can be found through the Northeast Efficiency Partnerships website[(12)], which lists heat pumps that can operate down to negative 25 degrees Fahrenheit. Staff understands the importance of space heating in mountain communities. Gas furnaces regulated by Rule 1111 also require electricity to operate, and it would be detrimental to lose power for a prolonged period with or without the zero-emission standards. Chapter 2 provides some discussion on grid reliability, and further discussion can be found in Response to General Comment 3. Recent technology development includes various zero-NOx emission options that minimize building or electrical upgrades during installation and thus reduce the cost. An example is a portable heat pump that works in cold climates, can be installed by two individuals, and can be plugged into a wall outlet[(13)]. Staff recognizes that cooling by AC systems is less common and necessary at high altitudes. While heat pumps provide both heating and cooling, there is a higher incremental cost to replace only a furnace versus a furnace and an AC at the same time.

The original rule proposal provided alternative compliance options for high-altitude areas allowing delayed implementation for some categories. Staff later proposed a new concept for a manufacturer alternative compliance option that allows sales of both zero-NOx emission units and NOx-emitting natural gas-fired units. Further, based on stakeholder comments, PAR 1111 is retaining the exemption of downflow furnaces for high-altitude installation. Staff will re-assess the available technologies and costs before key rule implementation dates to assess if costs decrease as zero-NOx emission technologies gain more market adoption. For consumers who choose zero-NOx

[(12)] https://neep.org/heating-electrification/ccashp-specification-product-list
[(13)] https://www.gradientcomfort.com/products/gradient-all-weather-120v-window-heat-pump

emission options for clean air, staff acknowledges the higher upfront costs to retrofit some units; however, operating heat pumps can result in cost savings due to their high efficiency. Costs associated with retrofitting heat pumps can be offset using state and local rebates including South Coast AQMD's Go Zero incentive program is also expected to help reduce costs.

General Comment 9: EPCA

Commenters raised a concern regarding the Energy Policy and Conservation Act (EPCA) for the original rule concept. EPCA preempts State and local regulations concerning the energy use of many natural gas appliances.

Response to General Comment 9:

The new rule concept for Proposed Amended Rules 1111 and 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting units to be sold and installed for use. Consumers will have the choice to purchase conventional NOx-emitting units when an appliance needs to be replaced at end of unit life.

PAR 1111 and PAR 1121 are not preempted by EPCA. EPCA expressly preempts regulations concerning the energy efficiency or energy use of products for which a federal energy efficiency standard is in place. 42 U.S.C. § 6297(c). The Ninth Circuit Court of Appeals recently issued a "very narrow" holding in *California Restaurant Association v. City of Berkeley*, 89 F.4th 1094, 1101, 1106 (9th Cir. 2024), that EPCA preempted a local building code prohibiting the installation of natural gas infrastructure in new buildings. The court in *Berkeley* reasoned that the building code concerned the energy use of covered appliances by regulating the quantity of natural gas they could use. *Id.* at 1101-02. The court repeatedly emphasized that its holding was "limited" only to building codes that regulate the gas usage of certain consumer appliances. *Id.* at 1101, 1103, 1106.Indeed, as Judge Baker explained in his concurrence, "EPCA preemption is unlikely to reach a host of state and local regulations that incidentally impact 'the quantity of natural gas' directly consumed by a [covered] product at point of use." *Id*. at 1117.

Further, in a recent federal district court ruling, a city gas ban was upheld [(14)]. A judge in the Southern District of New York ruled that New York City's local gas ban in new buildings was not preempted by EPCA and therefore dismissed a challenge by unions, builders, and trade groups.

Unlike Berkeley and New York City's regulations, PARs 1111 and 1121 are health- and safety-based emission limits on appliances, issued consistent with Congress's direction to the states to attain the National Ambient Air Quality Standards in section 110 of the Clean Air Act by regulating emission sources other than mobile sources. The rules are not building codes, and they do not ban natural gas or otherwise regulate the amount of natural gas used by covered equipment. PARs 1111 and 1121 are technology- and fuel-neutral and are focused on achieving the maximum NOx emission reductions possible. Equipment that meets the NOx emission limits, regardless of the energy source, is permitted under PARs 1111 and 1121.

[(14)] https://www.publichealthlawcenter.org/sites/default/files/case/NYC-Plumbers-Memorandum-Opinion-and-Order.pdf?source=email

General Comment 10: Need for Rule Amendments

Many comments were on the need for rule amendments, with divided opinions. Some commenters suggested to delay or cancel the rule development, while other commenters urged no delay for the adoption of PAR 1111 and PAR 1121. Most of the opposition comments were received on the previous rule concept prior to the new rule concept and many conflated the need for the rule amendment with global climate change instead of regional air quality.

Response to General Comment 10

PAR 1111 and PAR 1121 are needed to address local air quality by reducing NOx emissions. South Coast Air Basin has been classified as "extreme" nonattainment for the 2015 federal ozone standard. Ozone is formed when NOx and VOC react in the presence of sunlight. While both NOx and VOC contribute to ozone formation, the key to attaining the ozone standard in the Basin is to reduce NOx. Staff is required to consider emission reduction for all categories and set future effective dates to reduce emissions as early as feasible. NOx emissions need to be reduced by over 67 percent for all sources in order for this region to meet federal air quality standards by the 2037 deadline. PAR 1111 and PAR 1121 will cover over 10 million units emitting an estimated 6.8 tpd NOx emissions. Comparatively for NOx emission, by 2037, staff estimates all utilities emit 2 to 3 tpd, all refineries emit about 4 tpd, and all passenger vehicles emit about 7 tpd. PAR 1111 and PAR 1121 will also be considered as a control strategy to attain the 2012 annual PM 2.5 national ambient air quality standard because NOx are also precursors to PM 2.5 formation.

The health benefit from the rules will be significant. The 2022 AQMP Final Socioeconomic Report calculated incidences of avoided deaths per ton of NOx emission reductions (incidence per ton, or IPT). The IPT method provides a robust and reasonable estimate of the magnitude of the projected health benefits and is consistent with previous analyses conducted by South Coast AQMD. The IPT method is also utilized by the U.S. Environmental Protection Agency and the California Air Resources Board for their regulatory analyses. Staff is preparing a Draft Socioeconomic Impact Assessment (SIA) for PAR 1111 and PAR 1121 which will include a detailed description of the methods, procedures, and results of the health benefits analysis. The Draft SIA will be released for public review, at least 30 days before the public hearing for PAR 1111 and PAR 1121.

The South Coast AQMD standards cannot be less stringent than the state-wide standard, which will be set by CARB during its ongoing rulemaking process. CARB's current rulemaking for potential statewide appliance standards would be focused on GHG emissions, while also quantifying the air quality co-benefits of reducing criteria pollutants such as smog-forming NOx, CO, and toxic air contaminant emissions.

General Comment 11: Need for Incentives

Many comments stated that incentive funding is needed to assist with the transition to zero-NOx emission appliances.

Response to General Comment 11

Staff agrees that incentives will help with the transition to zero-NOx emission appliances. There are many local and state incentive programs that can provide financial help to offset some of the upfront costs for implementing zero-NOx emission standards, including the upcoming South Coast

AQMD Go Zero incentive program. The Go Zero incentive program pilot phase will be launched in early 2025 and is estimated to expand by five-fold for future phases with current funding sources. Further, should the new rule concept be adopted, the ZEM alternative compliance mitigation fee will provide a future revenue stream to keep that program viable in the future.

APPENDIX B:

RESPONSE TO COMMENTS RECEIVED AFTER PUBLIC CONSULTATION MEETING (NEW RULE CONCEPT)

Comments Received between February 7, 2025, and March 20, 2025

PREFACE

On February 7, 2025, staff shared the new rule concept, the ZEM alternative compliance option, in a presentation announced by email notification and posted on the South Coast AQMD webpage. Staff held Working Group Meeting #8 on February 13, 2025, and explained the new rule concept. Staff held the Public Consultation on March 6, 2025, to provide a summary of the third preliminary draft PAR 1111 and PAR 1121 rule language, which includes the ZEM alternative compliance option. Staff also updated the cost-effectiveness analysis. The public comment period for the new rule concept started after staff introduced the new concept on February 7, 2025, and ended two weeks after the Public Consolation meeting on March 20, 2025.

This appendix includes all verbal comments received at the Public Consultation Meeting and written comments received between February 7, 2025, and March 20, 2025.

About 200 people participated in the Public Consultation Meeting, which lasted over 4 hours, and 39 comments were expressed verbally. Many stakeholders expressed support to adopt the rules, some highlighted the need for more community outreach, and some raised concerns on the mitigation fees and sales target percentages, with many urging to increase the mitigation fees and sales targets and some suggesting to lower them.

There were 47 written comment letters received between February 7, 2025, and March 20, 2025, and they are listed in the table below.

Table Appendix B-1: Comments Received between February 7, 2025, and March 20, 2025

Comment Letter	Commentor Name	Representing	Date Received
1	Dorian Corliss	Self	2/14/2025
2	Jean Woo	Self	2/15/2025
3	N/A	Southern California Building Electrification Coalition	2/19/2025
4	Nancy Burke	Self	2/27/2025
5	Christopher Mercurio	Self	2/26/2025
6	HollyJo Reynolds	Self	2/27/2025
7	Marta Wall	Self	2/26/2025
8	Michael Howard	Self	2/25/2025
9	Pamela Buck	Self	2/25/2025
10	Shaun Uhls	Self	2/25/2025
11	Amir Baum	Self	3/3/2025

Comment Letter	Commentor Name	Representing	Date Received
12	Bud Reveley	Self	3/3/2025
13	Carmen Rawson	Self	3/1/2025
14	Carol Kerr	Self	3/2/2025
15	Melina Ershaghi	Self	3/3/2025
16	Rose Perez Jessen	Self	3/3/2025
17	Tristan Miller	Self	3/3/2025
18	Vicki Chamberlain	Self	3/3/2025
19	Nestande, Pradetto, Quintanilla, Trubee, and Harnik	City of Palm Desert	3/4/2025
20	Ruth Brissenden	Self	3/5/2025
21	Lenora DeMars	Self	3/5/2025
22	Kislev Joy Ang	Self	3/5/2025
23	James Elder	Self	3/5/2025
24	Brenda Dennstedt	Western Riverside Council of Governments	3/6/2025
25	Wynn Tucker	Green & Healthy Homes Initiative	3/6/2025
26	Vinod Ghai	Self	3/7/2025
27	Virginia Anders-Ellmore	Self	3/11/2025
28	John Anderson	Self	3/12/2025
29	Fernando Gaytan, Matt Vespa, Adrian Martinez, Lauren Weston, Wesley Reutimann, Gracyna Mohabir, Christopher Chavez, Tony Sirna, Ruth Ann Norton, Kevin Ma, Charles Miller, Andrea Vidaurre,	Earthjustice, Acterra: Action for a Healthy Planet, Active San Gabriel Valley, California Environmental Voters, Coalition for Clean Air, Evergreen Action, Green and Healthy Home Initiative,	3/12/2025

Comment Letter	Commentor Name	Representing	Date Received
	Sven Thesen, Sean Armstrong, Jack Hanson, Kimberly Orbe, Anne Pernick	Green Sanctuary Unitarian Universalist Church of Palo Alto, Los Angeles Climate Reality Project, People's Collective for Environmental Justice, Project Green Home, Redwood Energy, Run On Climate, Sierra Club Angeles Chapter, Stand.earth, Vector Green Power, LLC)	
30	Chad Chantaracharat	Self	3/17/2025
31	David Kramer	Self	3/17/2025
32	Gary Dufour	Self	3/17/2025
33	James Flesher	Self	3/17/2025
34	Jamie Ross	Self	3/12/2025
35	Norma Bertagna	Self	3/12/2025
36	Mark Terry	City of Canyon Lake	3/18/2025
37	C.C. Song	Clean Power Alliance	3/18/2025
38	Mike Selna	Self	3/19/2025
39	Kenneth Ortiz	Self	3/19/2025
40	Lisa Baca	Self	3/18/2025
41	Mary Ann Railey	Self	3/19/2025
42	Marc D. Neufcourt	Rinnai America Corporation	3/20/2025
43	Nicole Colantonio	Air-Conditioning, Heating, and Refrigeration Institute (AHRI)	3/20/2025
44	James Phillips	Rheem Manufacturing Company	3/20/2025
45	Chris M. Forth, David Stephens	Johnson Controls	3/20/2025

Comment Letter	Commentor Name	Representing	Date Received
46	Randy Oshiro	Noritz America Corporation	3/20/2025
47	John Carser	Self	3/6/2025
48	David Price	Self	3/13/2025

Comment PC-1: Mike (M&M Mechanical)

Request to retain the high-altitude exemption from 14 ng/J NOx and zero-NOx emission standards, especially for down-flow furnaces.

Response to Comment PC-1:

Staff agrees and will retain the downflow furnace exemption in PAR 1111 for high-altitude installation that was previously proposed to be removed.

Comment PC-2: Vanessa Villanueva (Resident of Colton)

Support Proposed Amended Rules 1111 and 1121.

Response to Comment PC-2:

Staff appreciates the support.

Comment PC-3: Adrian Martinez (Earthjustice)

Support for the proposed amended rules has increased since the new rule concept release. Increase sales targets for both rules. Recommend no further delay to the rules.

Response to Comment PC-3:

Staff appreciates the support and recognizes that there are many zero-emission units already in the market. Staff will continue to provide updates as needed to the Governing Board or Committee before major rule milestones. The ZEM alternative compliance option includes annual sales reporting requirements on the manufacturers, which will indicate if the target are being achieved and show market trends. Staff will assess zero-NOx emission unit market adoption after each annual reporting cycle from the ZEM alternative compliance option; the annual reporting can be used to determine if any of the targets should be modified.

Comment PC-4: Matt Vespa (Earthjustice)

Concerns on mitigation fees. Connect the fees with the emissions mitigation. Increase fees for NOx-emitting sales that are above the sales target.

Response to Comment PC-4:

The fees were set to strike a balance while incentivizing zero-emission units. Staff will continue to provide updates as needed to the Governing Board or Committee before major rule milestones. Staff will assess zero-NOx emission unit market adoption after each annual reporting cycle from the ZEM alternative compliance option; the annual reporting can be used to determine if any fees should be increased.

Comment PC-5: Sydney (Resident)

Support Proposed Amended Rules 1111 and 1121. Concerns about the climate crisis and big polluters.

Response to Comment PC-5:

Staff appreciates the support.

Comment PC-6: Michael Corbett (Bradford White Corporation)

Asked for the basis for determining the proposed mitigation fees. Response to Comment PC-6:

> The proposed fee is less than the amount that would be necessary to equalize the costs of zero-NOx emission appliances and NOx emitting appliances and thus would be less than the likely cost of fully mitigating the emissions from the NOx emitting appliances, Further, previous fees for Rule 1111 ranged between $150 - $450, and the fees for Rule 1121 were set a couple decades ago in a different emission reduction context that only considered mitigating two years-worth of NOx emissions. The current emission reduction need requires an incentive for zero-NOx emission units while also considering affordability concerns. Staff understands that environmental groups support a much higher fee increase such as over $1,000 to bridge the emission gap and cost of NOx-emitting units versus zero-NOx emission units, and meanwhile, manufacturers and distributors oppose any fee. The fees in the new rule concept strike a balance while incentivizing zero-NOx emission units. Staff will continue to provide updates, if needed, to the Governing Board or Committee before major rule milestones. Staff will assess zero-NOx emission unit market adoption after each annual reporting cycle from the ZEM alternative compliance option; the annual reporting can be used to determine if any fees should be increased.

Comment PC-7: Al Sattler (Earthjustice)

Support Proposed Amended Rules 1111 and 1121. Recommend no further delay to the rules.

> *Response to Comment PC-7:*
>
> Staff appreciates the support.

Comment PC-8: Erica Pezold (Councilmember of Laguna Hills)

Issues with hybrid gas water heater and electrical supply. Freedom of choice is important.

> *Response to Comment PC-8:*
>
> The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.
>
> For discussion on consumer choice, please refer to Response to General Comment 1.

Comment PC-9: Fernando Gaytan (Earthjustice)

Update the sales targets and increase mitigation fees.

> *Response to Comment PC-9:*
>
> Staff appreciates the support. Please refer to Response to Comment PC-4.

Comment PC-10: Pete Marsh (Resident of Long Beach)

Increase mitigation fee, link fees to the degree of non-compliance, and increase sales targets. Heat pump technology is ready and the sales have been higher than NOx-emitting sales.

> *Response to Comment PC-10:*
>
> Staff recognizes that heat pump technology has been in the market for a long time, especially heat pumps for space heating and cooling, and that sales of heat pumps have

been higher than sales of NOx-emitting furnaces. Please refer to Response to Comment PC-3 and Response to Comment PC-4.

Comment PC-11: Kris Murray (Association of California Cities, Orange County)

Asked for clarification on staff analysis on energy use and emission reductions. Incentives and rebates may not help with affordability for overburdened residents.

Response to Comment PC-11:

Staff analysis for project costs, fuel use, fuel switch cost, and emission reductions are detailed in Chapter 2 of the staff report.

Incentives provide funding for upfront costs, and other state, local, and utility incentives may be stacked together in many cases. South Coast AQMD's upcoming Go Zero program will also provide additional funding for overburdened communities which may be stacked with other incentives. For discussion on cost and affordability, please refer to Response to General Comment 2. For discussion on incentives, please refer to Response to General Comment 11.

Comment PC-12: Todd Titus (Director of Regulatory Affairs of Heating, Air-conditioning and Refrigeration Distributors International, HARDI)

Opposition of the mitigation fee for manufacturers since it will increase the product costs for the end user. HARDI supports the new rule concept to address consumer choice, but does not support the mitigation fee.

Response to Comment PC-12:

Please refer to Response to Comment PC-6.

Comment PC-13: Bob Helbing (AirTro)

PAR 1111 and PAR 1121 will not reduce ozone in the South Coast AQMD.

Response to Comment PC-13:

For discussion on the need for rule amendment, please refer to Response to General Comment 10. For discussion on NOx and ozone, please refer to the 2022 Air Quality Management Plan.

Comment PC-14: Jed Holtzman (RMI)

Suggest increasing the mitigation fee and basing it on cost-effectiveness screening threshold.

Response to Comment PC-14:

Please refer to Response to Comment PC-4.

Comment PC-15: Joe Hower (Resident)

Rental properties have central furnaces that would make heat pumps a reasonable retrofit. Flexibility in the rule is needed for other installations. Definition of heat input in PAR 1121 should be revised.

Response to Comment PC-15:

Staff agrees with commenter on the need of flexibility. Please see Response to General Comment 1 for consumer choice and Response to General Comment 4 for zero-NOx emission technology readiness. Definition of heat input has been removed from PAR 1121 because it is not used in the rule language.

Comment PC-16: Xico Manarolla (Clean Power Alliance)

Expressed support for Proposed Amended Rules 1111 and 1121 and the increased outreach. Asked for clarification for PAR 1111 not expanding to commercial furnaces and the future funding outlook for the Go Zero program.

Response to Comment PC-16:

Staff appreciates the support. Furnaces sized 175,000 Btu/hr and above will be addressed in a future rule development process with further outreach efforts. There is a potential for five-fold increase in funding for the Go Zero program. If PARs 1111 and 1121 are adopted with the proposed mitigation fee options, funds collected through the ZEM alternative mitigation option will provide a revenue stream for future Go Zero funding.

Comment PC-17: Jessi Davis (SoCal Gas)

The ZEM alternative compliance option with mitigation fee may not be cost effective. Concern on customer affordability.

Response to Comment PC-17:

Chapter 2 of this staff report provides analysis on cost-effectiveness for implementing the ZEM alternative compliance option, which shows the weighed cost-effectiveness by ZEM alternative compliance option that is estimated to be lower than the screening threshold, using reasonable assumptions on consumer behavior. A mitigation fee will be required to sell NOx-emitting space and water heating appliances and will not add to the cost of zero-NOx emission units. Further, mitigation fees collected will fund the Go Zero incentive program and the monies will go back to the market for consumers purchasing zero-NOx emission units to lower the costs. The proposed mitigation fee for the units sold under the target only represent around one percent of the total costs of the units, which will not have a significant impact on the affordability of the NOx-emitting appliances. The proposed mitigation fees are designed to incentivize the transition to zero-NOx emission appliances by making the NOx-emitting appliances a little more costly while collecting fees to fund the Go Zero incentive program to make the zero-NOx emission appliances more affordable. For cost and affordability, please refer to Response to General Comment 2.

Comment PC-18: Michael Rochmes (LA Climate Reality)

The space and water heating market is primed for growth and on the path to increase quickly, targets should be set at higher levels.

Response to Comment PC-18:

Please refer to Response to Comment PC-3.

Comment PC-19: Nihal Shrinath (Sierra Club)

Strengthen rules to correlate mitigation fees with emissions reductions foregone.

Response to Comment PC-19:

Please refer to Response to Comment PC-4.

Comment PC-20: Jennifer Cardenas (Fontana Resident)

Support for Proposed Amended Rules 1111 and 1121. Suggest an increase in the mitigation fee.

Response to Comment PC-20:

Staff appreciates the support. Please refer to Response to Comment PC-4.

Comment PC-21: Dylan Plummer (Sierra Club)

Support Proposed Amended Rules 1111 and 1121. New rule proposals result in less emissions reductions. Increase mitigation fee to reflect the emissions reductions foregone and increase sales target. There is growing support for PARs 1111 and 1121, including from LA City Council.

Response to Comment PC-21:

Staff appreciates the support. Please refer to Response to Comment PC-3 and Response to Comment PC-4.

Comment PC-22: Peter Whittingham (LA BizFed)

Suggested to exempt installations from zero-NOx emission standards that has building permits under review before the date of rule adoption. Suggest staff analysis consider large old apartment buildings, for example using multifamily data provided by LA BizFed for cost-effectiveness.

Response to Comment PC-22:

PAR 1111 and PAR 1121 provide an exemption of zero-NOx emission standards for installations in new buildings with building permit issued prior to [Date of Adoption], which is an enforceable allowance. Permits under review likely can and will change and staff believes it is feasible to include zero-NOx emission appliances in the plan or revised plan. Staff recommends maintaining the current allowance for buildings with permits issued.

Staff's analysis on cost-effectiveness for multifamily was based on real-world cost data as explained in Chapter 2 of the staff report. For exceptional cases when costs are high, consumers may choose to install NOx-emitting units as allowed by the ZEM alternative compliance option. Finally, many large apartment buildings use boilers and large water heaters that are not subject to PAR 1111 and PAR 1121. Some multifamily data shared by LA BizFed are for replacement of units with capability beyond PAR 1111 and PAR 1121 applicability.

Comment PC-23: Ayn Craciun (Climate Action Campaign)

Support Proposed Amended Rules 1111 and 1121. Orange County resident with zero-NOx emission appliances.

Response to Comment PC-23:

Staff appreciates the support.

Comment PC-24: David Martinez (Climate Action Campaign)

Increase mitigation fee and sales targets.

Response to Comment PC-24:

Please refer to Response to Comment PC-3 and Response to Comment PC-4.

Comment PC-25: Marven Norman (CCAEJ)

Support Proposed Amended Rules 1111 and 1121. San Bernardino resident. There are many opportunities to address cost issues.

Response to Comment PC-25:

Staff appreciates the support.

Comment PC-26: Carmen Rawson (Resident in Newport Beach)

Limited space for heat pump retrofits in resident's current triplex. SCE infrastructure is insufficient and costs to update may be passed on to residents.

Response to Comment PC-26:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on technology readiness, please refer to Response to General Comment 4.

Comment PC-27: Lisa Hart (LA Neighborhood Council Sustainability Alliance)

Support Proposed Amended Rules 1111 and 1121.

Response to Comment PC-27:

Staff appreciates the support.

Comment PC-28: James Elder (Resident of Huntington Beach)

Support new concept in Proposed Amended Rules 1111 and 1121, support previous rule concept as well.

Response to Comment PC-27:

Staff appreciates the support.

Comment PC-29: Crystal Miles (Councilwoman in Orange County)

Concerns about mitigation fees as a punitive measure and costs transferred to the consumer. Concerns on townhomes and duplexes replacement on equipment turnover. Cut emissions at source of electricity generation. Gas is a more reliable energy source.

Response to Comment PC-27:

Please refer to Response to Comment PC-6.

Staff analysis included assessment on replacement in multifamily buildings which include townhomes and duplexes. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold

and installed for use. Both electricity and natural gas will continue to be the energy sources for space and water heating. The South Coast AQMD has multiple rules and regulations (e.g., Rule 1134, Rule 1135, and Regulation XX) for emission reduction at sources of electricity generation. Energy generation at our local energy generating facilities total around 2 – 3 tpd of NOx, while residential-sized building appliances account for almost 7 tpd.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on technology readiness, please refer to Response to General Comment 4.

Comment PC-30: David Stephens (Johnson Controls)

Oppose the proposed amended rules as written. Need more time to fully comprehend the rule proposal.

Response to Comment PC-28:

Staff has been working with stakeholders for almost two years. Rule amendments are an iterative process with staff making changes based on discussion with stakeholders and feedback received. The concept in the current version of proposed amended rules is a response to stakeholder feedback and was shared in early February 2025. The concept was also discussed in individual meetings with each manufacturer in addition to public meetings. Staff will monitor rule implementation which includes assessing the zero-NOx emission unit market adoption and mitigation fee impact for each annual reporting cycle after rule adoption by the ZEM alternative compliance option.

Comment PC-31: Kory Griggs (Indoor Weather)

Retain the high-altitude exemption from 14 ng/J NOx and zero-NOx emission standards for down-flow furnaces. Proposed mitigation fee is too high. Regulate propane so installers would not circumvent the rule for natural gas furnace that can installed for propane use.

Response to Comment PC-29:

Staff is proposing to retain the downflow furnace exemption in PAR 1111 for high-altitude installation that was previously proposed to be removed.

Please refer to Response to Comment PC-6 regarding the proposed mitigation fee.

PAR 1111 has a provision requiring manufacturers to report the sales of propane conversion kits for cases where natural gas furnaces would be installed for propane use. In addition, emissions from propane combustions are identified and accounted for in the 2022 AQMP. Staff will review the number of propane conversion kits being reported as sold into the South Coast AQMD in comparison to estimated households that rely on propane for fuel to consider if the exemption is being abused and explore regulatory mechanisms to address potential rule circumvention.

Comment PC-32: Chris Chavez (Coalition for Clean Air)

Need to pursue more emissions reductions. Support previous rule concept.

Response to Comment PC-30:

Staff will continue to provide updates as needed to the Governing Board or Committee before major rule milestones. The ZEM alternative compliance option includes annual sales reporting requirements on the manufacturers, which will indicate if the target are being achieved and show market trends. Staff will assess zero-NOx emission unit market adoption after each annual reporting cycle from the ZEM alternative compliance option; the annual reporting can be used to determine if any of the targets should be strengthened.

Comment PC-33: Saeedeh (Government of British Columbia, Ministry of Energy and Climate Solutions)

Asked for clarification on zero-NOx emission technologies and high-altitude installations. Concern on mitigation fee being passed down to consumers.

Response to Comment PC-31:

Please see Response to General Comment 4 for zero-NOx emission technology readiness and Response to General Comment 8 for high-altitude.

The proposed mitigation fees are set to strike a balance while incentivizing zero-NOx emission units. The mitigation fee collected will fund the Go Zero incentive program and the monies will go back to the market as incentives to consumers installing zero-NOx emission units. Staff will assess zero-NOx emission unit market adoption after each annual reporting cycle from the ZEM alternative compliance option. The annual reporting can be used to determine if the fees should be adjusted.

Comment PC-34: Anne Pernick (Stand.earth)

Support Proposed Amended Rules 1111 and 1121. Increase mitigation fee and sales target percentage.

Response to Comment PC-32:

Staff appreciates the support. Please refer to Response to Comment PC-3 and Response to Comment PC-4.

Comment PC-35: Catalina (Resident of Los Angeles County)

Support Proposed Amended Rules 1111 and 1121. Support Public Hearing in May.

Response to Comment PC-33:

Staff appreciates the support.

Comment PC-36: Joe Citizen (Resident of Huntington Beach)

Support Proposed Amended Rules 1111 and 1121. Cost for heat pump installation for individual is cheaper than the costs in the presentation.

Response to Comment PC-34:

Staff appreciates the support.

Comment PC-37: Jennifer Cardenas (Sierra Club)

Support Proposed Amended Rules 1111 and 1121. Support previous rule concept.

Response to Comment PC-35:

Staff appreciates the support.

Comment PC-38: Angela Oakley (Resident in Claremont)

Health impacts should be included in the cost-effectiveness calculation.

Response to Comment PC-36:

Health impacts are considered in cost-effectiveness evaluation by comparing the calculated cost-effectiveness with the 2022 AQMP cost-effectiveness screening threshold, which is health benefit based. In addition, health impacts are analyzed in socioeconomic impact assessment to be released 30 days prior to the public hearing for the rules.

Comment PC-39: Bill LaMarr (California Alliance of Small Business Associations)

Concerns on manufacturers not meeting sales targets and that consumer cannot afford zero-NOx emission units or use electric units during power outage.

Response to Comment PC-37:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. The sales targets are not a hard cap. Manufacturers may sell more NOx-emitting units with a higher mitigation fee for those units beyond the targets.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3. Sustainable electricity supply is essential for both zero-NOx emission and NOx-emitting units. Many natural gas appliances also rely on electricity to operate. For example, all gas-fired fan-type central furnaces currently regulated by Rule 1111 require electricity to operate and therefore cannot operate during a power outage.

COMMENT LETTER #1: DORIAN CORLISSE

From: C Corliss <[redacted]>
Sent: Friday, February 14, 2025 7:18 AM
To: Heather Farr <[redacted]>; Yanrong Zhu <[redacted]>
Subject: [EXTERNAL] Request for Exemption from Proposed Rule 1111 for Solar-Invested Homeowners

Ms. Farr,

I hope this message finds you well. I'm reaching out regarding the proposed updates to Rule 1111 and would like to present a case for a limited exemption on behalf of homeowners who have made significant investments in solar energy.

As a homeowner who has installed a solar system that supplies over 75% of my annual power consumption, I've committed considerable resources toward renewable energy and reducing my environmental footprint. The requirement to replace residential furnaces under the new rule poses an additional financial burden that could impede the return on investment from my solar installation. 1-1

Proposal for Exemption:

- 15-Year Exemption for homeowners whose solar installations provide more than 75% of their annual energy needs from the furnace replacement mandate under Rule 1111.

Justifications:

1. Financial Recovery of Solar Investment:
    - The upfront costs of installing substantial solar systems are significant. An exemption period allows homeowners to recoup these investments before incurring additional expenses associated with furnace replacement.
2. Alignment with Environmental Goals:
    - By relying predominantly on solar energy, these homeowners have already significantly reduced their reliance on fossil fuels, contributing to lower overall emissions in line with the district's air quality objectives.
3. Encouraging Renewable Adoption:
    - Granting exemptions serves as an incentive for more residents to adopt solar energy solutions, amplifying environmental benefits across our community.
4. Minimal Furnace Usage:
    - With the majority of energy needs met by solar power, the usage—and therefore emissions—of existing furnaces is considerably less compared to average households.

Conclusion:

I genuinely believe that offering this exemption balances the district's mission to improve air quality with the need to support homeowners who have proactively invested in sustainable energy solutions. It acknowledges our efforts and encourages continued participation in renewable initiatives.

I welcome the opportunity to discuss this proposal further or provide any additional information that might be helpful.

Thank you for your time and thoughtful consideration.

Sincerely,

Dorian Corliss

[redacted]

Murrieta CA 92563

Response to Comment Letter #1

Response to Comment 1-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For consumers interested in zero-NOx emission units, there are opportunities to apply various incentives for the upfront capital cost, and operational cost savings are expected in many cases. For further discussion on cost, please refer to Response to General Comment 2.

For discussion on the need for rule amendment, please refer to Response to General Comment 10.

COMMENT LETTER #2: JEAN WOO

From: Jean Woo <[redacted]>
Sent: Saturday, February 15, 2025 4:02 PM
To: Jennifer Vinh <[redacted]>
Subject: [EXTERNAL] Support proposed Rule 1111 and 1121

2-1

Hello,

My name is Jean Woo and I live in Berkeley, CA. As a firm supporter of decarbonization and as a prrson with asthma, I request the Air Quality Board support restricting airborne pollutants as in Proposed Rule 1111 and 1121. We have seen massive wildfires and industry flaring from refineries pollute the air for entire regions and extended periods of time. Let's get homes and businesses to transition to heat pumps, heat pump water heaters, electric vehicles and induction stoves. Given the outsized utility profits, they should put an amount equal to that given to shareholders, into a Resilience and Climate Fund to help fund low-cost loans and on-bill financing to assist customers make these changes. This in addition to federal rebates and incentives. We needed to make these changes years ago, not hold over gas appliances when the homes are or renovated, or when the older one dies.

Please support Proposed Rules 1111 and 1121 , and all further rules/regulations to decarbonize and electrify homes, businesses, hospitals, schools and universities!

Sincerely,

Jean

Jean Woo
[redacted]
Berkeley, CA 94709

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Response to Comment Letter #2

Response to Comment 2-1:

Staff appreciates the support for the rules. Efforts for building appliances rules and the Go Zero incentive program aim to reduce emissions, wherever feasible, and further incentivize the market for zero-NOx emission technologies.

COMMENT LETTER #3: SOUTHERN CALIFORNIA BUILDING ELECTRIFICATION COALITION

To: South Coast AQMD

From: Southern California Building Electrification Coalition

Date: 2/1/2025

Re: Proposed Amended Rules 1111 and 1121 Improvements

We must convey our profound disappointment regarding the delays in passing the proposed rules 1111 and 1121. Amendments to Rules 1111 and 1121 are essential to reducing criteria pollution in the region and achieving greater deployment of zero-NOx furnaces and water heaters. **We urge you to stay the course and adopt these long overdue rule amendments at your May Governing Board meeting without any further delay.** 3-1

It is particularly disheartening, however, to witness opposition continue their calculated 11th hour effort to further weaken these essential regulations during a time when we can least afford to backtrack on our commitment to emissions reduction. The current rule proposals already reflect significant concessions that ultimately bring the emissions reductions from these rules below the commitments made in the 2022 AQMP to reduce pollution from these sources. We cannot afford to weaken these amendments any further.

Just this past July, the Board Chair championed these amendments as a pivotal component of our emissions reduction strategy. Unfortunately, due to the regulatory offramps being offered and extended timelines, what was once heralded as the most impactful rule in three decades for NOx emissions—projecting a reduction of 10 tons per day—has already been diminished by 40%. We urge you to resist industry special interests calling for even greater concessions.

We believe this rule can still maintain its strength with targeted improvements to modestly accelerate compliance timelines and establish more robust mitigation fees. Our air quality and our community's health depend on it.

There are two areas of improvement to the current rule proposals that will ensure greater emissions reductions and increased regulatory compliance, and we ask Board Members to request these commonsense alterations.

a. **Mitigation Fees Must be Higher and Reflect Emissions Impact:** A mitigation fee should be tethered to the emissions impacts of the targeted activity, however the current proposal includes fees that are far too small to mitigate impacts – $50–100 per unit sold. Applying the District's screening threshold value for NOx emissions, the cost of the lifetime NOx emissions from a new gas water heater is roughly $865, and roughly $3,035 for a new gas furnace.[1] While the District may not want the mitigation fee to reflect the full cost of the of the resulting pollution, a mitigation fee that more closely reflects the cost of the resulting emissions is both consistent with 3-2

[1] Using baseline daily emissions, estimated number of units, and useful life figures from the Preliminary Draft Staff Report on the rules (pgs. 2-18, 2-20, and 5-2 [Table 5-1]).

the purpose of a mitigation fee and provides more funds to support deployment of heat pumps for low- and moderate-income individuals—thus helping to ensure equitable and affordable implementation of the rules. 3-2

b. **Stronger Manufacturer Requirements:** The final rule should accelerate compliance percentage targets for manufacturers. We ask that staff look at more ambitious percentages across the board so that more zero-emission appliances are made available sooner, which will help bring down unit costs. For example, the proposal could skip the initial 70% NOx-emitting sales cap and move directly to the 50% NOx-emitting sales target for both space and water heating in 2027. In the case of space heating, because baseline sales of NOx emitting units in 2027 will already be at 64 percent according to an RMI analysis, a 70 percent cap will not accomplish anything. A 50 percent target is necessary to achieve meaningful progress and continue to move the market toward zero-emission options. In the case of water heating, because zero-emission units have more predictable installation costs and are available in 120V models to avoid the potential need for electric upgrades, these units can be readily deployed with the right regulatory signal. 3-3

With these two adjustments, we support the current structure of the rule and believe it offers the greatest flexibility while still having the potential to achieve significant NOx reductions. It is imperative that we finalize these rules, however. Passing them in May will send a strong message that the SCAQMD is committed to meeting its NOx reduction obligations and will send a strong signal to encourage the market: that the South Coast is ready for zero-pollution appliances.

Response to Comment Letter #3

Response to Comment 3-1:

Staff appreciates the support.

Response to Comment 3-2:

Please refer to Response to Comment PC-4.

Response to Comment 3-3:

Please refer to Response to Comment PC-3

COMMENT LETTER #4: NANCY BURKE

From: nancy burke <[redacted]>
Sent: Thursday, February 27, 2025 3:46 PM
To: Jennifer Vinh <[redacted]>
Subject: [EXTERNAL] OPPOSED to Proposed Ammendment Rules 1111 and 1121 REQUIRING ALL ELECTRIC APPLIANCES AND HEATERS

Please do not pass these propsals 1111 and 1121. I am opposed to your 1111 and 1121 Proposals to outlaw gas water heaters, furnaces and gas stoves.Without gas, during the constant Inland Empire power shutoffs, we would not be able to take a warm shower, warm food, or heat the house.Much less drive an electric car.The Inland Empire now shuts off electricity every time the wind blows.My gas bill is $50.My electric bill is $400 to $790, keeping my 1500 sq. foot house at 82 degrees 4-1

For you to tell us what to do and how to do it is unacceptable. What happened to freedom of choice?

The cost to change from gas to electric is out of reach for both young and old homeowners. I don't want an electric furnace, water heater or stove. Didn't your mom teach you not to put all your marbles in one basket?

Please do not pass this proposal.I already have to choose between electricity and food.

Sincerely, Nancy Lamb

Jurupa Valley CA

The Old people home was without power for a week. No hot water, no cooking, no elevators.....

Response to Comment Letter #4

Response to Comment 4-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

COMMENT LETTER# 5: CHRISTOPHER MERCURIO

Jennifer Vinh

From: [redacted]
Sent: Wednesday, February 26, 2025 3:14 PM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: Christopher Mercurio

Email: [redacted]

Phone: [redacted]

Message:
I am against restricting use of natural gas appliances. The numbers positioned as 'preventable deaths' for NOx emissions is based on pseudo-science. This will only add more costs to already an expensive living area, and has little to zero benefit. I like my water and air hot, there's a reason they call it 'cool heat'! This is an abuse of power and must be stopped!

5-1

Response to Comment Letter #5

Response to Comment **5-1:**

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the need for rule amendment, please refer to Response to General Comment 10.

COMMENT LETTER #6: HOLLYJO REYNOLDS

Jennifer Vinh

From: [redacted]
Sent: Thursday, February 27, 2025 10:43 AM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: HollyJo Reynolds

Email: [redacted]

Phone: [redacted]

Message:
While converting to electric is a wonderful long term goal, have you considered that many older mobile homes, even with a panel upgrade cannot support full electrification? My sister resides in a 1974 mobile home and I have investigated converting her to all electric. One problem is there are no companies performing electrification in mobile homes claiming there are no mobile home approved appliances. We had Electrify America out and was told there are not electric tankless water heaters available for older mobile homes. What about costs involved in updating the electrical system? It is costing $18,000 to upgrade the meter, pedestal and one of two electrical panels in my sister's mobile to accommodate an electric vehicle charger! There are some rebates and incentives but most senior citizens on fixed incomes

6-1

cannot afford these costs. And most are unaware of rebates and incentives. We all want a clean environment, but must be realistic in what citizens can afford and our electrical grid can support!

6-1

Response to Comment Letter #6

Response to Comment **6-1:**

Staff appreciates the comments and understands there are unique technical challenges for upgrading space and water heating appliance in mobile homes. PAR 1111 and PAR 1121 have been amended to remove the zero-NOx emission standard for space and water heating appliance installations in existing mobile homes. PARs 1111 and 1121 will require appliances in mobile homes to transition to zero-NOx emission appliances after January 1, 2027, but only when the *mobile home itself* is replaced. The proposed rules also includes exemption for any (new or existing) mobile home located in a master-metered park due to the limited electricity available for each mobile home.

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For further discussion on cost, please refer to Response to General Comment 2.

COMMENT LETTER #7: MARTA WALL

Jennifer Vinh

From: [redacted]
Sent: Wednesday, February 26, 2025 1:28 PM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: Marta Wall

Email: [redacted]

Phone: [redacted]

Message: 7-1
I live in Hesperia, CA in an ALL ELECTRIC MOBILEHOME, and my MONTHLY ELECTRIC BILL FOR 2 PEOPLE, 1097 SQ FT. HOME IS OVER 450.00 A MONTH!

Response to Comment Letter #7

Response to Comment **7-1:**

An all-electric, zero-NOx mobile home complies with all the future provisions of PARs 1111 and 1121. Once your existing appliances reach the end of the useful life and need replacement, consider installing energy efficient heat pump technologies for space and water heating. If the electric appliances in your mobile home rely on electric resistance, transitioning to heat pump technologies could save on utility bills.

For further discussion on cost, please refer to Response to General Comment 2.

COMMENT LETTER #8: MICHAEL HOWARD

Jennifer Vinh

From: [redacted]
Sent: Tuesday, February 25, 2025 5:54 PM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: Michael Howard

Email: [redacted]

Phone: [redacted]

Message:
the Rule change Rules 1111 and 1121 Fact Sheet (English) is illegal voided by President Trumps banning of the Green New Deal and supporting regulations. There is no emergency requiring the rule notice all Republican representative state wide and congressional asking for an injunctive action 8-1

Response to Comment Letter #8

Response to Comment **8-1:**

These rules are being proposed to address regional air quality. The South Coast AQMD has the worst air quality in the nation and the NOx emission reductions that can be achieved from these rule amendments will improve the air quality for people who live and work in our region. With regard to the President's Executive Orders, those orders do not prohibit local rules such as PAR 1111 and PAR 1121.

For discussion on the need for rule amendment, please refer to Response to General Comment 10.

COMMENT LETTER #9: PAMELA BUCK

Jennifer Vinh

From: [redacted]
Sent: Tuesday, February 25, 2025 4:55 PM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: Pamela Buck

Email: [redacted]

Phone: [redacted]

9-1

Message:
In response to the proposed ban on gas-powered furnaces and water heaters, to be replaced by electric-powered furnaces and water heaters, where does the AQMD propose California is going to find sufficient electricity to power these as well as all of the electric cars that will also need to draw on our poor electrical supply? Additionally, electric furnaces are very expensive to operate and I would surmise that the same is true for electric water heaters. This proposal makes no sense at all. What are the proposals for citizens when massive power failures happen?

Response to Comment Letter #9

Response to Comment **9-1:**

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on technology readiness, please refer to Response to General Comment 4.

COMMENT LETTER #10: SHAUN UHLS

Jennifer Vinh

From: [redacted]
Sent: Tuesday, February 25, 2025 4:31 PM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: Shaun Uhls

Email: [redacted]

Phone:

10-1

Message:
Why should we switch to all electric for every appliance. We already have black outs and you're turning off power for days on end because it's a "safety issue" during fires. So everyone switches to electric appliances and when power is shut off then nobody can cook, have heat, or hot water for bathing. Not to mention how much everyone's bill is going to be. Gas is a cheaper utility. My average gas bill is $35 per month while Edison is $400 a month. Now I'm going to pay over $1,000 in the summer for Edison. No thank you. Do not make this a new requirement.

Response to Comment Letter #10

Response to Comment **10-1:**

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on cost, including utility costs, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on technology readiness, please refer to Response to General Comment 4.

COMMENT LETTER# 11: AMIR BAUM

Jennifer Vinh

From: Amir Baum <[redacted]>
Sent: Monday, March 3, 2025 4:25 PM
To: Jennifer Vinh
Subject: [EXTERNAL] Letter in Urgent Support of Rules 1111 1121

Dear Ms. Vinh,

11-1

I am writing in strong support of the proposed amendments to Rules 1111 and 1121. I applaud AQMD's work to reduce NOX emissions, thereby reducing new asthma cases, hospital visits and premature deaths. Our air quality has vastly improved because of your historic efforts, but we still have some of the worst air quality in the nation.

In the long run, these rules will save money and reduce emissions that impact our environment and our health. There is evidence to back this up, and the urgency for action cannot be greater when action at the federal level is falling apart to protect our air and our environment. Therefore it is contingent on you as an elected SCAQMD board member to listen to the community concerns and to take them into consideration to place health over profit to make the right decisions for our health and safety.

Thank you for your efforts in providing better living conditions in our region.

Sincerely,
Amir Baum

Response to Comment Letter #11

Response to Comment **11-1:**

Staff appreciates the support.

COMMENT LETTER #12: BUD REVELEY

Jennifer Vinh

From: Bud Reveley <[redacted]>
Sent: Monday, March 3, 2025 1:51 PM
To: Jennifer Vinh
Subject: [EXTERNAL] Natural gas use

12-1

As a Southern California's homeowner and resident I strongly oppose the SCAQMD proposed amendments to Rule 1111 (Space Heating) and Rule 1121 (Water Heating) as these rules will force me to remodel by home at great cost causing a hardship to my family.

Response to Comment Letter #12

Response to Comment **12-1:**

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on technology readiness, please refer to Response to General Comment 4.

COMMENT LETTER #13: CARMEN RAWSON

Jennifer Vinh

From: Carmen Rawson <[redacted]>
Sent: Saturday, March 1, 2025 2:28 PM
To: Clerk of Board; Jennifer Vinh
Subject: [EXTERNAL] Public Comment - Opposition to SCAQMD Proposed Amendments to Rules 1111 and 1121

To Whom It May Concern,

13-1

As a Southern California's homeowner and resident **I strongly oppose the SCAQMD proposed amendments to Rule 1111 (Space Heating) and Rule 1121 (Water Heating)** as these rules will force me to remodel by home at great cost causing a hardship to my family.

These amendments basically eliminate the use of natural gas furnaces and water heaters not only for new buildings but also for existing buildings.

For new buildings the installation of an electric heat pump (for space heating) and an electric water heater could be accommodated as part of the new building's design and construction. However, to make such a change for existing buildings can become a severe/insurmountable financial hardship, especially for multi units/condos buildings with individual space and water heating systems for each unit.

Furthermore, in some dense residential areas there may be not enough space between buildings to install the heat pump system's outdoor units. And most existing units do not have a 240V electrical outlet where the current gas water heaters are installed.

This burden will affect not only homeowners but also the many renters we have in Southern California as, upon failure of the existing gas furnaces and/or existing gas water heaters, landlords will have to obtain city permits and hire contractors to modify their buildings to replace the existing gas units with electric units. This takes a lot of time and, during this process, renters will not have a way to heat the unit or the water in the rental unit.

Even further, our electrical grid is already strain so converting residential appliances from natural gas to electric units will further strain the grid. We already have planned/mandated power outages so additional electrical consumption/demand will further deteriorate the grid reliability. Additionally, the operating cost of electrical appliances is much higher than the operating cost of natural gas appliances so this will be a significant burden for renters - especially for low income renters who may be displaced when paying for electricity becomes out of their reach.

Water heaters and furnaces are not luxury items; they are essential. The proposed amendments will further worsen the housing affordability crisis we have in our state.

I am in support of efforts to improve our air quality but the proposed amendments are not the answer. SCAQMD's heart may be in the right place but the focus is definitely in the wrong place. Rather than banning natural gas furnaces and water heaters the focus should be in improvements and incentives - working with manufacturers to further reduce the NOx emissions of their products.

Where the focus should be:

Wildfires produce nitrogen oxides (NOx) and are a very substantial contributor to air pollution with NOx being considered one of the main pollutants emitted from large-scale wildfires alongside particulate matter and carbon monoxide; essentially, burning biomass during a wildfire releases nitrogen oxides into the atmosphere. Wildfires are a main contributor to global warming.

Rather than focusing on banning natural gas appliances the main focus should be in preventing wildfires by developing better early/advance detection/monitoring systems that would result in a faster wildfire fighting response potentially limiting the size of the wildfire and its related NOx emissions.

1

13-1

Additionally, the focus should be working with So Cal Edison to improve their distribution system so sparks do not start wildfires, etc.

In conclusion, I am requesting herein for SCAQMD to not approve/implement the proposed amendments to Rule 1111 and Rule 1121.

Sincerely,
Carmen Rawson

Response to Comment Letter #13

Response to Comment **13-1:**

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on technology readiness, please refer to Response to General Comment 4.

For discussion on the cost-effectiveness analysis, please refer to Response to General Comment 6.

For discussion on emergency replacement, please refer to Response to General Comment 7.

For discussion on the need for rule amendment, please refer to Response to General Comment 10.

Regarding the air impact of wildfires, wildfires are exceptional events that adversely affect region air quality. Wildfire emissions are a concern to South Coast AQMD but are outside the scope of PAR 1111 and PAR 1121. The primary concern is particulate matter emissions (PM2.5 and PM10). Rule development for Proposed Rule 444.1 – PM Reductions from Forest Waste for Wildfire Prevention will be initiated, information on that rulemaking will be posted here: https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-404-and-444-1. South Coast AQMD is supporting ongoing federal, state, and local efforts in response to the recent devastating Los Angeles wildfires. More information for wildfire response can be found here: https://www.aqmd.gov/2025-wildfire-response.

COMMENT LETTER #14: CAROL KERR

Jennifer Vinh

From: Carol Kerr <[redacted]>
Sent: Sunday, March 2, 2025 9:29 AM
To: Jennifer Vinh
Subject: [EXTERNAL] Oppose SCAQMD Amendments to Rule 1111 & 1121

14-1

As a Southern California homeowner and resident, I strongly oppose the SCAQMD proposed amendments to Rule 1111 (Space Heating) and Rule 1121 (Water Heating) as these rules will force me to remodel by home at great cost causing a hardship to my family.

These amendments basically eliminate the use of natural gas furnaces and water heaters not only for new buildings but also for existing buildings.

For new buildings the installation of an electric heat pump (for space heating) and an electric water heater could be accommodated as part of the new building's design and construction. However, to make such a change for existing buildings can become a severe/ insurmountable financial hardship, especially for multi units/ condos buildings with individual space and water heating systems for each unit.

Furthermore, in some dense residential areas there may be not enough space between buildings to install the heat pump system's outdoor units. And most existing units do not have a 240V electrical outlet where the current gas water heaters are installed.

This burden will affect not only homeowners but also the many renters we have in Southern California as, upon failure of the existing gas furnaces and/or existing gas water heaters, landlords will have to obtain city permits and hire contractors to modify their buildings to replace the existing gas units with electric units. This takes a lot of time and, during this process, renters will not have a way to heat the unit or the water in the rental unit.

Even further, our electrical grid is already strain so converting residential appliances from natural gas to electric units will further strain the grid. We already have planned/ mandated power outages so additional electrical consumption/ demand will further deteriorate the grid reliability.

Additionally, the operating cost of electrical appliances is much higher than the operating cost of natural gas appliances so this will be a significant burden for renters - especially for low income renters who may be displaced when paying for electricity becomes out of their reach.

Water heaters and furnaces are not luxury items; they are essential. The proposed amendments will further worsen the housing affordability crisis we have in our state.

I am in support of efforts to improve our air quality but the proposed amendments are not the answer. SCAQMD's heart may be in the right place but the focus is definitely in the wrong place. Rather than banning natural gas furnaces and water heaters, the focus should be in improvements and incentives - working with manufacturers to further reduce the NOx emissions of their products.

Where the focus should be:

Wildfires (possibly caused by old electric wiring malfunctions) produce nitrogen oxides (NOx) and are a very substantial contributor to air pollution with NOx being considered one of the main pollutants emitted from large-scale wildfires alongside particulate matter and carbon monoxide; essentially, burning biomass during a wildfire releases nitrogen oxides into the atmosphere. Wildfires are a main contributor to global warming.

1

14-1

Rather than focusing on banning natural gas appliances the main focus should be in preventing wildfires by developing better early/ advance detection/ monitoring systems that would result in a faster wildfire fighting response potentially limiting the size of the wildfire and its related NOx emissions.

Additionally, the focus should be working with So Cal Edison to improve their distribution system so sparks do not start wildfires, etc.

In conclusion, I am requesting herein for SCAQMD to not approve or implement the proposed amendments to Rule 1111 and Rule 1121.

Sent from my iPhone

Response to Comment Letter #14

Response to Comment **14-1:**

Please see Appendix B Response to Comment 13-1.

COMMENT LETTER #15: MELINA ERSHAGHI

Jennifer Vinh

From: Melina Ershaghi <[redacted]>
Sent: Monday, March 3, 2025 7:31 PM
To: Clerk of Board; Jennifer Vinh
Subject: [EXTERNAL] NOT approve/implement the proposed amendments to Rule 1111 and Rule 1121.

15-1

To Whom It May Concern, As a Southern California's homeowner and resident I strongly oppose the SCAQMD proposed amendments to Rule 1111 (Space Heating) and Rule 1121 (Water Heating) as these rules will force me to remodel by home at great cost causing a hardship to my family. These amendments basically eliminate the use of natural gas furnaces and water heaters not only for new buildings but also for existing buildings. For new buildings the installation of an electric heat pump (for space heating) and an electric water heater could be accommodated as part of the new building's design and construction. However, to make such a change for existing buildings can become a severe/insurmountable financial hardship, especially for multi units/condos buildings with individual space and water heating systems for each unit. Furthermore, in some dense residential areas there may be not enough space between buildings to install the heat pump system's outdoor units. And most existing units do not have a 240V electrical outlet where the current gas water heaters are installed. This burden will affect not only homeowners but also the many renters we have in Southern California as, upon failure of the existing gas furnaces and/or existing gas water heaters, landlords will have to obtain city permits and hire contractors to modify their buildings to replace the existing gas units with electric units. This takes a lot of time and, during this process, renters will not have a way to heat the unit or the water in the rental unit. Even further, our electrical grid is already strain so converting residential appliances from natural gas to electric units will further strain the grid. We already have planned/mandated power outages so additional electrical consumption/demand will further deteriorate the grid reliability. Additionally, the operating cost of electrical appliances is much higher than the operating cost of natural gas appliances so this will be a significant burden for renters - especially for low income renters who may be displaced when paying for electricity becomes out of their reach. Water heaters and furnaces are not luxury items; they are essential. The proposed amendments will further worsen the housing affordability crisis we have in our state. I am in support of efforts to improve our air quality but the proposed amendments are not the answer. SCAQMD's heart may be in the right place but the focus is definitely in the wrong place. Rather than banning natural gas furnaces and water heaters the focus should be in improvements and incentives - working with manufacturers to further reduce the NOx emissions of their products. Where the focus should be: Wildfires produce nitrogen oxides (NOx) and are a very substantial contributor to air pollution with NOx being considered one of the main pollutants emitted from large-scale wildfires alongside particulate matter and carbon monoxide; essentially, burning biomass during a wildfire releases nitrogen oxides into the atmosphere. Wildfires are a main contributor to global warming. Rather than focusing on banning natural gas appliances the main focus should be in preventing wildfires by developing better early/advance detection/monitoring systems that would result in a faster wildfire fighting response potentially limiting the size of the wildfire and its related NOx emissions. Additionally, the focus should be working with So Cal Edison to improve their distribution system so sparks do not start wildfires, etc. In conclusion, I am requesting herein for SCAQMD to not approve/implement the proposed amendments to Rule 1111 and Rule 1121.

Response to Comment Letter #15

Response to Comment **15-1:**

Please see Appendix B Response to Comment 13-1.

COMMENT LETTER #16: ROSE PEREZ JESSEN

Jennifer Vinh

From: [redacted]
Sent: Monday, March 3, 2025 1:25 PM
To: Clerk of Board; Jennifer Vinh
Subject: [EXTERNAL] SCAQMD 06Mar25 Zoom Mtg - Amendments to Rule 1111 (Space Heating) and Rule 1121

To Whom It May Concern, 16-1

As a Southern California's homeowner and resident I strongly oppose the SCAQMD proposed amendments to Rule 1111 (Space Heating) and Rule 1121 (Water Heating) as these rules will force me to remodel my home at great cost causing a hardship to me and my family.

These amendments basically eliminate the use of natural gas furnaces and water heaters not only for new buildings but also for existing buildings.

For new buildings the installation of an electric heat pump (for space heating) and an electric water heater could be accommodated as part of the new building's design and construction. However, to make such a change for existing buildings can become a severe/insurmountable financial hardship, especially for multi units/condos buildings with individual space and water heating systems for each unit.

Furthermore, in some dense residential areas there may be not enough space between buildings to install the heat pump system's outdoor units. And most existing units do not have a 240V electrical outlet where the current gas water heaters are installed.

This burden will affect not only homeowners but also the many renters we have in Southern California as, upon failure of the existing gas furnaces and/or existing gas water heaters, landlords will have to obtain city permits and hire contractors to modify their buildings to replace the existing gas units with electric units. This takes a lot of time and, during this process, renters will not have a way to heat the unit or the water in the rental unit.

Even further, our electrical grid is already strain so converting residential appliances from natural gas to electric units will further strain the grid. We already have planned/mandated power outages so additional electrical consumption/demand will further deteriorate the grid reliability. Additionally, the operating cost of electrical appliances is much higher than the operating cost of natural gas appliances so this will be a significant burden for renters - especially for low income renters who may be displaced when paying for electricity becomes out of their reach.

Water heaters and furnaces are not luxury items; they are essential. The proposed amendments will further worsen the housing affordability crisis we have in our state.

I am in support of efforts to improve our air quality but the proposed amendments are not the answer. SCAQMD's heart may be in the right place but the focus is definitely in the wrong place. Rather than banning natural gas furnaces and water heaters the focus should be in improvements and incentives - working with manufacturers to further reduce the NOx emissions of their products.

Where the focus should be:

Wildfires produce nitrogen oxides (NOx) and are a very substantial contributor to air pollution with NOx being considered one of the main pollutants emitted from large-scale wildfires alongside particulate matter and carbon monoxide; essentially, burning biomass during a wildfire releases nitrogen oxides into the atmosphere. Wildfires are a main contributor to global warming.

Rather than focusing on banning natural gas appliances the main focus should be in preventing wildfires by developing better early/advance detection/monitoring systems that would result in a faster wildfire fighting response potentially limiting the size of the wildfire and its related NOx emissions.

1

16-1

Additionally, the focus should be working with So Cal Edison to improve their distribution system so sparks do not start wildfires, etc.

In conclusion, I am requesting herein for SCAQMD to not approve/implement the proposed amendments to Rule 1111 and Rule 1121.

Rose Perez Jessen
Newport Beach, CA 90292

Response to Comment Letter #16

Response to Comment **16-1:**

Please see Appendix B Response to Comment 13-1.

COMMENT LETTER #17: TRISTAN MILLER

Jennifer Vinh

From: Tristan Miller [redacted] >
Sent: Monday, March 3, 2025 10:29 AM
To: Jennifer Vinh
Subject: [EXTERNAL] support Rule 1111 and 1211

Hi Jen, 17-1

As a Californian and business owner, we support 1111 and 1211.

It saves lives, improves our health, and makes our homes/businesses more comfortable and more efficient.

Our family of 5 and business supports this!

Tristan Miller
Superior Avenue, Newport Beach, CA

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Response to Comment Letter #17

Response to Comment **17-1:**

Staff appreciates the support.

COMMENT LETTER #18 VICKI CHAMBERLAIN

Jennifer Vinh

From: Vicki Chamberlain <[redacted]>
Sent: Monday, March 3, 2025 5:27 PM
To: Clerk of Board; Jennifer Vinh
Subject: [EXTERNAL] Please oppose

18-1

To Whom it may concern,
As a resident of CA and homeowner of 2 homes and several rental properties, I strongly oppose the SCAQMD proposed amendments to Rule 1111, Space Heating and Rule 1121, Water Heating as these rules will force me to remodel and become a costly construction bill. This will in return become a financial hardship.

These amendments basically eliminate the use of natural gas furnaces and water heaters. For new buildings the installation of an Electric heat pump for space heating and an electric water heater could become part of a new design however, I am an existing home(s). With close proximity of some properties, some residential areas may not accommodate between buildings for the system's outside units! Most existing units do not have 240V electrical outlets where the current gas water heaters are installed. Besides the fact the timelines, cost, etc. this amendment will disrupt existing tenants waiting on permits, contractors and how will they have heat?
We already have a taxed electrical grid in Southern Ca as it is, We have scheduled and planned outages so additional consumption will just further increase these outages. Electrical appliances are at an operating cost higher than natural gas, so again a significant burden to those of us struggling financially in this state already.
We are not talking about luxury items,these are a necessity for living!
I support efforts to improve our air quality but not at the expense of these proposed amendments.
Please I am requesting to VETO these amendments, Rule 1111 and Rule 1121

Respectfully Submitted,
Vicki M. Chamberlain

Response to Comment Letter #18

Response to Comment **18-1:**

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on technology readiness, please refer to Response to General Comment 4.

For discussion on the cost-effectiveness analysis, please refer to Response to General Comment 6.

For discussion on emergency replacement, please refer to Response to General Comment 7.

For discussion on the need for rule amendment, please refer to Response to General Comment 10.

COMMENT LETTER #19: CITY OF PALM DESERT

Docusign Envelope ID: 50F468E4-F5C9-41D0-B746-7306516920D0

RESOLUTION NO. 2025-013

19-1

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PALM DESERT, CALIFORNIA, EXPRESSING CONCERN REGARDING THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S PROPOSED AMENDMENTS TO RULES 1111 AND 1121, PHASING OUT GAS WATER HEATERS AND FURNACES

WHEREAS, The South Coast Air Quality District (SCAQMD) is a regional air pollution control agency representing Los Angeles, Orange, Riverside, and San Bernardino counties with responsibility for regulating stationary sources of air pollution; and

WHEREAS, The SCAQMD is considering two rules that would have a significant impact on up to 17 million South Coast homeowners, renters and businesses: Rule 1111 would regulate air emissions from gas-powered central furnaces; and Rule 1121 would regulate air emissions from residential-type, natural gas-powered water heaters; and

WHEREAS, Rules 1111 and 1121 would impose additional costs to consumers and while incentives exist, homeowners and renters may still face significant out-of-pocket expenses when transitioning to electric appliances; and

WHEREAS, Housing affordability throughout California is and will remain a top public policy priority for the City of Palm Desert for the foreseeable future. Local governments are being pressured to build more housing – specifically, housing that people can afford. Any regulations that increase these costs deserve careful scrutiny to ensure that the increased costs are met with an equal or greater amount of benefit to the consumer; and

WHEREAS, The SCAQMD's water heater and furnace mandates will impose a significant increase in electricity demand on California's electric grid. Transitioning to all-electric water heaters and furnaces means an increased demand on an electric grid that has not proven capable of consistently meeting existing demand. Water heaters and furnaces are essential elements in any house, apartment, or business. Millions of new electric water heaters and furnaces would draw power from the grid and raise the risk of power brownouts or outages; and

WHEREAS, The incentive and rebate programs require easier access and use for homeowners and renters, greater coordination with cities is needed to have homeowners/renters access these incentives and rebates, and the proposed amendments need to be softened and relaxed to lessen the impact to homeowners and renters.

Docusign Envelope ID: 50F468E4-F5C9-41D0-B746-7306516920D0

19-1

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Palm Desert, California, as follows:

SECTION 1. Rules 1111 and 1121 will have a negative impact as proposed and impose significant costs on millions of Southern California homeowners, renters, and businesses who are already struggling with rising costs.

SECTION 2. The City of Palm Desert opposes Proposed Amended Rules 1111 and 1121 and urges the SCAQMD to delay consideration until the proposed amendments lessen the impact on properties and allow for streamlined eligibility of incentives and rebates before deciding to enact these amendments.

ADOPTED ON FEBRUARY 27, 2025.

Signed by:
DC37D0D20CC44D4...
JAN HARNIK
MAYOR

ATTEST:

Signed by:
8063A189723D437...
ANTHONY J. MEJIA
CITY CLERK

I, Anthony J. Mejia, City Clerk of the City of Palm Desert, hereby certify that Resolution No. 2025-013 is a full, true, and correct copy, and was duly adopted at a regular meeting of the City Council of the City of Palm Desert on February 27, 2025, by the following vote:

AYES:	NESTANDE, PRADETTO, QUINTANILLA, TRUBEE, AND HARNIK
NOES:	NONE
ABSENT:	NONE
ABSTAIN:	NONE
RECUSED:	NONE

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City of Palm Desert, California, on 3/3/2025.

Signed by:
8063A189723D437...
ANTHONY J. MEJIA
CITY CLERK

Response to Comment Letter #19

Response to Comment **19-1:**

Regarding the zero-NOx emission mandate, the new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on affordability and cost, which could impact concerns on the housing crisis, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on the need for rule amendment, please refer to Response to General Comment 10.

Staff looks forward to working with our local cities as we launch our Go Zero incentive program and will strive to make the process to access those funds as easy as possible for consumers.

COMMENT LETTER #20: RUTH BRISSENDEN

From: Ruth Brissenden <[redacted]>
Sent: Wednesday, March 5, 2025 7:54 AM
To: Jennifer Vinh <[redacted]>
Subject: [EXTERNAL] Proposed Amended Rules 1111 and 1121

To Whom It May Concern:

20-1

I believe replacing gas water heaters and furnaces with heat pump technology is a good idea for the environment, however, as many commenters have pointed out, the additional cost will likely be an immense hardship for many people.

My own research into heat pumps shows that the cost is approximately twice that of existing gas appliances. Possibly more if electric work is required. This presents a huge problem for those unable to afford such lavish upgrades. The rules MUST be promulgated in such a way so as not burden those in lower or fixed income brackets.

Additionally, because most folks are not familiar with how heat pumps work, information regarding this subject should be included and easily accessible on the Proposed Amended Rules webpages.

Sincerely,

Ruth Brissenden, J.D.

Response to Comment Letter #20

Response to Comment 20-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on technology readiness, please refer to Response to General Comment 4.

For discussion on outreach, please refer to Response to General Comment 5.

Several presentations included on the proposed rules page have discussions on the benefits of heat pumps and how they work including slides 32 – 36 in the first working group meeting presentation from October 5, 2023.

As staff develops more outreach materials for the upcoming Go Zero incentive program, more user friendly, plain language materials will be developed to better inform the public about incentive funding, upcoming regulatory requirements, and the benefits and advantages of installing clean and efficient heat pump appliances.

COMMENT LETTER #21: LENORA DEMARS

-----Original Message-----

From: Lenora DeMars <[redacted]>

Sent: Wednesday, March 5, 2025 11:46 AM

To: Jennifer Vinh <[redacted]>

Subject: [EXTERNAL] Proposed rules 1111 and 1121

Dear South Coast AQMD,

21-1

I am writing in support of the proposed amendments to rules 1111 and 1121. I applaud AQMD's work to reduce NOX emissions, thereby reducing new asthma cases, hospital visits and premature deaths. Our air quality has vastly improved because of your historic efforts, but we still have some of the worst air quality in the nation.

In the long run, these rules will save money and reduce emissions that impact our environment and our health.

Thank you for your efforts in providing better living. conditions in our region.

Sincerely,

Lenora DeMars

Response to Comment Letter #21

Response to Comment 21-1:

Staff appreciates the support.

COMMENT LETTER #22: KISLEV JOY ANG

Marissa Poon

From: Jennifer Vinh
Sent: Thursday, March 6, 2025 10:36 AM
To: [redacted]
Subject: FW: [EXTERNAL] Re: SCAQMD Rule 1111 and 1121

From: Kislev Joy Ang <[redacted]>
Sent: Wednesday, March 5, 2025 9:08 AM
To: jvinh@scaqmd.ca.gov; jafshar@scaqmd.ca.gov; jvinh@aqmd.ca.gov; jafshar@aqmd.ca.gov; eyen@aqmd.ca.gov; Jennifer Vinh <jvinh@aqmd.gov>; Jivar Afshar <jafshar@aqmd.gov>; Emily Yen <eyen@aqmd.gov>; Yanrong Zhu <yzhu1@aqmd.gov>
Subject: [EXTERNAL] Re: SCAQMD Rule 1111 and 1121

Good morning.

I am submitting the following comments as a resident living in SCAQMD jurisdiction and not as a representative of the City of LA:

Kislev

On Tue, Mar 4, 2025 at 12:14 PM Kislev Joy Ang <[redacted]> wrote:

> Good afternoon.
>
> FYI, the email addresses listed in this notice are incorrect.
> https://www.aqmd.gov/docs/default-source/public-notices/public-workshops-and-consultations/nopc-par1111andpar1121-030625.pdf?sfvrsn=6
>
> I am submitting the following comments as a resident of SCAQMD and not as a representative of the City of LA:

22-1

- **Emissions and evaporative standards on equipment manufactured will be a better pathway for certification, implementation and enforcement.**
- The proposed amendment to SCAQMD Rules 1111 and 1121 will transition applicability from the **manufacturers to private citizens**.
- Wealthier people are those most likely to take advantage of the proposed offered incentives as they will be the ones with the disposable income and will be able to convert their equipment prior to need.
- Most of the residents that "need" to replace one equipment will likely, due to limited resources, replace only the equipment that need replacing, not both equipments that SCAQMD is proposing to replace (2-in-1).
- Like other incentives in the past (e.g. electric vehicle purchase), by the time a person absolutely needs to replace the equipment (when no amount of repair can fix the it), the incentive program has ended and there is no availabe funds left.

1

Thank you for your consideration.
--

---------- Forwarded message ---------
From: **Kislev Joy Ang** <[redacted]>
Date: Tue, Mar 4, 2025 at 10:43 AM
Subject: SCAQMD Rule 1111 and 1121
To: <jvinh@aqmd.ca.gov>, <jafshar@aqmd.ca.gov>

I am submitting the following comments as a resident of SCAQMD and not as a representative of the City of LA:

- **Emissions and evaporative standards on equipment manufactured will be a better pathway for certification, implementation and enforcement.**
- The proposed amendment to SCAQMD Rules 1111 and 1121 will transition applicability from the **manufacturers to private citizens**.
- Wealthier people are those most likely to take advantage of the proposed offered incentives as they will be the ones with the disposable income and will be able to convert their equipment prior to need.
- Most of the residents that "need" to replace one equipment will likely, due to limited resources, replace only the equipment that need replacing, not both equipments that SCAQMD is proposing to replace (2-in-1).
- Like other incentives in the past (e.g. electric vehicle purchase), by the time a person absolutely needs to replace the equipment (when no amount of repair can fix the it), the incentive program has ended and there is no availabe funds left.

--

Kislev Ang, MS, REHS
Environmental Supervisor
External Affairs Division | LA Sanitation and Environment
Dept. of Public Works | City of Los Angeles
Phone| [redacted]
Email| [redacted]
Web| www.lacitysan.org

2

Response to Comment Letter #22

Response to Comment 22-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The rule is applicable to the supply chain such as manufacturers, distributors, and installers. By the new rule concept, consumers have the choice of both zero-NOx emission units and NOx-emitting natural gas-fired units.

For discussion on consumer choice, please refer to Response to General Comment 1.

Regarding the incentive funding, if this rule concept is adopted by the South Coast AQMD Governing Board, the mitigation funds will provide an ongoing revenue source to fund the Go Zero incentive program for zero-NOx emissions appliances. While Go Zero will not collect enough funds to provide everyone in our jurisdiction with a rebate, we will focus on getting rebates to those in the most overburdened regions. Further, as time goes on and these technologies become more commonplace, costs are likely to decrease. Upfront costs for NOx-emitting HVAC systems and heat pumps are already equivalent and nationwide sales show heat pumps to be outselling gas furnaces. These efficient, clean appliances can also result in lower utility bills for homeowners providing a financial benefit for the homeowner and improving the region air quality. For discussion on cost, please refer to Response to General Comment 2.

A heat pump HVAC provides both heating and cooling functions in one unit. For discussion on technology readiness, please refer to Response to General Comment 4.

For discussion on emergency replacement, please refer to Response to General Comment 7.

For discussion on incentives, please refer to Response to General Comment 11.

COMMENT LETTER #23: JAMES ELDER

Marissa Poon

From: Jennifer Vinh
Sent: Thursday, March 6, 2025 8:20 AM
To: [redacted]
Subject: FW: [EXTERNAL] Proposed Rules 1111 and 1121

From: James Elder <[redacted]>
Sent: Wednesday, March 5, 2025 6:43 PM
To: Jennifer Vinh <JVinh@aqmd.gov>
Cc: [redacted]
Subject: [EXTERNAL] Proposed Rules 1111 and 1121

23-1

Dear South Coast AQMD,

I am writing to strongly support the proposed amendments to Rules 1111 and 1121. I applaud your work to reduce emissions and keep the people of our district safe and healthy.

Last night, the Huntington Beach City Council voted to write a letter opposing the amendments, but I want you to know the people of Huntington Beach support South Coast AQMD and your decision to protect us and the environment.

Thank you for your hard work and dedication.

Warm regards,
James

Huntington Beach Resident

Response to Comment Letter #23

Response to Comment 23-1:

Staff appreciates the support.

COMMENT LETTER #24: WESTERN RIVERSIDE COUNCIL OF GOVERNMENTS

Western Riverside Council of Governments
County of Riverside • City of Banning • City of Beaumont • City of Calimesa • City of Canyon Lake • City of Corona • City of Eastvale
City of Hemet • City of Jurupa Valley • City of Lake Elsinore • City of Menifee • City of Moreno Valley • City of Murrieta • City of Norco
City of Perris • City of Riverside • City of San Jacinto • City of Temecula • City of Wildomar • Eastern Municipal Water District
Western Municipal Water District • Riverside County Superintendent of Schools

RESOLUTION NUMBER 01-25

A RESOLUTION OF THE EXECUTIVE COMMITTEE OF THE WESTERN RIVERSIDE COUNCIL OF GOVERNMENTS OPPOSING THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S PROPOSED AMENDED RULES 1111 AND 1121

24-1

WHEREAS, the Western Riverside Council of Governments ("WRCOG") is a joint powers authority consisting of the County of Riverside and 18 cities, the Eastern Municipal Water District, the Western Municipal Water District, and the Riverside County Superintendent of Schools, situated in Western Riverside County; and

WHEREAS, the South Coast Air Quality Management District (SCAQMD) has proposed amendments to Rules 1111 and 1121 to require a transition to zero-emission residential furnaces and water heaters in an effort to reduce nitrogen oxide (NOx) emissions; and

WHEREAS, WRCOG recognizes the importance of improving air quality and reducing emissions to meet state and federal environmental goals; and

WHEREAS, the proposed amendments would place significant financial burdens on homeowners, businesses, and local governments due to the high costs of new appliances, infrastructure upgrades, and installation requirements; and

WHEREAS, there are concerns regarding the technological readiness of zero-emission heating appliances, particularly in existing housing stock where retrofitting may be costly or infeasible; and

WHEREAS, the proposed implementation timeline may not allow sufficient time for communities, manufacturers, and contractors to transition effectively, potentially leading to supply chain challenges and increased costs; and

WHEREAS, several cities, councils of governments, and industry stakeholders have expressed opposition to the proposed amendments due to their economic and logistical challenges; and

WHEREAS, WRCOG supports a more measured approach that balances air quality improvements with economic feasibility, technological advancements, and equitable implementation strategies.

3390 University Avenue, Suite 200 • Riverside, CA 92501 • (951) 405-6700 • www.wrcog.us

NOW THEREFORE, BE IT RESOLVED that the Executive Committee of the Western Riverside Council of Governments hereby opposes SCAQMD's Proposed Amended Rules 1111 and 1121 in their current form and urges SCAQMD to consider alternative approaches that minimize negative impacts on local governments, businesses, and residents.

PASSED AND ADOPTED by the Executive Committee of the Western Riverside Council of Governments on March 3, 2025.

Brenda Dennstedt, Chair
WRCOG Executive Committee

Dr. Kurt Wilson, Secretary
WRCOG Executive Committee

Approved as to form:

Steven DeBaun
WRCOG Legal Counsel

AYES: 20 NAYS: ϕ ABSENT: 4 ABSTAIN: ϕ

Response to Comment Letter #24

Response to Comment 24-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes an alternative compliance option with zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The proposed standards and alternative compliance option have future effective dates with a phased approach which will allow a gradual transition.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on technology readiness, please refer to Response to General Comment 4.

For discussion on outreach, please refer to Response to General Comment 5.

For discussion on the need for rule amendment, please refer to Response to General Comment 10.

COMMENT LETTER #25: GREEN & HEALTHY HOMES INITIATIVE

Green & Healthy Homes Initiative®

2714 Hudson Street
Baltimore, MD 21224-4716
P: 410-534-6447
F: 410-534-6475
www.ghhi.org

March 6, 2025

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: Proposed Amended Rules 1111 and 1121

Dear SCAQMD Staff,

Thank you for the opportunity to provide further comments on the Proposed Amended Rules (PARs) 1111 and 1121. The Green & Healthy Homes Initiative (GHHI) continues to support the transition to zero-emission appliances as a critical measure to reduce harmful pollutants and improve public health in the South Coast Air Quality Management District.

We appreciate your continued work in developing PARs 1111 and 1121 to reduce NOx emissions and achieve clean air goals. We also appreciate your thorough public presentations and receptiveness to public comments regarding the latest revisions to the rules.

25-1

As stated in our previous comments, we support PARs 1111 and 1121 on the basis that improved air quality will translate into significant health and environmental benefits for residents in the SCAQMD region. NO_x emissions are associated with a range of harmful health impacts for those exposed to elevated concentrations, including aggravation of respiratory diseases that can cause acute medical episodes (such as asthma-related hospitalizations and emergency room visits) for short term exposures and increased risk of the development of asthma and susceptibility to respiratory infections for long term exposures.[1] Studies across the country have found disproportionate exposure among communities of color to NO_x emissions as well as other air pollutants.[2,3] Studies show consistent associations between higher pollution levels and

[1] Orellano, P., Reynoso, J., Quaranta, N., Bardach, A., & Ciapponi, A. (2020). Short-term exposure to particulate matter (PM_{10} and $PM_{2.5}$), nitrogen dioxide (NO_2), and ozone (O_3) and all-cause and cause-specific mortality: Systematic review and meta-analysis. *Environment international*, *142*, 105876. https://doi.org/10.1016/j.envint.2020.105876;
Huangfu, P., & Atkinson, R. (2020). Long-term exposure to NO_2 and O_3 and all-cause and respiratory mortality: A systematic review and meta-analysis. *Environment international*, *144*, 105998. https://doi.org/10.1016/j.envint.2020.105998
[2] Gallagher, C. L., & Holloway, T. (2022). US decarbonization impacts on air quality and environmental justice. Environmental Research Letters, 17(11), 114018.
[3] Tessum, C. W., Paolella, D. A., Chambliss, S. E., Apte, J. S., Hill, J. D., & Marshall, J. D. (2021). PM2.5 polluters disproportionately and systemically affect people of color in the United States. Science advances, 7(18), eabf4491. https://doi.org/10.1126/sciadv.abf4491

25-1

detrimental respiratory effects in children from exposure to pollutants, including worse lung function for children with asthma.[4]

Within the framework of the revised rules, we believe there are amendments that can help achieve NOx reductions closer to the levels projected in the initial proposal. Specifically, we recommend the following:

1. **Determine the Mitigation Fee for Noncompliance based on Health and Social Costs:**
    - As mentioned in the public consultation, it would be helpful to have more transparency on the methodology for determination of the mitigation fee. We feel that the fee should be directly tied to the health and social costs that marginal NOx emissions impose on the region.
    - A more substantial fee for manufacturers who fail to meet sales targets will create a stronger incentive for compliance and accelerate the transition to zero-emission appliances.
2. **Accelerate the Ramp-Up of Sales Targets:**
    - The current phase-in schedule should be accelerated to achieve faster NOx reductions and protect public health more effectively. The revised schedule essentially maintains business-as-usual until 2029. With a more ambitious schedule, SCAQMD can achieve greater air quality and health improvements, and more closely meet the original air quality and climate intent of these proposed rules.
    - We believe a timeline of 50% zero emissions technology sales by 2027 and 75% by 2030 would strike a balance between climate and health benefits and the affordability and consumer choice concerns raised during the rulemaking process.

We emphasize that the health of vulnerable populations, particularly children, the elderly, and those with respiratory conditions, depends on swift and decisive action to reduce air pollution. Since frontline communities bear a disproportionate burden of air pollution, they also have the greatest opportunity for health benefits as air pollution is relieved.

We present these recommendations for amendments to PARs 1111 and 1121 in the hopes that the rules may be amended quickly and passed as scheduled in May. By doing so, SCAQMD will not only be achieving critical improvements in air quality, but also improving health outcomes for all residents in the district.

[4] Belova, A., Dagli, R., Economu, N., Hartley, S., Holder, C., & Hubbard, H. (2022). Literature review on the impacts of residential combustion final report. https://www.lung.org/getmedia/2786f983-d971-43ad-962b-8370c950cbd6/ICF_Impacts-of-Residential-Combustion_FINAL_071022.pdf

Thank you again for your continued efforts to develop effective and equitable appliance rules in the South Coast region.

Sincerely,

Wynn Tucker

Director, Policy & Innovation

Green & Healthy Homes Initiative

Response to Comment Letter #25

Response to Comment 25-1:

Staff appreciates the support. Please refer to Response to Comment PC-3 and Response to Comment PC-4 for discussion on sales targets and mitigation fees. Future check-ins will consider adjustments to targets and fees.

COMMENT LETTER #26: VINOD GHAI

Jennifer Vinh

From: [redacted]
Sent: Friday, March 7, 2025 2:29 PM
To: Jennifer Vinh
Subject: [EXTERNAL] AQMD amendment

26-1

I, Vinod Ghai, resident of Newport Beach, oppose the amendment under consideration for banning gas water heaters & furnaces. We, retired people, live on fixed income. These changes being implemented for the sake of environment are virtues signaling & would make no difference in the climate.
Please cancel these amendments or we will vote you out!!
Sent from my iPhone

Response to Comment Letter #26

Response to Comment 26-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

COMMENT LETTER #27: VIRGINIA ANDERSE-ELLMORE

Marissa Poon

From: Jennifer Vinh
Sent: Tuesday, March 11, 2025 1:13 PM
To: [redacted]
Subject: FW: Please support Rules 1111&1121

Support!

From: ginluvjeff dslextreme.com <[redacted]>
Sent: Tuesday, March 11, 2025 12:52 PM
To: Jennifer Vinh <jvinh@aqmd.gov>
Subject: [EXTERNAL] Please support Rules 1111&1121

Jen Vinh
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765

Proposed Rules 1111 and 1121

27-1

Dear South Coast AQMD,
I am writing in support of Rules 1111 and 1121. I applaud AQMD's work to reduce NOX emissions, thereby reducing new asthma cases, hospital visits and premature deaths. Our air quality has vastly improved because of your historic efforts, but we still have some of the worst air quality in the nation. This is not a time for slowing down our effort to remove NOX.

I was a visiting nurse in the 1980, In the morning I would drive the 10 Freeway towards downtown L.A.. You would be able to see the LA downtown skyline, until 9-9:30 and then it would suddenly disappear due to smog. This all changed with the Catalytic converter. I remember all the complaints about being forced to have a catalytic converter, but in the end it was the right decision. We all benefited from this ruling. and we can see the L.A. skyline.
The transition from natural gas to heat pumps is the right decision for today. Don't delay the transition.

In the long run, these rules will save money and reduce emissions that impact our environment and our health.
Thank you for your efforts in providing better living conditions in our region and helping to slow the climb in global temperature rise.

Sincerely,
Virginia Anders-Ellmore
[redacted]
Newport Beach, CA 92663

Response to Comment Letter #27

Response to Comment 27-1:

Staff appreciates the support.

COMMENT LETTER #28: JOHN ANDERSON

From: John Anderson [redacted]
Sent: Wednesday, March 12, 2025 4:10 PM
To: Peter Campbell <pcampbell@aqmd.gov>; Emily Yen <eyen@aqmd.gov>
Subject: [EXTERNAL] comment on gas heaters and water heaters

Dear Sir/Madam,

28-1

I was informed that the South Coast Air Quality Management District is seeking comments on the proposed rules 1111 and 1121 that would eventually ban the use of natural gas for heating our homes or heating water. This email is to provide my comments.

I am a 78-year-old homeowner who has lived in the San Gabriel Valley since 1965. My house has a gas furnace and a gas on-demand water heater. About 15 years ago I replaced the then existing gas water heater with an electric water heater. The electric water heater was more expensive to purchase than a comparable gas water heater, but the costs went up from there because the electric water heater had problems with the heating elements within a year or two. Each time this happened it was a significant expense to replace them. In addition, my electric bill went up substantially. Eventually when the heating elements broke down a 3rd time, I decided it wasn't worth all the extra expense and I very happily switched back to a gas water heater.

Why I believe it isn't sound policy to implement Rule 1111 and Rule 1121.

1. Natural gas is a lot less expensive than electricity to heat our homes and to heat water.
2. It costs me a lot more for additional electricity to cool my home in the summer than it does for additional gas to heat my home in the winter.
3. There isn't enough electric generation capacity now to cover the need for air conditioning during hot periods in the summer. The added demand for electricity to replace all the furnaces and water heaters would only exacerbate an already troubled electrical grid. I've experienced more electric power outages in the past few years that I ever did in the past.
4. The added cost of electric heat pumps and electric water heaters will add to housing costs and rents.

1

28-1

5. The recent fires in the Palisades and Eaton fire zones destroyed thousands of homes and businesses. If new electric heat pumps and water heaters will be required for all the new construction (starting on January 1, 2026) it will cause a large increase in electric usage in these areas.
6. Since electricity generation requires burning natural gas or coal, these rules will not reduce CO2 production. Solar panels and wind farms don't have the capacity to generate all the electricity now. Uping the electricity consumption will only worsen the situation. The cost of generating electricity by solar and wind driven power is a lot more than electricity using natural gas.
7. My wife and I are older folks and we can ill afford added expense that these rules will bring if implemented. We don't want to be driven from our home in our final years.

Sincerely,

John Anderson
Resident in Duarte, CA

Response to Comment Letter #28

Response to Comment 28-1:

PAR 1111 and PAR 1121 do not ban natural gas. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. The sales targets are not hard caps. Manufacturers may sell more NOx-emitting natural gas-fired units by paying an over-target mitigation fee.

Staff identified various zero-NOx emission technologies that are commercially available. Modern heat pump HVAC and heat pump water heaters can reach 300 to 400 percent efficiency or even higher efficiencies that could result in utility bill savings over operating NOx-emitting gas appliances. Staff is aware that other zero-NOx emitting technologies, such as electric resistance space and water heaters, do not have the same high efficiency as heat pumps; therefore, it can be more expensive to operate. Modern, efficient, and clean, heat pump space and water heating appliances are projected to save on utility bills and improve the regional air quality.

For discussion on zero-NOx emission technology readiness, please refer to Response to General Comment 4. For discussion on cost, please refer to Response to General Comment 2.

For discussion on electricity demand and grid sustainability, please refer to Response to General Comment 3.

COMMENT LETTER #29: COALITION (EARTHJUSTICE, ACTERRA: ACTION FOR A HEALTHY PLANET, ACTIVE SAN GABRIEL VALLEY, CALIFORNIA ENVIRONMENTAL VOTERS, COALITION FOR CLEAN AIR, EVERGREEN ACTION, GREEN AND HEALTHY HOMES INITIATIVE, GREEN SANCTUARY UNITARIAN UNIVERSALIST CHURCH OF PALO ALTO, LOS ANGELES CLIMATE REALITY PROJECT, PEOPLE'S COLLECTIVE FOR ENVIRONMENTAL JUSTICE, PROJECT GREEN HOME, REDWOOD ENERGY, RUN ON CLIMATE, SIERRA CLUB ANGELES CHAPTER, STAND.EARTH, VECTOR GREEN POWER, LLC)

March 12, 2025

VIA ELECTRONIC MAIL

Heather Farr
Manager
Email: hfarr@aqmd.gov

Jen Vinh
Air Quality Specialist
Email: jvinh@aqmd.gov
South Coast Air Quality Management District

Re: Comments on Proposed Amendments to Rules 1111 & 1121- Zero-NOx Standards for Residential Water Heaters and Furnaces

Dear Mses. Farr and Vinh:

We appreciate your continued focus on Rules 1111 and 1121 (Rules). It is imperative we pass rule amendments in May to ensure we are on track to achieve important regional emission reductions and move towards compliance with federal ozone and PM2.5 standards. Unfortunately, the concessions in the third preliminary draft of the proposed amendments drastically reduce the expected emission reductions by 40% compared to the previous drafts and allow for significant manufacturer noncompliance. Even achieving these smaller pollution reductions is highly uncertain as the proposed mitigation and penalty fees are likely insufficient

to incentivize compliance with the zero-emissions sales targets. The unnecessary weakening of the Rules not only jeopardizes their intended health benefits but also poses a significant barrier to achieving a successful transition to zero-emissions equipment—a key tenet of the 2022 AQMP.

I. Summary of Recommendations

To ensure the Rules are effective in maximizing emission reductions, it is imperative that the following changes be made to the rule language:

- Accelerate the timeline for zero-emission NOx appliance targets to meet or exceed the state's commitments.
- Tier the non-compliance fee for each NOx-emitting unit sold above the sales target based on the degree of manufacturer non-compliance.
- Tie the per-unit mitigation fee for polluting appliances to the cost of health impacts from the NOx pollution emitted over its lifetime.
- Eliminate the proposed discounted mitigation fee.

These changes will ensure the agency's success by maximizing the emission reduction rules 1111 and 1121 can offer.

II. The Rule Should Accelerate the Sales Targets of Zero-NOx Units

29-1

To develop the right market signals, the rule must require manufacturers to make a greater percentage of zero-NOx units available sooner. The final rule should **accelerate compliance percentage targets to, at the very least, exceed the targets established by California Air Resources Board in the multistate agreement signed last year**,[1] ensuring more zero-emission appliances enter the market, which will help drive down costs.

The rule should skip the initial 70% NOx-emitting sales cap and move directly to a 50% cap for both space and water heating by 2027. In the case of space heating, an RMI analysis indicates that baseline sales of NOx-emitting units in 2027 will already be at 64%[2], meaning a 70% cap accomplishes nothing. An initial 50% cap is necessary to push the market forward.

Target Dates	2027-2028	2029-2032	2033-2036	2037 and beyond
NOx emitting units (e.g. gas)	50%	25%	10%	0%

[1] NESCAUM, Nine States Pledge Joint Action to Accelerate Transition to Clean Buildings, (February 2024), https://www.nescaum.org/documents/2.7.24-nescaum-mou-press-release.pdf.

[2] RMI analysis of 2027 sales baseline includes business-as-usual data from the REPEAT Project's Frozen Policies Benchmark (https://repeatproject.org/results comparison=benchmark&state=national&page=1&limit=25) and internal estimates of Title 24 impacts on zero-emission new construction.

29-1

Zero-emission Units	50%	75%	90%	100%

Zero-emission models offer more predictable installation costs for water heating systems and are available in 120V configurations, eliminating the need for expensive electrical upgrades. These units can be easily implemented with appropriate regulatory signals, further speeding up the transition. Additionally, the regulation should aim for a target of 100% zero emissions. This would align the regulation with the Governing Board's objective for these Rules. With a proposed 10-year time frame, this is more than enough time for the market to adjust.

29-2

III. The Fees in the Rules Must Be Increased To Ensure Zero-Emission Appliance Deployments.

The proposed amended rules create a whole new regulatory framework for the agency. The following sections outline changes to the fees needed to make that framework is successful.

A) Tier Manufacturer Alternative Compliance Fee to the Degree of Non-Compliance

The latest iteration of proposed amendments to Rules 1111 and 1121 includes a $500 fee for polluting units sold over the sales target, which increases by $100 in each subsequent compliance phase.[3] Rather than incrementally increasing the non-compliance fee each year, the Final Rule should tier non-compliance fees based on the degree of non-compliance annually. These non-compliance fees should be in addition to the standard NOx-emitting mitigation fee imposed per unit. This will better deter violations, incentivize manufacturers to minimize exceedances, and, where non-compliance is significant, generate more funds to increase the deployment of non-polluting appliances for low-income customers and help meet compliance targets the following year.

Exceedance over target (%)	**Fee Per Unit ($)**
1-10%	$500
11-20%	$750
21% or over	$1000

Accordingly, if the sale of polluting appliances should not exceed 50 percent in the first compliance period, the manufacturer would pay a $500 non-compliance fee for each polluting unit that exceeds that target by up to ten percent. For each additional non-complaint unit that

[3] *See,* Third Preliminary Draft Proposed Amendment Rule 1111 at Section (f)(2), https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-third-preliminary-draft-rule-language.pdf?sfvrsn=10.

29-2

exceeds the target by between 11 and 20 percent, the fee would increase to $750 for those units, and to $1000 for each unit that is more than 20 percent of the sales target.[4]

B) The Final Rules Should Include a Per Unit Mitigation Fee that Accounts for the Health Cost of NOx Emissions Over the Appliance's Lifetime.

While the centering of consumer "choice" in the latest revisions can be a workable framework, the Board should recognize that an individual's choice to install a polluting appliance results in community harm by locking in a new source of NOx pollution and its corresponding impacts on public health. The Final Rules should ensure that the costs of that choice to harm are properly borne by the customer making that choice. The lifetime health costs from NOx pollution from a new gas water heater are approximately $950.[5] The lifetime health costs from NOx pollution from a new residential central furnace are approximately $3,300.[6]These costs far exceed the proposed $50 mitigation fee for gas water heaters and $100 fee for gas furnaces, failing to account for the true health and environmental damage caused by these appliances. Accordingly, **the Final Rule should be revised to increase the mitigation fees for polluting appliances to $950 for water heaters and $3,300 for residential central furnaces**. These adjustments will strengthen the rule's effectiveness by ensuring that mitigation fees more accurately account for the public health costs associated with NOx pollution.

Notably, on top of failing to capture the cost of health harms, the current proposed $100 mitigation fee for gas furnaces is only 1% of the estimated $10,000 capital cost of a new furnace and is eclipsed by rebates offered by the gas industry to continue to purchase polluting appliances.[7] SoCalGas offers up to $2,250 rebates for efficient gas models, creating a stronger

[4] As an example, if the compliance period has a 50 percent zero-NOx sales target and a manufacturer sells 100,000 units, of which 75,000 are NOx-emitting, the manufacturer would be assessed a $500 fee for each of the first 10,000 units, a $750 fee for each of the next 10,000 units, and a $1,000 fee for the remaining 5,000 units.

[5] This cost was calculated using baseline daily emissions, estimated number of units, and useful life figures from the Preliminary Draft Staff Report and the agency's health-based screening threshold. The Staff Report identifies 5,128,000 water heating units with baseline emissions of 2.32 TPD, and with water heating units having an average 15-year life. SCAQMD, Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121 ("Preliminary Draft Staff Report") at 2-20; Table 5-1 (Sept. 2024), https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. The $383,000 in health costs per ton of NOx is taken from SCAQMD most recent cost analysis. SCAQMD, Proposed Amended Rule 1111/1121, Public Consultation (Mar. 6, 2025) at Slide 69, https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-pc-march-2025.pdf?sfvrsn=10. With 5,128,000 units in the category, an equipment life of 15 years, and a health-based valuation of $383,000 per ton of NOx, the lifetime cost of NOx pollution is $948.68 per unit. (2.32/5128000*365*15*383,000)=948.68.

[6] This cost was calculated using the same formula as in the previous note. The category emits 3.99 tons of NOx per day. With 4,200,000 units in the category, an equipment life of 25 years, and a health-based valuation of $383,000 per ton of NOx, the lifetime cost of NOx pollution is $3,320.13 per unit. (3.99/4200000*365*25*383000)=3320.13.

[7] Preliminary Draft Staff Report at 2-18.

29-2

financial incentive to stick with polluting appliances.[8] The capital cost difference between a gas furnace and a heat pump is $8,800,[9] making the proposed fee insufficient to shift consumer behavior. Even assuming an initial $500 manufacturer fee for sales that exceed zero-emission targets is passed onto customers choosing to purchase a polluting appliance, the mitigation fees from the purchase of polluting appliances is still unlikely to shift purchasing behavior. This is especially true when considering the generous rebates offered by the gas industry.

Similarly, the $50 mitigation fee for gas water heaters is less than 2% of the estimated $3,000 capital cost. SoCalGas offers rebates of $75 to $1,500 for gas water heaters[10]—again, higher than the proposed fee. With a capital cost difference of $2,200 between gas and heat pump water heaters,[11] the mitigation fee is too insignificant to influence purchasing decisions. Even at its lowest offered level, incentives for gas water heaters exceed the mitigation fee proposed for water heaters. These fees, therefore, must be significantly higher.

C) Higher Fees for Polluting Appliances Will Generate Meaningful and Reliable Funding to Ensure Zero-Emission Appliances Are Affordable for Low-Income Customers.

The Preliminary Draft Staff Report estimates 5.35 million furnaces, and 5.128 million water heaters will be impacted by the rule.[12] Annually, about 556,000 space and water heating units are replaced.[13] Assuming 70% of water heater sales in 2027 are still polluting models, the $50 per unit fee would generate $12 million—enough for only 4,000 rebates of $3,000 each out of 342,000 units sold. Similarly, assuming 70% of furnace sales in 2027 are still polluting models, the $100 per unit fee would generate $19 million, funding only 6,300 rebates out of 214,000 units sold.

Moreover, the potential for supplemental incentives from federal programs is far from assured. For example, with the Trump Administration stopping execution of awarded contracts from the Environmental Protection Agency, the California Energy Commission recently announced a hold on dispersing funds from the federal Home Electrification and Appliance Rebates ("HEEHRA") program.[14] Fees that capture appliance pollution costs both properly put

[8] According to the Preliminary Draft Staff Report, a typical residential furnace is between 40,000 and 90,000 Btu/hr. *Id.* For a Tier III gas furnace, SoCalGas currently provides a rebate of $25 per kBtu/hr. https://www.socalgas.com/sites/default/files/2025-02/SoCalGas-Home-Energy-Efficiency-Rebate-Program-Application-2025.pdf. A Tier III 90,000 Btu/hr furnace would therefore be eligible for a $2,250 rebate (90 kBtu/hr * $25 kBtu/hr).
[9] Preliminary Draft Staff Report at 2-18.
[10] SoCalGas, 2025 Home Energy Efficiency Rebate Program Application.
[11] Preliminary Draft Staff Report at 2-20.
[12] *Id.* at 5-2 (Table 5-1).
[13] Assuming a 25-year useful life for a furnace and a 15-year useful life for a water heater- translating into 214,000 furnace and 342,000 water heater installations each year.
[14] Tech Clean California, HEEHRA Rebates Paused (Feb. 2025), https://techcleanca.com/about/news/heehra-rebates-paused/.

these costs on manufacturers supplying polluting appliances and generate meaningful and sustained funding to ensure zero-emission appliances are affordable for low-income customers. 29-2

IV. The Proposed Discounted Rate for Over-Compliance Should Be Eliminated 29-3

The proposed discounted mitigation rate for manufacturers exceeding zero-NOx requirements in one year should be removed. While intended as an incentive, it risks undermining early gains by encouraging manufacturers to increase production of NOx-emitting appliances later and pay a lower fee. Rather than accelerating progress, this loophole could incentivize backsliding and delay full market transformation.

V. Conclusion

The stakes are too high not to move towards a zero-NOx standard for these sources, and the latest draft is a disappointing compromise that significantly weakens the expected emission reductions. Fortunately, there is still time to course correct by accelerating the compliance timeline, tiering non-compliance fees to levels of non-compliance, raising mitigation fees to reflect actual pollution costs, and eliminating unnecessary and counterproductive discounts in the fee structure. We look forward to working with you to see this rule passed by the Governing Board in May.

Sincerely

Fernando Gaytan, Senior Attorney
Matt Vespa, Senior Attorney
Adrian Martinez, Deputy Managing Attorney
Earthjustice

Lauren Weston
Executive Director
Acterra: Action for a Healthy Planet

Wesley Reutimann
Deputy Director
Active San Gabriel Valley

Gracyna Mohabir
Clean Air & Energy Regulatory Advocate
California Environmental Voters

Christopher Chavez
Deputy Policy Director
Coalition for Clean Air

[Additional Signatories on next page]

Tony Sirna
Deputy Policy Director
Evergreen Action

Ruth Ann Norton
President and Chief Executive Officer
Green and Healthy Homes Initiative

Kevin Ma
Chair
Green Sanctuary Unitarian Universalist Church of Palo Alto

Charles Miller
Chapter Chair
Los Angeles Climate Reality Project

Andrea Vidaurre
Co-Founder/ Policy Analyst & Advocate
People's Collective for Environmental Justice

Sven Thesen
Co-Founder
Project Green Home

Sean Armstrong
Managing Principal
Redwood Energy

Jack Hanson
Executive Director
Run On Climate

Kimberly Orbe
Senior Conservation Program Manager
Sierra Club Angeles Chapter

Anne Pernick
SAFE Cities Senior Advisor
Stand.earth

Pete Marsh
CEO
Vector Green Power, LLC

CC: Wayne Nastri, Executive Officer, wnastri@aqmd.gov
Michael Krause, Deputy Executive Officer, mkrause@aqmd.gov
Governing Board, COB@aqmd.gov

Response to Comment Letter #29

Response to Comment 29-1:

The proposed compliance targets and mitigation fees are a balanced approach that addresses emission reduction, consumer choice, and affordability. Staff evaluated various data sources for determining the compliance targets, including current heap pump sales in California (https://pop.rewiringamerica.org/?id=CA), zero-NOx emission adoption in current California homes, and data sheet shared by RMI. Heat pump sales in California are not as high as in southern states; however, the sales are increasing. The U.S. Energy Information Administration estimated 20 to 30 percent of furnaces and water heaters in California are zero-emission, primarily heat pump and electric resistance technologies. Another consideration for the proposed sales targets is the new energy efficacy standards by the Department of Energy which will prohibit sales of many electric resistance furnaces and water heaters. The proposed compliance target by phases is a reasonable approach, starting at 30 percent within two years of rule adoption and will ramp up to 90 percent by 2036 for zero-NOx emission unit sales. With mitigation fees for NOx-emitting gas units, manufacturers will be motivated to sell more zero-NOx emission units than the target.

Response to Comment 29-2:

At the Stationary Source Committee meeting on March 21, 2025, staff showed the committee mitigation fees determined by different basis, including commenter suggested health benefit-based cost-effectiveness threshold. The per unit cost to fully mitigate the NOx emissions would be around $3,000 for PAR 1111 and $900 for PAR 1121, based on the cost effectiveness screening threshold of $383,000 per ton of NOx reduced. To increase the cost of a NOx-emitting furnace or water heater equal to the current median cost of a heat pump would be around $8,000 for PAR 1111 and $2,500 for PAR 1121. Staff developed the ZEM alternative option due to concerns about the cost of appliances for consumers and therefore did not propose such high fees. The currently proposed $100 and $50 per unit under the target is around one percent of the unit costs, making it an affordable fee. The over the target fee will only be paid if the manufacturer exceeds the sales targets and is meant to encourage manufacturers to promote zero-NOx emission technologies. Due to affordability concerns, staff recommends maintaining mitigation fee as proposed with a change suggested by the Stationary Source Committee to reduce the over the sales target fee for PAR 1121. The proposed fees are as follows, with the fees proposed to increase by

the CPI annual percent increase, capped at a three percent increase as explained in chapters 3 and 4:

- Units sold under the sales targets: $100 for PAR 1111 and $50 for- PAR 1121
- Units sold over the sales targets: $500 for PAR 1111 and $250 for PAR 1121.

The proposed mitigation fee will be a sustainable funding source for incentivizing some zero-NOx emission unit installations. Through rule implementation, incentive programs, and increased market adoption, staff expects the cost of zero-NOx emission units to decrease over time.

Response to Comment 29-3:

Staff proposed a discounted fee to further incentivize manufacturers to promote their zero-NOx emission appliances. However, based on responses from manufacturers and environmental stakeholders, staff has removed the discounted fee. Any potential savings by the manufacturers would likely not be passed on to the consumers, and manufacturers have not indicated the discounted rate would incentivize further zero-NOx sales. ~~The discounted rate is for a manufacturer that sells zero-NOx emission units above the zero-NOx sales target. The discounted rate and increased mitigation fee on the over the NOx-emitting sales target will hinder the ability of the manufacturers to fully pass those fees onto the customers. Staff does not agree that it will create a loophole that will encourage manufacturers into gaming their year-over-year sales.~~

COMMENT LETTER #30: CHAD CHANTARACHARAT

Jennifer Vinh

From: [redacted]
Sent: Monday, March 17, 2025 11:39 AM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: Chad Chantaracharat

Email: [redacted]

Phone: [redacted]

30-1

Message:
Vote No on electric water heater. Cost of energy is already too high. We've been struggling to make ends meet as it is with inflation.

Response to Comment Letter #30

Response to Comment **30-1:**

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on cost, please refer to Response to General Comment 2.

COMMENT LETTER #31: DAVID KRAMER

Jennifer Vinh

From: [redacted]
Sent: Monday, March 17, 2025 12:02 AM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: David Kramer

Email: [redacted]

Phone: [redacted]

Message: 31-1

Dear Concerned Fellow Citizens and Monitors Of Our Clean Air- I wish to share my objection and personal opinion on the possibility of no longer being able to access Natural Gas as my family's preferred choice for heating our water and providing heat for our home and at our family business. Without choice for the two primary options that are available to us will, I believe, take out of our hands the responsibility that each and every citizen has for providing essential requirements for our personal needs AND protecting the welfare of or shared environment. Please continue to educate all constituents of our general culture and community as to the advantages and disadvantages that both natural gas and electricity provide for the utility of the public. And then allow the educated citizenry and conscious collective Tywill of the people

1

31-1

decide on an individual basis what is the best choice between natural gas and electricity for their heating needs. Taking away choice eliminates trust. And without trust we will be without the freedom that truly binds fellow citizens together and allows for greatest possible outcomes pertaining to environmental integrity and strength of our healthy culture. With sincere respect to you and your mission, David Kramer & Family Chino Hills

Response to Comment Letter #31

Response to Comment **31-1:**

Staff appreciates the comments and agrees that educating consumers on the economic and air quality benefits of different technologies is important. Staff is working to launch the Go Zero incentive program that includes an outreach component to help inform residents of the available incentive program and benefits of transitioning to heat pump technologies.

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on outreach, please refer to Response to General Comment 5.

COMMENT LETTER #32: GARY DUFOUR

Jennifer Vinh

From: [redacted]
Sent: Monday, March 17, 2025 5:36 PM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: Gary Dufour

Email: [redacted]

Phone: [redacted]

Message:
I am vehemently opposed to the proposed rule change as it will impose yet another unnecessary burden on hard working California families. Natural gas IS ac clean and very reliable energy. These impositions from unelected officials are the very reason California is struggling. We will not comply. 32-1

Response to Comment Letter #32

Response to Comment **32-1:**

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the need for the amendment of Rules 1111 and 1121, please refer to Response to General Comment 10.

COMMENT LETTER #33: JAMES FLESHER

Jennifer Vinh

From: [redacted]
Sent: Monday, March 17, 2025 3:11 PM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: James Flesher

Email: [redacted]

Phone: [redacted]

Message:
I am writing to oppose regulations 1111 and 1121. I do not feel the state should have the authority in forcing me the inability to purchase natural gas appliances. I think this is more regulation by the state as we see more and more residents leave CA because of rules like this. 33-1

Response to Comment Letter #33

Response to Comment **33-1:**

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on the need for the amendment of Rules 1111 and 1121, please refer to Response to General Comment 10.

COMMENT LETTER #34: JAMIE ROSS

Jennifer Vinh

From: Jamie R <[redacted]>
Sent: Wednesday, March 12, 2025 8:03 AM
To: Jennifer Vinh
Subject: [EXTERNAL] Opposition to water heater rule

Hello,

34-1

I would like to share my opposition to the proposed rule SCAQMD is considering to eliminate natural gas water heaters. This rule would be very costly to Californians. Most of us cannot afford the conversion should our water heater go out.

I know my Orange County board members are opposed to this.

Thank you,

Jamie Ross
Orange County resident

Response to Comment Letter #34

Response to Comment **34-1:**

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

COMMENT LETTER #35: NORMA BERTAGNA

Jennifer Vinh

From: [redacted]
Sent: Wednesday, March 12, 2025 6:34 AM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: Norma Bertagna

Email: [redacted]

Phone: [redacted]

Message:
I oppose these rule even since they have been modified. I am 89 years old, on a fixed income and cannot afford this. I also detest that you feel empowered to spend my money on something that makes an insignificant impact on pollution. This should be completely optional. Vote no!

35-1

Response to Comment Letter #35

Response to Comment 35-1:

For discussion on cost and affordability, please refer to Response to General Comment 2.

For discussion on the impact of these rules on air quality, please refer to Response to General Comment 10.

COMMENT LETTER #36: CITY OF CANYON LAKE

RESOLUTION NO. 2025-10

36-1

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CANYON LAKE, CALIFORNIA, OPPOSING THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S PROPOSED AMENDED RULES 1111 AND 1121

WHEREAS, the South Coast Air Quality Management District (SCAQMD) has proposed amendments to Rules 1111 and 1121 to require a transition to zero-emission residential furnaces and water heaters in an effort to reduce nitrogen oxide (NOx) emissions; and

WHEREAS, the City recognizes the importance of improving air quality and reducing emissions to meet state and federal environmental goals; and

WHEREAS, the proposed amendments would place significant financial burdens on homeowners, businesses, and local governments due to the high costs of new appliances, infrastructure upgrades, and installation requirements; and

WHEREAS, there are concerns regarding the technological readiness of zero-emission heating appliances, particularly in existing housing stock where retrofitting may be costly or infeasible; and

WHEREAS, the proposed implementation timeline may not allow sufficient time for communities, manufacturers, and contractors to transition effectively, potentially leading to supply chain challenges and increased costs; and

WHEREAS, several cities, councils of governments, and industry stakeholders have expressed opposition to the proposed amendments due to their economic and logistical challenges; and

WHEREAS, the City supports a more measured approach that balances air quality improvements with economic feasibility, technological advancements, and equitable implementation strategies.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF CANYON LAKE DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. The above recitals are true and correct and are incorporated herein by reference.

Section 2. The City Council hereby opposes SCAQMD's Proposed Amended Rules 1111 and 1121 in their current form and urges SCAQMD to consider alternative approaches that minimize negative impacts on local governments, businesses, and residents.

Section 3. That the City Clerk shall certify the adoption of this Resolution and that the same shall be in full force and effect.

Page 1

Section 4. This Resolution shall take effect immediately upon its adoption.

PASSED, APPROVED AND ADOPTED this 12th day of March 2025.

Mark Terry, Mayor

ATTEST:

Sheryl L. Garcia, MMC, CPM
City Clerk

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) SS
CITY OF CANYON LAKE)

I, Sheryl L. Garcia, City Clerk of the City of Canyon Lake, California, do hereby certify, that the foregoing is a true and correct copy of Resolution No. 2025-10, adopted by the City Council at a meeting held on March 12, 2025, by the following vote:

AYES: Castillo, Smith, Steeber, Welty, Terry
NOES: None
ABSTAIN: None
ABSENT: None

Sheryl L. Garcia, MMC, CPM
City Clerk

Response to Comment Letter #36

Response to Comment 36-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on technology readiness, please refer to Response to General Comment 4.

For discussion on outreach, please refer to Response to General Comment 5.

Additionally, staff has met with furnace and water heating manufacturers to discuss the new rule concept to incorporate feedback from manufacturers and to understand how the proposed amended rules may affect the supply chain and consumers. Manufacturers have zero-NOx emission appliances available today and were confident they could supply the market even based on the original rule concept with future effective zero-NOx emission mandates. They have not expressed any concerns meeting the market demand based on the revised rule concept that includes a slower transition to zero-NOx emission appliances.

COMMENT LETTER #37: CLEAN POWER ALLIANCE

March 18, 2025

South Coast Air Quality Management District
Planning, Rule Development, and Implementation
21865 Copley Dr.
Diamond Bar, CA 91765

Re: Clean Power Alliance Comments on SCAQMD Third Preliminary PARs 1111 and 1121 37-1

Clean Power Alliance of Southern California ("CPA") appreciates the opportunity to provide comments on South Coast Air Quality Management District's ("SCAQMD") Third Preliminary Proposed Amended Rules 1111 and 1121 ("PARs"). CPA also appreciates SCAQMD staff's efforts to broaden their public engagement since CPA's submittal of its October 2024 comments. CPA remains supportive of the PARs' approach to reduce nitrogen oxide ("NOx") emissions from natural gas-fired furnaces and water heaters and urges the Board to adopt the PARs. CPA also continues to commend SCAQMD's development of the Go-Zero Rebate Program ("Rebate Program") and its preserved launch timeline despite a delay in the PARs' implementation deadlines. Launching the Go-Zero Rebate Program as initially planned will help customers and the market prepare for and adapt to the PARs.

Background
CPA is California's largest community choice aggregator ("CCA"), serving over three million residents and one million customers across 35 communities in Los Angeles and Ventura counties. CPA is governed by a Board of locally elected officials who represent and serve our communities. CPA has been ranked the number one green power provider in the United States by the National Renewable Energy Laboratory ("NREL") for two years in a row.[1]

CPA helps our customers and communities enhance resilience, conserve energy, reduce harmful greenhouse gas emissions, and save money on their electric bills. We seek to recognize and address the importance of healthy communities, including those disproportionately affected by air pollution and climate change. CPA advances the efforts noted above, in part, through our customer programs. CPA offers programs that provide incentives and benefits for low-income customers and disadvantaged communities that mitigate energy affordability challenges while advancing clean energy solutions.

[1] NREL 2023 Utility Green Power Rankings, 2024, at pp. 3 and 6. Found here: https://www.nrel.gov/analysis/assets/pdfs/green-pricing-top-10-2022-data-plus-archives-28aug2024.pdf

801 S. Grand Ave., Suite 400, Los Angeles, CA 90017
cleanpoweralliance.org

37-1

The PARs and Go-Zero Rebate Program will help equitably improve the air quality, reduce emissions, and mitigate costs associated with the clean energy transition for CPA's customers and the communities we serve.

CPA Supports SCAQMD's Approach in the Third Preliminary PARs 1111 and 1121, the PARs Should be Adopted

CPA understands the potential long-term health, climate, and cost benefits associated with expanding use of zero-emission appliances and electrification in general. The potential benefits of zero-emission appliance standards are magnified in CPA's service territory considering CPA is recognized as the leading green power provider among all utilities in the country.

CPA continues to recommend SCAQMD adopt the PARs.

SCAQMD has Expanded its Education, Engagement, and Outreach Strategies and Practices Since October 2024

In its October 2024 comment letter, CPA recommended SCAQMD expand its current public outreach efforts to a broader stakeholder base before the SCAQMD Board votes to adopt the PARs. Since October, SCAQMD staff have hosted and engaged the public in at least six public meetings or consultations resulting in numerous verbal and email comments and 87 written comments submitted thus far. CPA acknowledges SCAQMD staff have expanded upon their outreach to better seek, receive, and incorporate input throughout the ongoing development of the PARs.

SCAQMD Should Continue its Expanded Education, Engagement, and Outreach Efforts Following the Adoption of the PARs

Assuming the SCAQMD Board adopts the PARs, CPA then recommends SCAQMD continue to identify and engage community partners to develop and execute a thorough education, engagement, and outreach strategy through the compliance deadlines (including the alternative compliance option deadlines of 2036) to improve public awareness of the standards and Go-Zero Rebate Program. CPA suggests SCAQMD continue to collaborate with members of its Environmental Justice Advisory Group and expand those efforts to members of similar groups and committees, such as the California Air Resources Board Environmental Justice Advisory Committee[2] and the Disadvantaged Communities Advisory Group[3] advising California Public Utilities Commission and California Energy Commission actions.

CPA also continues to suggest SCAQMD incorporate efforts to collaborate with local governments, utilities, and local permitting agencies to improve and expedite the implementation of the PARs. The PARs will affect millions of customers across SCAQMD's jurisdiction and SCAQMD's engagement of and coordination with the impacted public should reflect the scope of the PARs' impacts following the adoption of the PARs.

[2] https://ww2.arb.ca.gov/environmental-justice-advisory-committee
[3] https://www.energy.ca.gov/about/campaigns/equity-and-diversity/disadvantaged-communities-advisory-group-dacag

37-1

CPA Continues to Support the Rebate Program
CPA supports the Rebate Program and commends SCAQMD staff for retaining its launch date despite delaying the implementation dates for PARs 1111 and 1121. CPA understands there are challenges with electrification that must be addressed to achieve emissions reduction. Cost impacts associated with electrification, including upfront and capital costs, especially to low-income customers, are of particular concern to CPA. Maintaining the timely launch of the Rebate Program will help advance compliance with the PARs while reducing costs for Rebate Program participants considering SCAQMD already has funding available for the Rebate Program prior to collecting non-compliance fees.[4] Once fees associated with alternative compliance or non-compliance are collected, SCAQMD's Rebate Program will appropriately direct fees collected for non-compliance with the PARs and reinvest those funds in compliant appliance incentives.

Conclusion
CPA appreciates SCAQMD staff's hard work on the PARs and looks forward to continuing to collaborate with staff throughout the remaining development and hopeful implementation processes.

If you have any questions, please contact C.C. Song at [redacted] and Clark McIsaac at [redacted].

Sincerely,

C.C. Song
Senior Director of Regulatory Affairs
Clean Power Alliance of Southern California

[4] SCAQMD Presentation: Proposed Amended Rule 1111 – Reduction Of NOx Emissions From Natural Gas-Fired Furnaces (PAR 1111), Proposed Amended Rule 1121 – Reduction of NOx Emissions From Residential-Type, Natural Gas-Fired Water Heaters (PAR 1121); March 6, 2025; at slide 17.

Response to Comment Letter #37

Response to Comment 37-1:

Staff appreciates the support for the proposed amended rules and Go Zero incentive program. Staff is in frequent contact with the California Air Resources Board, Bay Area Air District, other air quality agencies, local governments, and community groups to gain insight on methods to conduct outreach. Staff will continue to perform outreach after rule adoption, which will be supplemented by outreach conducted through the Go Zero incentive program. For more information regarding outreach, please refer to Response to General Comment 5.

COMMENT LETTER #38: MIKE SELNA

Jennifer Vinh

From: Mike Selna <[redacted]>
Sent: Wednesday, March 19, 2025 10:55 AM
To: Jennifer Vinh
Subject: [EXTERNAL] Support for Amended Rules 1111 and 1121

38-1

I am writing in support of the proposed amendments to Rules 1111 and 1121. I applaud AQMD's work to reduce NOX emissions, thereby reducing new asthma cases, hospital visits and premature deaths. Our air quality has vastly improved because of your historic efforts, but we still have some of the worst air quality in the nation.

We need to reduce NOx emissions by 67% by 2037 in order to avoid Federal sanctions for violation of the Clean Air Act. Those Federal sanctions could include loss of highway funding, a cost opponents ignore. These amendments will help meet the standards.

Many of the arguments in opposition to these amendments are economic hardship issues. I believe the economic impacts of NOT approving the amendments are more significant and far reaching. These amendments not only reduce NOx emissions but also greenhouse gas emissions. The economic impacts of climate change in the form of health maintenance costs, disaster recovery costs, and increased insurance premiums will far outweigh the short-term costs of electrification of residential heating. Owning a home will become even less attainable as insurance costs skyrocket. These economic impacts are not considered by the cities and individuals opposed to these rules.

AQMD has gone a long way to accommodate those who do not wish to comply with these necessary changes in how we heat our homes by allowing natural gas furnaces to be installed when mitigation fees are paid. In some respects, this goes too far and negates some of the benefits of these rules.

In the long run, these rules will save money and reduce emissions that impact our environment and our health.

Thank you for your efforts in providing better living conditions in our region.

Michael Selna, Huntington Beach

Response to Comment Letter #38

Response to Comment 38-1:

Staff appreciates the support.

COMMENT LETTER #39: KENNETH ORTIZ

Jennifer Vinh

From: [redacted]
Sent: Wednesday, March 19, 2025 6:53 AM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: KENNETH ORTIZ

Email: [redacted]

Phone: [redacted]

Message:
I am voicing my opposition to PAR 1111 and 1112, natural gas is clean burning. 39-1

Response to Comment Letter #39

Response to Comment 39-1:

For discussion on the need for rule amendments, please refer to Response to General Comment 10.

COMMENT LETTER #40: LISA BACA

Jennifer Vinh

From: [redacted]
Sent: Tuesday, March 18, 2025 10:11 PM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: Lisa Baca

Email: [redacted]

Phone: [redacted]

40-1

Message:
As the Executive Director of the CA Latino Leadership Institute, I work in the underserved immigrant communitied of Southeast los Angeles, (SELA). The South Coast Air Quality Management District is seeking comments on the proposed rules 1111 and 1121 that would eventually ban the use of natural gas for heating our homes or heating our water. This new policy is not good for low income communities ike SELA. Why I believe it isn't sound policy to implement Rule 1111 and Rule 1121: 1. Natural gas is a lot less expensive than electricity to heat our homes and to heat water. Underserved immigrant communities struggle in this economy to put food on the table and the cost for electric conversion is in the thousands of dollars. 2. The cost for electricity has increased and the demand for electricity in the SELA summer months, which has

1

40-1

a tree canopy for shade and cooling is less than 20%, will also increase for cooling homes, taking showers and cooking. This will also puts a stronger demand on the current overburdened summer electric grid and family budgets. 3. If you are rich, there is no problem converting from gas, but if you are poor or elderly on a fixed income, it is prohibitive to transition and then maintain the cost long term for cooking and hot water. I LOVE Natural gas; it is affordable, convenient, Like the families I would with in SELA, I am able to cook and heat my water living on a fixed income. Please do not make this change from natural gas water heaters. Thank you.

Response to Comment Letter #40

Response to Comment 40-1:

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost and affordability, please refer to Response to General Comment 2.

For discussion on electricity demand and grid sustainability, please refer to Response to General Comment 3.

COMMENT LETTER #41: MARY ANN RAILEY

Jennifer Vinh

From: [redacted]
Sent: Wednesday, March 19, 2025 6:47 AM
To: Jennifer Vinh
Subject: Contact Form

Contact Form

Name: Mary Ann Railey

Email: [redacted]

Phone: [redacted]

Message:
I oppose not having the freedom of choice! 41-1

Response to Comment Letter #41

Response to Comment 41-1:

For discussion on consumer choice, please refer to Response to General Comment 1.

COMMENT LETTER #42: RINNAI AMERICA CORPORATION

Rinnai®

March 20, 2025

Jen Vinh
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765

(Submitted via email at: jvinh@aqmd.gov)

Re: Comments on Proposed Amended Rule 1121 & 1111

Dear Ms. Vinh,

Rinnai America Corporation (Rinnai) appreciates the opportunity to provide comments on the South Coast Air Quality Management District's (SCAQMD) Proposed Amended Rule 1121, Reduction of NOx Emissions from Residential-Type, Natural Gas-Fired Water Heaters (PAR 1121) and Proposed Amended Rule 1111, Reduction of NOx Emissions from Natural-Gas-Fired Furnaces (PAR 1111). As a leading manufacturer of high-efficiency water heating appliances, Rinnai remains committed to supporting emissions reductions while preserving consumer choice and affordability, ensuring technical feasibility, and maintaining market stability.

Rinnai notes that its current product offerings do not fall within the scope of PAR 1111 and PAR 1121, but as an industry stakeholder and manufacturer of water and space heating products, Rinnai has concerns regarding the structure and implementation of the rules and their implications for manufacturers, consumers, regulatory consistency, and compliance with law.

Regulatory Disparities 42-1

Rinnai is concerned that PAR 1121 creates an uneven regulatory framework that disadvantages tankless water heaters in comparison to tank-type water heaters in the Southern California market. Specifically, the proposed amendments include a shift in the deadline for new building compliance from January 1, 2026 to January 1, 2027 for tank water heaters, as well as a phased-in alternative compliance option, providing manufacturers and distributors of these products with additional time and flexibility to adjust to new regulatory requirements. On the other hand, the zero-NOx deadline for Rule 1146.2 remains unchanged, with no phase-in alternative, for tankless gas water heaters as well as boilers and process heaters. Consequently, we are disadvantaged in the Southern California market since our products will be eliminated from the marketplace after January 1, 2026 while products covered by existing Rule 1121 will still be available for installation. These proposed amendments create an unbalanced regulatory landscape that the District needs to reconsider.

Practical Implications 42-2

While a phased-in transition is preferable to an immediate and impractical ban, the current proposal remains problematic for the industry. Even with the alternative compliance pathway, the revised rule still presents substantial logistical and financial burdens for manufacturers, distributors, and consumers. The requirement to retool manufacturing processes, adjust supply chains, and meet phased-in sales

Rinnai America Corporation | 103 International Drive, Peachtree City, GA 30269 | 800-621-9419

42-2

targets will impose compliance burdens (including reporting and labeling mandates) and high costs that will ultimately be passed on to consumers, either partially or in total. The need to modify manufacturing, sales and distribution is exacerbated by ongoing supply chain challenges, manufacturing and distribution infrastructure limitations, and the lack of technical feasibility.

PARS 1111 and 1121 also fail to account for concerns regarding consumer choice, product availability, and market feasibility. The rule drastically reduces consumer choice, particularly in existing buildings where electric alternatives may be impractical due to inadequate electrical infrastructure, increased installation costs, or space constraints. By accelerating a transition to technologies that are not yet viable in all applications, the rules will force consumers into higher-cost and less practical options that could require expensive retrofits.

Additionally, Rinnai has concerns about the rule's cost-effectiveness. Rinnai encourages the District to conduct a comprehensive third-party cost-benefit analysis of the transition from low NOx to zero NOx emissions. A full life-cycle emissions assessment is necessary, as net benefits may be minimal or even negative when considering factors such as emissions from electricity generation, distribution losses, improper installation, cold temperatures, and installation challenges in tight spaces. And on the other hand, the costs imposed on consumers and businesses will be significant, including not only product costs but installation costs that may include electrical upgrades, space reconfiguration, venting modifications, and condensate management.

Furthermore, in light of recent challenges—including tragic and devastating wildfires, rising inflation, and trade tariffs—the District should be especially mindful of the financial burden on constituents. As communities work to recover and rebuild, it is critical to ensure that new regulations do not inadvertently impede much-needed housing and infrastructure development. Instead, the District should prioritize policies that facilitate rapid and cost-effective construction while balancing environmental and public health goals.

EPCA Preemption

42-3

Despite SCAQMD's efforts to adjust its regulatory approach, Rinnai maintains that the current proposal still conflicts with federal law. The Energy Policy and Conservation Act (EPCA), 42 U.S.C. § 6201 *et seq.*, prohibits state and local regulations from setting standards that effectively ban gas appliances because such bans concern the energy use or energy efficiency of those appliances. The zero-NOx standard effectively eliminates gas-fired water heaters and furnaces from the market and forces market shifts toward alternatives. This is precisely the type of regulation that EPCA preempts. Having a phased-in ban, rather than an immediate ban, does not avoid EPCA preemption.

Conclusion and Recommendation

While Rinnai is in some sense neutral because it does not produce these products, it remains concerned that the District's modified approach is still unlawful under EPCA, imposes significant and unwarranted burdens and financial penalties (taxes) on manufacturers, and harms consumer choice and affordability.

We appreciate the District's efforts to develop an alternative approach to Rule 1146.2's zero-NOx rule, which is preempted, for PARS 1111 and 1121. However, the underlying issues regarding legality,

regulatory fairness, compliance feasibility, and consumer impacts need to be resolved before any alternative approach is adopted.

We appreciate the opportunity to provide these comments and remain available for further discussions.

Sincerely,

Marc D. Neufcourt
Director, Regulatory and Government Affairs

Cc: Perry McGuire, Rinnai America Corp., Vice President and General Counsel
Renee Eddy, Rinnai America Corp., Chief Innovation Officer
Sarah Jorgensen, Reichman Jorgensen Lehman & Feldberg

Response to Comment Letter #42

Response to Comment 42-1:

Staff will conduct a technology check-in for Rule 1146.2 and provide an update to the Stationary Source Committee prior to June 2027.

The compliance targets by the proposed ZEM alternative compliance option are not hard targets. Manufacturers may decide the number of sales of NOx-emitting gas units and pay more fees if they sell NOx emitting units above the targets. Both rules had mitigation fee alternative compliance options previously. PAR 1111 and PAR 1121 manufacturers worked with the supply chain to reconcile their sales to the region for the report and mitigation fee. The proposed ZEM alternative compliance option provides flexibility for the implementation and addresses the concern for consumer choice and costs.

For discussion on consumer choice, please refer to Response to General Comment 1.

Response to Comment 42-2:

For discussion on cost, please refer to Response to General Comment 2.

For discussion on cost-effectiveness, please refer to Response to General Comment 6. The project costs used in the calculation are real-world installation costs including needed electrical upgrade costs as explained in Chapter 2.

Response to Comment 42-3:

For discussion on EPCA, please refer to Response to General Comment 9.

COMMENT LETTER #43: AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE (AHRI)

AIR-CONDITIONING, HEATING, & REFRIGERATION INSTITUTE
we make life better®

2311 Wilson Boulevard Suite 400 Arlington VA 22201 USA
Phone 703 524 8800 | Fax 703 562 1942
www.ahrinet.org

March 20, 2025

Ms. Heather Farr
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Ms. Jen Vinh
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

(Submitted electronically via jvinh@aqmd.gov and HFarr@aqmd.gov)

RE: AHRI Comments in Response – South Coast Air Quality Management District (SCAQMD) Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired Furnaces (PAR 1111) and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural-Gas-Fired Water Heaters (PAR 1121)

Dear Ms. Farr and Ms. Vinh:

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) respectfully submits this letter in response to the third preliminary drafts of Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired Furnaces (PAR 1111) and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural-Gas-Fired Water Heaters (PAR 1121) from South Coast Air Quality Management District (SCAQMD or District).

AHRI represents more than 330 manufacturers of heating, ventilation, air conditioning, and refrigeration (HVACR), and water heating equipment. It is an internationally recognized advocate for the HVACR industry and certifies the performance of many of the products manufactured by its members. In North America, the annual economic activity resulting from the HVACR industry is more than $211 billion. In the United States alone, AHRI member companies, along with distributors, contractors, and technicians employ more than 700,000 people.

AHRI and its members are committed to, and support, greenhouse gas (GHG) emission reductions, while promoting sustainable, safe, reliable, and affordable access to the essential air-conditioning and water heating provided by the products they manufacture.

43-1

I. Comments to PAR 1111 and PAR 1121

A. Mitigation Fee Structure

AHRI appreciates the District offering alternative paths for compliance and allowing for consumer choice. However, Table 3, *Zero-Emission Manufacturer (ZEM) Alternative Compliance Option Targets and Mitigation Fee Schedule*, of both PAR 1111 and 1121 introduce burdensome fees to manufacturers, who have no recourse against if consumers chose ultra-low NOx products. Rather

43-1

than the proposed fee schedule, AHRI recommends replacing the current fee structure with a flat fee for each phase of compliance or an escalating annual flat fee over several years rather than over targeted percentages.

Additionally, AHRI requests clarification on how the mitigation fees in Table 3 of PAR 1121 were calculated and how they will be implemented. AHRI's members are concerned that if implemented, the mitigation fees will reduce the affordability of existing ultra-low NOx products in the District.

B. Annual Reporting Requirements and Record Keeping

Both PAR 1111 and PAR 1121 require manufacturers to maintain records of the model number and serial number of each zero-NOx unit, furnace, and water heater sold; the number of units sold; and the contact information of the distributor for at least five years and produce the information upon request. AHRI and its members are concerned about the amount of proprietary information required to be held by manufacturers, specifically serial numbers. In the past, manufacturers have provided shipment data by zip code rather than serial numbers.

AHRI emphasizes that the data that District staff is requiring to be provided is proprietary information of product manufacturers. AHRI strongly urges District staff to add language clarifying that the District will treat such data as Confidential Business Information and will not be share the data with third party entities. Such language would provide assurances to manufacturers that the confidential business information they are being compelled to disclose, specific to their organization, will not be accessible to parties other than the District.

C. Product Labeling

AHRI does not support the requirement for a label on furnaces and water heaters to enforce PAR 1111 and PAR 1121. Manufacturers do not have a way to know where the equipment will ultimately be installed, as our members work through distributors and wholesalers, labeling specific to a state air district is impractical and overly burdensome. SCAQMD maintains a database[1] of equipment with NOx levels and an inspection agency therefore could look up equipment compliance.

AHRI requests clarification on whether the labeling requirements are applicable to all products following the January 2029 effective date.

II. Comments specific to third preliminary draft of Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces (PAR 1111)

A. Furnace Size

AHRI supports the District retaining the less than 175,000 British thermal units (Btu)/ hour scope for furnaces.

B. Acceptable Alternatives

AHRI members are concerned that allowing electric furnaces as an acceptable zero-emission product to replace a furnace could lead to increasing the winter demand on the electric grid and result in large electric bills for customers that would not see those utility costs if using a gas furnace. This could be a substantial issue for low- and moderate-income families. While the District's focus is on air quality, California Energy Commission (CEC) Title 24, Building Standards Code, only allows

[1] http://www.aqmd.gov/home/programs/business/business-detail?title=certified-equipment

43-1

electric resistance heating in a few exceptions. AHRI recommends that this should not be listed as an acceptable alternative, except as allowed by Title 24.

C. Verification Procedures

AHRI members also note there are currently 1,666,000+ matched Air Source Heat Pump (ASHP) sets listed on the AHRI Directory of Certified Product Performance[2]. It would be largely burdensome for manufacturers to list both the ASHP indoor/outdoor matched models and there must be a less obtrusive path to allow for verification.

III. Comments specific to third preliminary draft of Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural-Gas-Fired Water Heaters (PAR 1121)

A. Zero-Emission Limits Compliance Path and Compliance Schedule

For the zero-emissions compliance path in PAR 1121, AHRI supports removing NOx requirements for existing mobile homes, and recommends maintaining Table 2, *Zero-Emissions Limits and Compliance Schedule*. Additionally, AHRI supports the modification of the proposed compliance dates and notes that the dates should not be sooner than proposed in this third draft.

IV. Conclusion

AHRI appreciates the opportunity to submit these comments and welcomes the opportunity for further discussion. If you have any questions regarding this submission, please do not hesitate to contact me.

Sincerely,

Nicole Colantonio

Nicole Colantonio
Director, Regulatory Affairs
Direct: (703) 600-0332
Email: ncolantonio@ahrinet.org

[2] AHRI Directory of Certified Product Performance. https://ahridirectory.org/

Response to Comment Letter #43

Response to Comment 43-1:

Manufacturers have the option to comply with PAR 1111 and PAR 1121 by the ZEM alternative compliance option or compliance schedule for new and existing buildings according to rule paragraph (d)(2). The proposed ZEM alternative compliance option, in lieu of paragraph (d)(2), intends to provide flexibility for the implementation and addresses the concern for consumer choice and costs. The compliance targets by the proposed ZEM alternative compliance option are not hard targets. If consumer demand results in higher sales of NOx-emitting gas units, the manufacturer may supply those units; however, the higher fee will apply. The under the target mitigation fee is proposed as a flat fee; however, the over the target sales is meant to deter the sales of NOx-emitting units.

The mitigation fees were intended to encourage the purchase of zero-NOx emitting units and fund the Go Zero incentive fee. Staff could have proposed much higher mitigation fees, please see the discussion in Response to Comment 29-2.

Both rules had mitigation fee alternative compliance options previously. PAR 1111 and PAR 1121 manufacturers worked with the supply chain to reconcile their sales to the region for the report and mitigation fee. Staff have met with each manufacturer for clarification of the rule language and future implementation and are available for any question from the manufacturers.

Please refer to Response to Comment PC-3 and Response to Comment PC-6 for discussion on sales targets and mitigation fees.

Please refer to Response to Appendix B 45-2 for a discussion on confidential information.

As mentioned earlier, mitigation fee alternative compliance options were implemented previously, and model and serial numbers were included in the report. However, to address stakeholders' concern, PAR 1111 and PAR 1121 will not require reporting unit serial numbers as previously proposed.

Manufacturers using the ZEM alternative compliance option are not subject to any labeling requirement. Instead, they comply with the informative material requirement, which is displaying specified language on consumer brochures, technical specification sheets, and the manufacturer's website. The labeling requirement for new and existing buildings is applicable until January 1, 2029, if manufacturers decide not to use the ZEM alternative compliance option and directly comply with rule paragraph (d)(2).

Any zero-NOx emission unit allowed by PAR 1111 should also comply with other applicable rules and regulations. Staff understands that Title 24 restricts the installation of electric resistance furnaces but they are not completely prohibited. For the cost-effective analysis for PARs 1111 and 1121, staff primarily relied on the costs for heap pumps, which are the primary zero-NOx emission technology considered. South Coast AQMD rules are technology neutral, any unit that meets the zero-NOx emission standard would comply with PARs 1111 and 1121.

Manufacturer reported information under ZEM alterative compliance option provides essential information for their specific sales, this information is not intended for the AHRI certification verification. Staff did agree to reduce the reporting burden by removing the

serial number reporting and only requiring reporting for outdoor units for heat pumps that have an indoor and outdoor component.

Staff appreciates AHRI's support on the modifications of PAR 1121 for the third preliminary draft.

COMMENT LETTER #44: RHEEM MANUFACTURING COMPANY

March 20, 2025

Via Email: pcampbell@aqmd.gov, jvinh@aqmd.gov

Mr. Peter Campbell
Ms. Jennifer Vinh
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765

RE: Proposed Amended Rule 1111 Reduction of NOx Emissions From Natural Gas-Fired Furnaces Proposed and Amended Rule 1121 – Reduction of NOx Emissions From Small Natural Gas-Fired Water Heaters

Dear Mr. Campbell and Ms. Vinh,

Rheem Manufacturing Company (Rheem) appreciates the opportunity to submit the following comments in response to the South Coast Air Quality Management District's (SCAQMD) Third Preliminary Draft Proposed Amended Rule 1111 Reduction of NOx Emissions from Natural Gas-Fired Furnaces and Third Preliminary Draft Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural Gas-Fired Water Heaters.

Rheem is an industry leader in total heating, cooling, refrigeration and water heating solutions and one of the few global brands with product offerings covering residential and commercial heating, cooling, conventional and hybrid storage water heaters (HPWH), tankless water heaters, solar water heating systems, pool and spa heaters, commercial boilers, residential hydronic and geothermal systems, commercial refrigeration products, indoor air quality accessories, and replacement parts for all categories. Rheem is headquartered in Atlanta, Georgia, and has U.S. based manufacturing facilities in Alabama, Arkansas, California, Connecticut, and North Carolina. The company also operates distribution facilities throughout the US, Canada, and many other countries around the world. Rheem manufactures commercial boilers and pool heating equipment at the Raypak facility in Oxnard, CA, which are affected by SCAQMD rules.

Rheem appreciates SCAQMD staff's efforts to update the Rules 1111 and 1121 and specifically to include and consider stakeholder input. Rheem supports the intention to provide consumers, plumbers, and contractors with fuel and equipment choice; recognizing complications with emergency replacements, electrical panel upgrades, added air-flow provisions, and higher equipment and installations costs. However, Rheem would like to express and reiterate our concerns regarding the definitions, the compliance date basis, the inappropriately applied mitigation fee, and the burdensome new labeling and reporting requirements. Rheem also

offers specific improvements and recommendations including a more straightforward mitigation fee approach.

Definitions

44-1

Rheem notes that the definition of "NEW BUILDING" in the second preliminary drafts of Rules 1111 and 1121 had "or any subsequent version of the Building Code." This statement was removed from the NEW BUILDING definition in Rule 1121 but not Rule 1111. Rheem recommends it be added to the definition in Rule 1121.

The newly proposed "ZERO-NOx EMISSION UNIT" definitions include "heating capacity equivalent to [Furnaces or Water Heaters] subjected to this rule." While Rheem understands the intent of the definitions is to apply to units that are a direct replacement for a natural gas-fired unit, the use of "heating capacity" and "equivalent" are troublesome. Heating capacity is typically just input rate multiplied by steady-state efficiency. For water heaters, a typical gas-fired storage water heater can be replaced with an electric resistance or heat pump storage water heater, which both have significantly less "heating capacity" than a gas-fired storage water heater;[1] or an electric instantaneous water heater, which typically has a much higher "heating capacity" than a gas-fired storage water heater.[2] Zero-NOx storage water heaters can replace a gas-fired storage water heaters but have a longer recovery times due to the lower heating capacity. Zero-NOx instantaneous water heaters heat water as it flows through the unit, so require a much larger heating capacity as the time to heat is so short. As neither zero-NOx water heater solution has an equivalent heating capacity to the gas-fired storage water heaters covered by Rule 1121, Rheem requests SCAQMD clarify what technologies and ranges within a technology would constitute a "ZERO-NOx EMISSION UNIT." Rheem notes that if SCAQMD adjusts the mitigation fee approach as described elsewhere in these comments, then the reporting of ZERO-NOx EMISSION UNIT data may not be necessary.

Regarding scope of covered furnaces, Rheem supports SCAQMD retaining the less than 175,000 British thermal units (Btu)/ hour scope for furnaces and not increasing to include larger commercial furnaces at this time.

Requirements

44-2

Rheem supports aligning the existing building water heater compliance date with the gas-fired instantaneous compliance date from Rule 1146.2 of January 1, 2029.

[1] Rheem estimates that the range of heating capacities for gas-fired storage water heaters to be between 20-60 kBtu/h (32 kBtu/h average), electric resistance storage water heaters to be between 10-40 kBtu/h (16 kBtu/h average), 120V heat pump water heaters to be between 5-17 kBtu/h (9 kBtu/h average), and 240V heat pump water heaters to be between 10-38 kBtu/h (21 kBtu/h average). Heating capacity for heat pump water heaters includes heating from the heat pump and electric resistance elements.

[2] Rheem estimates that the range of heating capacities for electric instantaneous water heaters that can replace a gas-fired storage water heater (*i.e.*, residential-duty commercial electric instantaneous water heaters) to be between 36-120 kBtu/h (72 kBtu/h average).

44-2

Rheem recommends that the new building compliance date be based on the permit application date rather than the construction or alteration completion date. Buildings permitted now may not complete construction by January 1, 2027. Rheem expects construction to be slowed somewhat due to the number of homes that will need to be rebuilt following the recent wildfire damage. Rheem recommends amending exemption (h)(2)(C) from Rule 1111 and exemption (h)(C) from Rule 1121 from "Date of Adoption" to "January 1, 2027."

44-3

Alternative Compliance Options

Rheem appreciates SCAQMD providing a compliance pathway that allows for consumer choice. However, Rheem has strong concerns regarding mitigation fee application, structure, and potential effectiveness.

As proposed, the mitigation fee is misapplied. Any fee imposed on the manufacturer, rather than the installer, has a diluted (if any) effect on the adoption of zero-NOx technology. Manufacturers make a variety of models available to the market and fulfill the demand as it is called for by the channel, which is comprised of distributors, wholesalers, dealers, contractors, and installers. A fee imposed per unit sold by the manufacturer does little to alter market demand and has little bearing on the volume of equipment manufacturers supply to fulfill the channel requests. Rheem requests SCAQMD reconsider applying the mitigation fee at the point of sale. This would ensure that furnaces and water heaters sold within the air district are accounted for and that the fee can be directly associated with the choice of product. Further, Rheem recommends working with the local gas utilities to cover the cost of the mitigation fees.

The escalation structure of the mitigation fee is also highly problematic. A critical aspect of any fee or incentive—at all parts of the market channel—is certainty and predictability. Any variable that stands to affect the market value of new equipment must be known in advance. As proposed, the mitigation fee is applied to the manufacturer at the end of year and possesses an uncertainty of between $50 and $500 per unit. Yet the manufacturer must predict this when offering at the first step in the distribution channel, in a way that accurately factors any applicable fees, including any other fees that may be assessed from Rule 306. Further, it should be understood that these fees are passed through the distribution channels and get compounded with each step ultimately impacting the consumer cost. Rheem does not support the proposed mitigation fee escalation if the sales targets are not met. Manufacturers cannot fully predict or force demand, so all mitigation fees are expected to be passed through to the consumer. A more straightforward approach would be to keep the mitigation fee constant for a given period and adjust it every few years to align with the gas-fired phasedown that is desired by SCAQMD. Rheem understands that the SCAQMD already has an accurate estimate of the number of water heaters and furnaces installed in their jurisdiction. SCAQMD can estimate the number of replacements each year as this shouldn't change dramatically year over year. Based on mitigation fees collected, program effectiveness can be gauged, and mitigation fee changes can be assessed. Moving to a single fee removes the need for a manufacturer to submit

44-3

confidential business information, which may inappropriately be used outside of determining compliance with Rules 1111 and 1121. When based on manufacturer reported sales, any public statement on the effectiveness of Rules 1111 and 1121, including the number of units installed or mitigation fees collected, will be problematic and result in public disclosure of confidential business information.

Sections (f)(3)(A) of Rule 1111 and (f)(2)(A) of Rule 1121 address when the "percentage of [Furnaces or Water Heaters] sold is ***greater than*** the [...] Sales Target" and sections (f)(3)(B) and (f)(2)(A) address when the "percentage of Zero-NOx Emission Units sold is ***greater than*** the [...] Sales Target." Rheem requests clarification on what happens with the sales target exactly meets the sales target.

Rheem requests that a sample filled out form 400A be provided as the form appears to not have been developed for purposes related to this application. Rheem also requests a sample fee calculation be provided. Rule 306 has several different fees, including, but not limited to, filing, plan evaluation, and inspection. Given the many units installed within the SCAQMD jurisdiction each year, Rheem expects inspection fees, if assessed, to quickly become greater than the mitigation fee.

Section (f)(2)(E) of Rule 1111 and section (f)(1)(E) of Rule 1121 require a report and mitigation fee pursuant to (g)(2) or (f)(1), respectively, to be paid every year, yet sections (g)(2)(A) and (f)(1)(A) require filing an alternate compliance plan by November 1, 2026. Rheem understands these requirements to mean that a new compliance plan should be submitted each year. If so, Rheem recommends "November 1, 2026" be amended to "no later than November 1 the year prior to the calendar year utilizing this alternative compliance option." Alternatively, if the intent is to require a manufacturer to lock in the compliance option pathway in 2026, then Rheem does not support the requirement. This would essentially require payment of Rule 306 fees in perpetuity even after a manufacturer stops producing NOx emitting units. Rheem notes that section (f)(1)(B) of Rule 1111 appears to allow selection of the compliance option each year for mobile home furnaces.

Section (g)(2)(B) of Rule 1111 and section (f)(1)(B) of Rule 1121 state that "The manufacturer sells, ***or enables*** distributors, retailers, Resellers, or Installers to sell, Zero-NOx Emission Units into or within the South Coast AQMD." Rheem understands this to mean that only manufacturers with electric and gas products can use the alternate compliance option. Rheem does not understand the requirement to mean that a manufacturer must compel the distribution channel to comply. Manufacturers have no ability to force customers to buy a specific product, which has traditionally been the role of government.

Rheem notes that the SCAQMD jurisdiction is not an isolated market and encourages SCAQMD to establish its prohibitions and fees in a way that discourages noncompliance by way of obtaining equipment outside of the district.

44-4

Labeling, Recordkeeping, and Reporting

Rheem recommends that the "and" in section (g)(1)(B)(ii) of Rules 1111 and 1121 be amended to "or." The intent of this section appears to be to provide information to the consumer, not to overexpose them to regulatory language.

Section (g)(1)(C)(ii) of Rules 1111 and 1121 sets a single date for setting mobile home unit label language. After the Table 2 compliance dates, gas-fired mobile home units can only be installed in existing homes. This makes half of the label unnecessary. Rheem recommends removing section (g)(1)(C)(ii) from Rules 1111 and 1121. Similarly, section (g)(4)(B)(ii) of Rule 1111 and section (g)(3)(B)(ii) of Rule 1121 require alternate language be submitted prior to October 1, 2025. Rheem recommends these sections also be removed. Further, there are other jurisdictions establishing zero NOx and zero GHG regulations and are requiring labelling. If we can't update the labeling as needed new regulations go into effect, then compliance with these labeling provisions will be unnecessarily burdensome.

Thank you for the opportunity to provide these comments. If there are any questions, please contact me directly.

Sincerely,

James Phillips
Senior Regulatory Affairs Manager
Rheem Manufacturing Company

cc: Allison Skidd, Joe Boros, Karen Meyers, Matt Lattanzi

Response to Comment Letter #44

Response to Comment 44-1:

Thank you for noting the discrepancy on the new building definition in PAR 1111 and PAR 1121. Staff fixed it in PAR 1121.

Staff understands the concern on the definition for Zero-NOx emission unit and revised it for clarity.

Response to Comment 44-2:

Regarding the exemption provided to new buildings by paragraph (h)(2), staff believes there is sufficient time to incorporate zero-NOx emission appliances in the building plan or modified building plan, by January 1, 2027. Besides, builders have already been implementing zero-NOx emission appliances in new buildings to comply with Title 24 electric ready requirement for new buildings. Staff does not observe a need to further relax this exemption.

PAR 1111 and PAR 1121 is implemented and enforced through the supply chain, not at the consumer level. It is not practical or feasible to require sales reporting and apply mitigation fees for each NOx-emitting appliance sold in our jurisdiction at the point of sale. Applying the reporting requirements and mitigation fees at the manufacturer level has been

the approach used for Rules 1111 and 1121 for decades. Mitigation fee alternative compliance options were previously implemented in both PAR 1111 and PAR 1121, when manufacturers could not comply with the lower emission limit and thus paid a mitigation fee for selling units with higher emissions. This approach is also used for other area source rules, such as Rule 314 that includes sales reporting requirements and applies fees on the architectural coating manufacturers, not at the point of sale.

Response to Comment 44-3:

Please see Response to Comment 43-1 for more on mitigation fees.

Response to Comment 44-4:

Informative material requirement is proposed in place of a potential labeling requirement as a tool of compliance identification in a more effective but less burdensome way. The comment (g)(1)(B) now is in the new definition for informative material for rule streamlining. In existing Rule 1111, informative material includes all three types of material, not just any one of them that is recommended by the commenter. Staff does not suggest changing it.

Staff agrees with the commenter and has removed the rule language for the due date of submitting alternative language. With this change, manufacturers will use the language in the rule unless there is an alternative language approved.

COMMENT LETTER #45: JOHNSON CONTROLS

Johnson Controls
5757 N. Green Bay Ave.,
Milwaukee, WI 53201
Tel (414) 524-1200

March 20, 2025

Ms. Heather Farr
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Ms. Jen Vinh
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

(Submitted electronically via jvinh@aqmd.gov and HFarr@aqmd.gov)

RE: Johnson Controls Comments in Response – South Coast Air Quality Management District (SCAQMD) Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired Furnaces (PAR 1111)

Ms. Farr and Ms. Vinh:

Johnson Controls

With a global team of nearly 100,000 experts in more than 150 countries, Johnson Controls (JCI) offers the world`s largest portfolio of building technology and software as well as service solutions from some of the most trusted names in the industry. We are committed to helping our customers and industries around the world pursue goals for best-in-class environmental targets in carbon and water. Since our inception, our business has been a force for efficiency, resource conservation, decarbonization and water conservation.

Today, the trifecta of low-carbon, energy efficiency, electrification, and digitalization enable us to slash carbon and operating costs. By 2030, we have committed to cut our Scope 1 and 2 absolute emissions by 55% and in FY24 have reached 48% reduction since 2017. Our 2030 Scope 3 target is to reduce product in use emissions by 16% and as of FY24, we reduced

emissions 20% since 2017. These ambitious emissions reduction targets have been approved by the Science Based Targets initiative. We are also committed to achieving Net Zero Scope 1 and 2 emissions and 100% renewable electricity by 2040.

45-1

PAR 1111 Mitigation Fee Structure

JCI appreciates SCAQMD's efforts to balance consumer choice and the need for emissions reductions, however there are implementation concerns with the current proposed revisions. JCI cautions against adding the mitigation fees to ultralow NOx furnaces (e.g., 14 ng/J) as proposed by the alternative compliance option. The proposed mitigation fee structure will result in increased fees which are ill-defined and based on unknowable market conditions. Due to the plan uncertainties, there will be increased fees which the supply chain is likely to pass through to consumers. This result is contrary to the stated objective of reducing impact to low- and middle-income consumers. JCI feels a more definite mitigation fee structure, combined with recently resumed, rebates via the well-established TECH Clean California program[1] with supporting funding from the Inflation Reduction Act provides more than enough incentive for heat pump installations (up to $45 million or $8000 per income qualified households).

45-2

PAR 1111 Record Keeping and Reporting Requirements

As summarized in PAR 1111 manufacturers are required to collect and maintain records of the model number and serial number of each zero-NOx emission unit or ultralow NOx furnace, the number of units sold for each category, and the contact information of the distributor for at least five years and produce the information upon request. JCI believes the amount of confidential business information required is burdensome and, without specific protections by SCAQMD, data is at risk of being shared directly or indirectly with third parties. JCI urges SCAQMD to incorporate protective language that SCAQMD would treat the information as confidential business information and will not be shared by SCAQMD.

45-3

PAR 1111 Dual Fuel Systems

JCI is a strong supporter of Dual Fuel systems which combine the benefits of a heat pump with that of a suitable backup heating source such as ultralow NOx furnace offerings. Dual fuel systems have the benefits of lower source emissions as well as lower operating costs, avoiding the inefficient use of electric resistance backup heat. Further, they often have lower upfront infrastructure costs when replacing an existing furnace. JCI would like to thank SCAQMD for considering these benefits by including proposal guidelines which allow Dual

[1] https://techcleanca.com/about/news/heehra-rebates-resume-in-california/

45-3

Fuel systems. This will hasten the adoption of heat pumps by demonstrating their performance capabilities while avoiding the concerns by many of our customers of the extreme costs and inefficiencies associated with heat pumps with electric resistance back-up heating.

PAR 1111 Further Considerations

45-4

JCI appreciates staff's efforts to find amicable alternatives to achieve emissions reductions while considering the lower and mid-income population via their proposed "alternative compliance plans". However, due to the evolutionary nature of the proposed PAR 1111, the general public workshops failed to fully reach the impacted consumer body or address the PAR 1111 details which invariably cause problems such as how to include mini-split heat pumps without potentially increasing emissions.

The alternative compliance plan approach depends on balancing furnace and heat pump sales if the zero NOx emission unit count is based on number of compressors. For example, residential heat pumps typically have one compressor and, according to PAR 1111, will be counted as one unit. However, it is highly unlikely that only one mini-split heat pump – which tend to have maximum heating capacities of 24,000 Btu/hr. – will replace a typical furnace which can have a capacity of 100,000 Btu/hr. or higher. It is more likely that one furnace would be replaced by as many as four mini-split heat pumps, meaning that the regulated entity could install three additional furnaces elsewhere in the district, thus increasing NOx emissions overall. It is not clear that this outcome advances the environmental objectives of PAR 1111.

Conclusions

45-5

The enduring economic conditions have placed substantial burden on consumers, businesses, and all levels of the HVAC supply chain. Because this burden, combined with the majority of public comments opposing the PAR 1111, we suggest a pause in the rulemaking process to allow further public and business engagement and better assess the cost impact, technical, material and issues which have yet to be addressed by the currently proposed rule.

Due to the limited time for a thorough review of the final proposed rule draft, the proposed alternatives need further discussion with California businesses, manufacturers and SCAQMD staff before being finalized.

Johnson Controls thanks SCAQMD's staff for its work on this rule and expresses its willingness to continue working with staff to find amicable solutions which achieves both emissions reductions and lowers cost to California consumers.

If you have any questions, or would like to discuss this further, please contact us.

Chris M. Forth
VP Regulatory, Codes & Environmental Affairs
Johnson Controls, Inc.
5005 York Drive
Norman OK 73069

David Stephens
Ph.D., P.E., CPEM,
Director - Global Codes & Stds Compliance
Johnson Controls
5005 York Drive
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Cc:

Katie McGinty, Johnson Controls, VP & Chief Sustainability & External Relations Officer
Crystal Klein, Johnson Controls, VP & Ast. GC HVAC/R & Ducted, GP & Reg
James Manser, Johnson Controls, VP Global Government Relations

Response to Comment Letter #45

Response to Comment 45-1:

The proposed ZEM alternative compliance option, in lieu of paragraph (d)(2) for direct compliance of zero-NOx emission standards, intends to provide implementation flexibility and address consumer choice and costs. The compliance targets by the proposed ZEM alternative compliance option are not hard targets. If consumer demand results in higher sales of NOx-emitting gas units, the manufacturer may supply those units; however, the higher fee will apply. The under the target mitigation fee is proposed as a flat fee that increases over time by CPI; however, the over the target sales is meant to deter the sales of NOx-emitting units.

Both rules had mitigation fee alternative compliance options previously. PAR 1111 and PAR 1121 manufacturers worked with the supply chain to reconcile their sales to the region for the report and mitigation fee.

Please refer to Response to Comment PC-3 and Response to Comment PC-6 for discussion on sales targets and mitigation fees.

Response to Comment 45-2:

The new rule concept includes reporting requirements and any information designated by the manufacturer as confidential in the annual report will be kept confidential by the South Coast AQMD. Information submitted to the Executive Officer may be designated as confidential under the provisions of the California Public Records Act (Govt. Code). The designation must be clearly indicated on the reporting form, identifying exactly which information is deemed confidential. The South Coast AQMD's Guidelines for

Implementing the California Public Records Act[(1)], which were adopted by the Governing Board on May 6, 2005, and amended on July 5, 2013, specifically with reference to trade secrets, adequately protect confidential information from misappropriation. The South Coast AQMD will request a justification from the entity claiming confidential information and evaluate the justification, any other information at its disposal, and determine if the justification supports the claim that the material is in fact a trade secret. If the claim of confidentiality is not meritorious or is inadequately supported by the evidence, the South Coast AQMD shall promptly notify, by certified mail and email, the entity who claimed confidential status that the justification is inadequate and that the information will be released after 21 calendar days from the date of such notice unless the person claiming trade secret brings a legal action to preclude such release. Staff understands that sales volume data is considered as business confidential data and is cautious to protect that data. Staff has modified the rule language for the clarity of annual report requirement and included an explanation of this in Chapter 4.

Please refer to Response to Appendix B Comment 43 for more on mitigation fee structure and recordkeeping and reporting requirements.

Response to Comment 45-3:

Dual fuel system has been discussed in this rulemaking process. While some manufacturers supported the dual fuel system, some other manufacturers opposed it as this allowance would undercut the development and commercialization of lower emission technologies. Staff previously proposed to allow dual fuel systems for high-altitude installations for a specified period. When the ZEM alternative compliance option was proposed that allows for both sales of zero-NOx emission and NOx-emitting units, there is no need to have a provision for dual fuel systems. Consumers may choose to install a dual fuel system, which should be considered as a NOx-emitting unit.

Response to Comment 45-4:

At the Public Consultation Meeting, staff included a slide explaining the considerations for sales targets determination at situations multiple units would be needed to replace one NOx-emitting furnace. Staff specifically noted non-ducted units and non-centralized systems such as minisplit heat pumps and electric resistance wall or floor furnaces and was committed to consider mechanisms to address this. The draft PAR 1111 and PAR 1121 released on April 1st include provisions that specify how to count those units in the target.

Response to Comment 45-5:

Please refer to Response to Comment PC-30 regarding the request of pausing rulemaking process for more engagement.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on outreach, please refer to Response to General Comment 5.

(1) https://www.aqmd.gov/docs/default-source/default-document-library/Guidelines/pra-guidelines.pdf

COMMENT LETTER #46: NORITZ AMERICA CORPORATION

NORITZ America Corporation

March 20, 2025

Jen Vinh
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765

(Submitted via email at: jvinh@aqmd.gov)

Re: Comments on Proposed Amended Rule 1121 & 1111

Dear Ms. Vinh,

Noritz America Corporation (Noritz) appreciates the opportunity to provide comments on the South Coast Air Quality Management District's (SCAQMD) Proposed Amended Rule 1121, Reduction of NOx Emissions from Residential-Type, Natural Gas-Fired Water Heaters (PAR 1121) and Proposed Amended Rule 1111, Reduction of NOx Emissions from Natural-Gas-Fired Furnaces (PAR 1111). As a leading manufacturer of high-efficiency water heating appliances, Noritz remains committed to supporting emissions reductions while preserving consumer choice and affordability, ensuring technical feasibility, and maintaining market stability. Noritz is headquartered within the District's jurisdiction in Fountain Valley, CA

Noritz does not offer products for sale that are under the scope of either PAR 1111 and PAR 1121, but as an industry stakeholder and manufacturer of water and space heating products, Noritz has concerns regarding the structure and implementation of the rule and its implications for manufacturers and regulatory consistency.

Regulatory Disparities 46-1

Noritz is concerned that PAR 1121 creates an uneven regulatory framework within the District which will have severe impacts on the entire product chain from manufacturers like ourself, to distributors, and ultimately consumers. In particular, the proposed amendments include a shift in the deadline for new building compliance from January 1, 2026 to January 1, 2027 and a phased-in alternate compliance option. This provides manufacturers and distributors of these products additional time and flexibility to adjust to the new requirements. This is contrasted against the 1146.2 rulemaking, for which the majority of Noritz product offering is covered, is unchanged, with no phase-in alternate compliance option and an implementation date set for January 1, 2026. This means that for at least 1-year, products like Noritz water heaters will be eliminated from the marketplace while products covered by Rule 1121 will still be available for installation. These proposed amendments create an unbalanced regulatory landscape that the District needs to reconsider. This can be further exacerbated by new building construction particularly those covered under Climate Zone 13, 14 which permit gas instantaneous water heating products under 2022 Title 24, Part 6, while they may not physically be available in the region.

EPCA Preemption 46-2

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11160 Grace Ave, Fountain Valley CA 92708, USA
Toll Free: (866) 7NORITZ (866-766-7489) Fax: (714) 241-1514
Website: www.noritz.com

46-2

Despite SCAQMD's efforts to adjust its regulatory approach, Noritz maintains that the current proposal still conflicts with federal law. The Energy Policy and Conservation Act (EPCA), 42 U.S.C. § 6201 et seq., prohibits state and local regulations from setting standards that effectively ban gas appliances because such bans concern the energy use or energy efficiency of those appliances. The zero-NOx standard effectively eliminates gas-fired water heaters and furnaces from the market and forces market shifts toward alternatives. This is precisely the type of regulation that EPCA preempts. Having a phased-in ban, rather than an immediate ban, does not avoid EPCA preemption.

We appreciate the opportunity to provide these comments and remain available for further discussions.

Sincerely,

Randy Oshiro
Engineering Manager

Response to Comment Letter #46

Response to Comment 46-1:

Please refer to Response to Comment 42-1.

Response to Comment 46-2:

Please refer to Response to Comment 42-3.

COMMENT LETTER #47: JOHN CARSER

Proposed Rules 1111 and 1121

Dear South Coast AQMD:

47-1

I am writing to support the proposed amendments to Rules 111 and 1121. I applaud AQMD's work to reduce NOX emissions, thereby reducing new asthma cases, hospital visits and premature deaths. Our air quality has vastly improved because of your historic efforts, but we still have some of the worst air quality in the nation.

In the long run, these rules will save money and reduce emissions that impact our environment and our health.

I appreciate all your efforts in providing better living conditions in our region.

Sincerely,

John Carser

Response to Comment Letter #47

Response to Comment 47-1:

Staff appreciates the support.

COMMENT LETTER #48: DAVID PRICE

Marissa Poon

From: Emily Yen
Sent: Thursday, March 27, 2025 9:01 AM
To: [redacted]
Subject: FW: [EXTERNAL] My public comment regarding proposed SCAQMD Rule 1111 (Gas furnaces) and Rule 1121 (gas water heaters) to require failed gas furnaces and water heaters to be replaced by electric versions

From: David Price <[redacted]>
Sent: Thursday, March 13, 2025 9:35 AM
To: Emily Yen <eyen@aqmd.gov>; Peter Campbell <pcampbell@aqmd.gov>
Subject: [EXTERNAL] My public comment regarding proposed SCAQMD Rule 1111 (Gas furnaces) and Rule 1121 (gas water heaters) to require failed gas furnaces and water heaters to be replaced by electric versions

Dear Emily Yen and Peter Campbell of the SCAQMD,

48-1

As I understand it, the South Coast Air Quality Management District (SCAQMD) Governing Board is soliciting public comment regarding proposed Rule 1111 (Gas furnaces) and Rule 1121 (gas water heaters) to require failed gas furnaces and water heaters to be replaced by electric versions.

I own the condo I live in in Pasadena, CA. Our condo complex consists of clusters of four condo Units with each four-Unit cluster served by a 400 amp meter box---and thus each condo is limited to a 100 amp sub panel. I have met with an official of Pasadena Water & Power to ascertain the feasibility of increasing my sub panel's capacity and from that meeting it became obvious that such an increase would require our HOA community to engage in a clearly cost-prohibitive, life-disruptive major project. Licensed electricians with whom I've spoken say that even with possibly greater-efficiency electric appliances it is unfeasible to operate an all-electric household using only the 100 amp sub panel that we have (HVAC, water heater, oven/stove, dishwasher, other kitchen appliances, clothes washer/dryer, lighting, other electrical/electronic devices such as TV, computer, modems, personal care appliances, etc.). Trying to add an EV charger to such a fantasy all-electric household here would be a folly upon a folly. And this amp-capacity limitation does not even address the prospect of skyrocketing rates of electricity charges.

I sure that our condo complex is not alone in this amp-capacity practical limitation, and I cannot imagine that any amount of electricity/physical plant "cost shifting" can be workable for California, particularly with our looming deficits, and if such envisioned policies cause an additional critical mass of taxpayers to exit the state.

1

48-1

And even further, has anyone considered the undue added mental stress such unworkable proposals would add to the lives of the millions of people affected by proposed Rules 1111 and 1121?

Not being an "expert", I'm sure I've left out a number of other significant drawbacks to these proposed rules. Please contact me if I may be of other input.

Sincerely,

David Price

Pasadena, CA

Response to Comment Letter #48:

Response to Comment 48-1:

For discussion on the electric grid and electricity demand, please refer to Response to General Comment 3. For a discussion on the electrical and amperage demand the space and water heating appliances require, please see the electrical service upgrade discussion in Chapter 2 and Response to Appendix C Comment 10-3.

APPENDIX C:

RESPONSE TO COMMENTS RECEIVED AFTER PUBLIC WORKSHOP (ORIGINAL RULE CONCEPT)

Comments Received from October 3, 2024 to February 7, 2025

PUBLIC WORKSHOP

Staff held the Public Workshop on October 3, 2024, to provide a summary of preliminary PAR 1111 and PAR 1121 based on the original rule concept. This appendix includes 16 comments expressed verbally at the Public Workshop and 108 comment letters received in the period of October 3, 2024, to February 7, 2025, as summarized in the table below. Staff response is provided for each comment. For comments received after February 7, 2025, on the new rule concept and staff responses, please see Appendix B.

Table Appendix C-1: Comments Letters Received from October 3, 2024, to February 7, 2025

Comment Letter	Commentor Name	Representing	Date Received
1	Fran Inman, David Fleming, Tracy Hernandez, David Englin	BizFed	10/3/2024
2	Kory Griggs	Indoor Weather Inc.	10/4/2024
3	Allen Mairs	Self	10/10/2024
4	Marc D. Neufcourt	Rinnai America Corporation	10/11/2024
5	Charles Miller, David Diaz MPH, Claire Robinson, Tomas Castro, Lisa Swanson, Christopher Chavez, Christy Zamani, Fernando Gaytan, Jorge Rivera, Margo A. Reeg, Tori Kjer, Charlotte Matthews, Sharon Ungersma, Kim Orbe, Sam Fishman, Anne Pernick, Stuart Wood PhD, Ben Stapleton	Los Angeles Climate Reality Project, Active San Gabriel Valley, Amigos de los Rios, Climate Action Campaign, Climate Reality Project Orange County Chapter, Coalition for Clean Air, Day One, Earthjustice, Healing and Justice Center, League of Women Voters of Los Angeles County, Los Angeles Neighborhood Land Trust, RMI, San Fernando Valley Climate Reality Project, Sierra Club Angeles Chapter, SPUR, Stand.earth, Sustainable Claremont, USGBC California	10/11/2024
6	Ann Stalwick, Chana Nevo	Self	10/14/2024
7	Steve Pearson	DAUM Commercial Real Estate Services	10/15/2024
8	Dennis L. Sandoval	DAUM Commercial Real Estate Services	10/15/2024
9	Elizabeth Elliott	Self	10/14/2024
10	Gregory Rice	Self	10/14/2024
11	Bob Helbing	Air-Tro Heating & Air Conditioning	10/14/2024
12	Bernard Cane	Self	10/15/2024
13	Raquel J. Comstock	Self	10/15/2024
14	Turner White	DAUM Commercial Real Estate Services	10/15/2024
15	Josh Leite	ECM Management LLC	10/15/2024
16	Heather Collins	Self	10/15/2024
17	Nancy Hoskins	Self	10/15/2024
18	C.C. Song	Clean Power Alliance of Southern California	10/16/2024

Comment Letter	Commentor Name	Representing	Date Received
19	Paul Granillo	Inland Empire Economic Partnership	10/16/2024
20	Jeffrey Ball	Orange County Business Council (OCBC)	10/16/2024
21	Rosalie Barcinas	Southern California Edison	10/16/2024
22	David L. Nearing	Self	10/16/2024
23	Kory Griggs*	Indoor Weather Inc.	10/17/2024
24	Jeanine Just	Self	10/17/2024
25	Fran Inman, David Fleming, Tracy Hernandez, David Englin	BizFed	10/17/2024
26	Ken Belding	Empire Comfort Systems	10/17/2024
27	Nicole Colantonio	Air-Conditioning, Heating, & Refrigeration Institute	10/17/2024
28	Luis Portillo	San Gabriel Valley Economic Partnership	10/17/2024
29	Jason Thomas	Carrier	10/17/2024
30	Alise L.H. Davis	Self	10/17/2024
31	Matthew Doss	Cypress Land Company	10/17/2024
32	Timothy Jemal	NAIOP SoCal	10/17/2024
33	James Phillips	Rheem Manufacturing Company	10/17/2024
34	Kim Hornburg	Self	10/17/2024
35	Bradford White Corporation (BWC)	Bradford White Corporation (BWC)	10/17/2024
36	Cliff Hamlow	Self	10/17/2024
37	Kevin Barker	Southern California Gas Company (SoCalGas)	10/17/2024
38	Chris Jackson	NAI Capital Commercial	10/29/2024
39	Courtney Wing	Newcastle Partners	10/29/2024
40	Robert S. Glass	Daikin Comfort Technologies Manufacturing, L.P.	10/31/2024
41	Fran Inman, David Fleming, Tracy Hernandez, David Englin	BizFed	10/31/2024
42	Elle C. Chen	Asian Pacific Environmental Network (APEN)	12/4/2024
43	Robina Suwol	California Safe Schools	12/6/2024
44	Jane Williams	California Communities Against Toxics	12/10/2024
45	Dr. Genghmun Eng	Self	12/10/2024
46	Cheryl Auger	Ban SUP (Single Use Plastic_	12/10/2024
47	Stephanie Pincetl	Self	12/11/2024
48	Laurene von Klan, Kent Strumpell	Climate Action Santa Monica	12/11/2024
49	Michelle Kim	Shared Streets	12/11/2024

Comment Letter	Commentor Name	Representing	Date Received
50	Paul Little	The Board of Directors of the Pasadena Chamber of Commerce and Civic Association	12/12/2024
51	David Diaz, MPH	ActiveSGV	12/13/2024
52	Will Barrett	American Lung Association	12/12/2024
53	Evan Gillespie	Industrious Labs	12/12/2024
54	Charles Miller, Lisa Swanson, Sharon Ungersma	Los Angeles Climate Reality Project, Climate Reality Project Orange County Chapter, San Fernando Valley Climate Reality Project	12/13/2024
55	Chris Chavez	Coalition for Clean Air	12/11/2024
56	Sean Armstrong	Redwood Energy	12/11/2024
57	Marc Carrel	Breathe Southern California	12/11/2024
58	Gracyna Mohabir	California Environmental Voters	12/12/2024
59	Cristhian Tapia-Delgado	Pacific Environment	12/12/2024
60	Eli Lipmen	Move LA	12/13/2024
61	Kim Orbe	Sierra Club	12/13/2024
62	David Levitus, Ph.D.	LA Forward Institute	12/12/2024
63	Christy Zamani	Day One	12/13/2024
64	Fernando Gaytan	Earthjustice	12/13/2024
65	Patricia Pipkin	Self	12/13/2024
66	Stuart Wood Ph.D.	Sustainable Claremont	12/13/2024
67	Tori Kjer	Los Angeles Neighborhood Land Trust	12/13/2024
68	Jasmin Vargas	Jobs to Move America	12/13/2024
69	Julia May	Communities for a Better Environment (CBE)	12/13/2024
70	David Martinez	Climate Action Campaign	12/13/2024
71	Marven E. Norman, MPA	Center for Community Action and Environmental Justice (CCAEJ)	12/13/2024
72	Elise Kalfayan	Glendale Environmental Coalition	12/12/2024
73	Margo A. Reeg	League of Women Voters of Los Angeles County	12/13/2024
74	Theral Golden	West Long Beach Association	12/13/2024
75	Cynthia Babich	Del Amo Action Committee	12/13/2024
76	Elizabeth Reid-Wainscoat	Center for Biological Diversity	12/13/2024
77	Jorge Rivera	Healing and Justice Center	12/13/2024
78	Catalina Gonzalez	Center for Progressive Reform	12/13/2024
79	Brian Tisdale	City of Lake Elsinore	12/13/2024
80	Jeffrey Ball	Orange County Business Council	12/18/2024
81	Henry Rogers	Harbor Association of Industry and Commerce	12/18/2024
82	Henry Rogers	Harbor Association of Industry and Commerce	12/18/2024

Comment Letter	Commentor Name	Representing	Date Received
83	Tim Hepburn	City of La Verne	12/18/2024
84	Fernando Gaytan, David Diaz, Jane Williams, Robina Suwol, Christopher Chavez, Elizabeth Reid-Wainscoat, Ana Gonzalez, Lisa Swanson, Laura Garcia-Santiago, Charles Miller, Eli Lipmen, Hilary Firestone, Cristhian Tapia-Delago, Sharon Ungersma, Kimberly Orbe, Anne Pernick, Sam Fishman, Ben Stapleton	Earthjustice, Active San Gabriel Valley, California Communities Against Toxics, California Safe Schools, Coalition for Clean Air, Center for Biological Diversity, Center for Community Action & Environmental Justice, Climate Reality Project Orange County Chapter, Communities for a Better Environment, Los Angeles Climate Reality Project, MoveLA, Natural Resources Defense Council, Pacific Environment, San Fernando Valley Climate Reality Project, Sierra Club, Stand.earth, SPUR, USGBC California	12/18/2024
85	Kimberly Caceres	South Bay Association of Chambers of Commerce	12/18/2024
86	Mendell L. Thompson	City of Glendora	12/18/2024
87	Jeremy Harris	Long Beach Area Chamber of Commerce	12/19/2024
88	Kyle Bergeron	A.O. Smith Corporation	12/19/2024
89	Evan Trubee	Self	12/19/2024
90	Karen Hawley	Self	12/19/2024
91	Arlene Wohlgemuth	Self	12/19/2024
92	Victor Reyes-Morelos	Valley Industry & Commerce Association	12/20/2024
93	Barbara Rohlf	Self	12/29/2024
94	Mel Foley	Self	1/2/2025
95	Arnold Gregg	Self	1/2/2025
96	Rae Aaselund	League of Women Voters of Pasadena	1/7/2025
97	Nicole Reynolds, Jim Reynolds	Self	1/15/2025
98	Ray Marquez	San Bernardino Council of Governments	1/24/2025
99	Art Bennett, Brian Johsz, Ray Marquez, Peter Rogers	City of Chino Hills	1/31/2025
100	Mona Clark	Self	1/4/2025
101	Tom Quast	Self	1/4/2025
102	Edwin Gow	Self	1/9/2025
103	Frank J. Navarro	City of Colton	1/16/2025
104	Dave Mock	Self	1/25/2025
105	Joanne Genis	Self	2/1/2025
106	Vamsi Kotla	ReMo Homes	2/6/2025
107	Tim Hepburn	City of La Verne	2/6/2025

Comment Letter	Commentor Name	Representing	Date Received
108	Alexandria Helmer	Self	2/10/2025

Comment PW-1: Kory Griggs (Indoor Weather)

The majority of the 13 percent of homes in the South Coast AQMD that have furnaces without AC are homes located in colder climates which have high cost-effectiveness.

Using rental equipment allowed by alternative compliance options for situations such as emergency replacements due to a sudden unit failure may pose a financial burden to the owners and operators. The costs of installing the short-term replacement with rental equipment may include the costs of permits, installation, and removal of the natural gas-fired unit. Enforcement for removal of rental water heaters will not be effective.

Response to Comment PW-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. By this new rule concept, consumers may opt for gas units if installing zero-NOx emission units would be challenging for emergency replacements. Short-term replacement with rental equipment is no longer needed and thus removed from the proposed amended rules.

For consumers who choose a zero-NOx emission unit, staff acknowledges the higher incremental costs when replacing only a furnace without simultaneous replacement of a cooling system, and cooling systems are less common in high-altitude areas. Staff has revised the rule proposal, and more information on high altitudes can be found in Response to General Comment 8.

Comment PW-2: Michael Corbett (Bradford White)

Recommend funding and developing a program to provide temporary rental water heaters to offset the costs of installation and removal of rental units.

Recommend clarifying that the information required for the annual report is to be kept confidential.

Response to Comment PW-2:

Staff has revised the rule proposal which no longer includes the provision for temporary rentals. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes a manufacturer alternative compliance option for zero-NOx emission sales targets, allowing for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

With the new rule concept, the revised PAR 1111 and PAR 1121 have removed previously proposed alternative compliance options and the associated annual report requirement. The new rule concept includes reporting requirements and any information designated by the manufacturer as confidential in the annual report will be kept confidential by the South Coast AQMD. Information submitted to the Executive Officer may be designated as confidential under the provisions of the California Public Records Act. The designation must be clearly indicated on the reporting form, identifying exactly which information is deemed confidential. The South Coast AQMD's Guidelines for Implementing the California Public Records Act[(1)], which were adopted by the Governing Board on May 6, 2005, and amended on July 5, 2013, specifically with reference to trade secrets, adequately

[(1)] https://www.aqmd.gov/docs/default-source/default-document-library/Guidelines/pra-guidelines.pdf

protect confidential information from misappropriation. The South Coast AQMD will request a justification from the entity claiming confidential information and evaluate the justification, any other information at its disposal, and determine if the justification supports the claim that the material is in fact trade secret. If the claim of confidentiality is not meritorious or is inadequately supported by the evidence, the South Coast AQMD shall promptly notify, by certified mail and email, the entity who claimed confidential status that the justification is inadequate and that the information will be released after 21 calendar days from the date of such notice unless the person claiming trade secret brings a legal action to preclude such release. Staff understands that sales volume data is considered as business confidential data and is cautious to protect that data. Staff has modified the rule language for the clarity of annual report requirement and included an explanation of this in Chapter 4.

Comment PW-3: Jessi Davis (SoCal Gas)

Recommend holding another meeting detailing the methodology for the cost-effectiveness analysis to understand the direct costs absorbed by owners and operators. Clarify if the technology check-in would be only for space heating since the proposed compliance date for PAR 1121 is January 1, 2027, and the proposed technology check-in is after the compliance date on June 1, 2027.

Response to Comment PW-3:

The major components of the cost-effectiveness analysis included capital costs, emission reductions, discount rate, and equipment useful life. Staff's explanation for the cost-effectiveness analysis can be found in Chapter 2 of this staff report and Response to General Comment 6. Staff discussed the cost-effectiveness analysis in previous working group meetings and is available to provide more explanation at individual meetings with stakeholders.

Staff will provide updates/technology check-in to the Stationary Source Committee prior to major milestones in the rules, per Stationary Source Committee direction. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Manufacturers that opt to enroll in this alternative compliance option will submit a plan no later than November 1, 2026. The proposed technology check-in will incorporate the manufacturer enrollment information.

Comment PW-4: Bob Helbing (Air-Tro)

Reduction of 10 tons of NOx per day would not significantly affect overall NOx emissions, which is a total of 400 tons per day.

Response to Comment PW-4:

The 2022 Air Quality Management Plan emissions inventory lists the total 2018 NOx emissions from stationary and area sources as 60 tpd, whereas the mobile source emissions is 306 tpd. The South Coast AQMD does not regulate mobile sources, therefore, it is only proper to compare the NOx levels to emissions of other sources under our regulatory authority. The proposed amended rules, by the new rule concept, would effectively reduce the stationary and area source emissions by 10.2 percent. Staff recognizes the need to

pursue emission reduction by PAR 1111 and PAR 1121 to address the air quality needs of the South Coast AQMD.

Comment PW-5: Mihran Roumaja (NAIOP Commercial Real Estate Development Association)

Encourage all costs for economic impact analysis to be considered.

The proposed rules assume electric utility providers would be able to provide sufficient electrical supply and there are concerns that the current electrical system does not have the capacity to meet the additional demand due to the rules.

Response to Comment PW-5:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

In addition to the cost-effectiveness analysis detailed in Chapter 2, staff has prepared a Draft Socioeconomic Impact Assessment that will be made available 30 days prior to the Public Hearing. Please find more information on the cost-effectiveness analysis in Response to General Comment 6.

Staff recognizes the importance of electric grid reliability not only for zero-emission technologies, but also natural gas technology, which often require electricity to operate. Please find more information on the electric grid in Response to General Comment 3.

Comment PW-6: Audry Egger (Inland Empire Economic Partnership (IEEP))

Concerns about PAR 1121 with increased costs to residents and small businesses due to the rule and requesting more clarity on the economic feasibility.

Response Comment PW-6:

The new rule concept provides further flexibility for consumers. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. The new rule concept also revised the proposed applicability and will not expand to large size spacing heating units. PAR 1111 and PAR 1121 will be less likely to impact small businesses.

Regarding the previous rule concept, prior to the new rule concept, staff acknowledges the higher upfront cost in many zero-emission installations. However, the lower annual operational costs are anticipated based on the fuel price estimates based on a combination of CEC's 2023 Integrated Energy Policy Report and Energy Information Administration national level forecasts. The socioeconomic analysis estimates the overall unit lifetime savings because the lower operational costs would offset the higher upfront costs.

Federal, state, and local incentives could offset some upfront costs for zero-emission appliances. South Coast AQMD is expecting to launch the Go Zero incentive program in 2025 and to allocate 75 percent of its funding for overburdened communities identified by CalEnviroScreen, which will help target the communities that would need additional financial assistance. Moreover, the Go Zero incentive program is allocating funds for single family homes, multifamily homes, and small businesses.

Comment PW-7: Xico Manarolla (Clean Power Alliance (CPA))

Consumers should be educated about PAR 1111 and PAR 1121 and their potential impacts. Clean Power Alliance urges staff to coordinate with community partners. Staff should ensure that sufficient funding is provided to disadvantaged communities. Recommend permitting to be streamlined.

Response to Comment PW-7:

PAR 1111 and PAR 1121 were developed through a public process that began in the last quarter of 2023. Staff has enhanced public outreach for the rule development based on similar comments received. For further discussion on outreach, please see Response to General Comment 5.

By the new rule concept, manufacturers enrolled in the new manufacturer alternative compliance option will pay mitigation fee for selling gas units which could be a revenue stream for Go Zero incentive program. This incentive program will continue to have a focus on overburdened communities.

Comment PW-8: Victor Reyes (Valley Industry and Commerce Association (VICA))

The electrical upgrades required for PAR 1111 and PAR 1121 will place an excessive financial strain on commercial and multifamily property owners, which can reduce the number of affordable housing units. Utility costs underestimated in cost-effectiveness analysis. Requests to delay PAR 1111 and PAR 1121.

Response to Comment PW-8:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. The new rule concept also revised the proposed applicability and will not expand to large size space heating units. PAR 1111 and PAR 1121 will be applicable to small size units typical for residential use. It is the consumers' individual choices if they install small size units in commercial and multifamily properties.

Staff gathered cost data for various types of furnaces and water heaters for the cost-effective analysis described in Chapter 2 of this report. The required electrical upgrades are considered in the costs to retrofit a zero-emission appliance. Further, Chapter 2 provides discussion on new and emerging technologies that are less likely to require a panel upgrade. Some examples are 120V plug-in heat pump water heaters, portable heat pumps for space heating/cooling, and multi-function heat pumps for water heating and space heating/cooling. For further discussion on cost, please see Response to General Comment 2.

If consumers elect to install zero-NOx emission units in commercial and multifamily properties, such properties that already rely on AC for cooling are not anticipated to need electrical upgrades. If the electrical system can supply sufficient power to operate an AC, it can also support a heat pump system that both cools and heats. The addition of zero-emission water heater will add to the demand; however, 120v units are available, designed for building retrofits, and can be plugged into a standard outlet.

On the other hand, many installations in commercial and multifamily properties are subject to Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters, Small Boilers and Process Heaters which was adopted in June 2024 for zero-emission standards. Please refer to the Rule 1146.2 Public Hearing documents which include the staff report and socioeconomic impact assessment which contains an analysis related to costs. [(2)]

Staff understands the costs associated with retrofitting zero-emission appliances and anticipates that the adoption of the amended rules will send a market signal to manufacturers, which will, in turn, drive overall costs down. Additionally, federal, state, and local incentives, including the upcoming South Coast AQMD Go Zero incentive program, will help alleviate the financial burden. Staff recognizes the need to pursue emission reductions with an earlier timeframe to address the air quality needs of the South Coast AQMD and does not suggest a further delay of the public hearing. Staff is committed to monitoring the rule implementation after rule adoption, providing periodic updates, and conducting technology check-in(s).

Comment PW-9: Peter Whittingham (LA BizFed)

Promotion of shared circuit 120V heat pump water heaters and PAR 1121 proposed compliance date for existing buildings for January 1, 2027, are of concern. BizFed plans to send independent study results on 120V heat pump water heaters. Independent study states that 120V shared circuit heat pump water heaters and 240V heat pump water heaters lack the reheating capabilities of a natural gas-fired water heater. Compliance dates should align with electric vehicle fleets, which is 2035.

Response to Comment PW-9:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff understands that the first hour rating and recovery time of a shared circuit 120V heat pump water heater is different from its natural gas-fired counterpart with the same tank volume. Oftentimes, heat pump water heater manufacturers recommend sizing up the tank volume to match the first hour rating of the current natural gas-fired water heater. Since several heat pump water heater manufacturers have different installation requirements, staff recommends consulting the manufacturer's recommendations.

South Coast AQMD establishes BARCT limits based on technical feasibility and cost effectiveness. Zero-emission technologies are available and in operation today. The future effective dates would allow time for the transition and help mitigate the cost impact. The rule will apply upon appliance replacement; therefore, the emission reductions will occur gradually. Staff recognized that cost-effectiveness of some categories by the original rule concept are over the 2022 AQMP screening threshold. The new manufacturer alternative compliance option allowing NOx-emitting units satisfies the direction set forth by 2022 AQMP addressing higher cost-effectiveness categories for zero-NOx emission standards.

These emission reductions are critical to comply with National Ambient Air Quality Standards. Further, because the South Coast AQMD is designated as an "extreme"

[(2)] http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2024/2024-Jun7-026.pdf

nonattainment area for ozone, our rules cannot be less stringent than another air district's rule, unless they are infeasible. . BAAD has compliance dates for space heating in 2029 and for water heaters starting in 2027. CARB is also in the rule development for zero-emission space and water heaters, proposing a similar implementation timeline.

Comment PW-10: Ken Belding (Empire Comfort Systems)

Gas heating products are essential for backup heating for those that have a furnace without AC. Recommend exempting high altitude homes that have a furnace and no AC.

Response to Comment PW-10:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Please see Response to General Comment 8 for further discussion on high altitudes. Staff will re-assess the technologies and costs though a technology check-in and provide updates to the Stationary Source Committee.

Comment PW-11: Jed Holtzman (RMI)

Heat pump technology has evolved and cold climate heat pump technology is currently utilized in cold climates successfully. Gas-fired residential appliances emit more than gas fired by gas power plants. Alternative compliance option for 24-month rental unit extends compliance date.

Response to Comment PW-11:

Staff agrees with the insight on heat pump technology. Heat pump technology that operates in cold climates can be found through the Northeast Efficiency Partnerships website[(3)], where they list heat pumps that can operate down to negative 25 degrees Fahrenheit.

Staff has revised the rule proposal which no longer includes the provision for temporary rentals. The new rule concept for PAR 1111 and PAR 1121 provide flexibility for compliance by including a manufacturer alternative compliance option with compliance targets for zero-NOx emission sales.

Comment PW-12: Wes Reutimann (Active San Gabriel Valley)

Support of staff's efforts in the rulemaking process and urge staff to amend rule in a timely manner.

Response to Comment PW-12:

Staff appreciates the support. Staff recognizes the need to pursue emission reductions to address the air quality needs of the South Coast AQMD.

Comment PW-13: Melissa Yu (Sierra Club)

Appreciate staff for the incorporating input from the public and proposing solutions for different circumstances. Amending both rules would send a strong market signal to zero emission furnace and water heater manufacturers and suppliers.

[(3)] https://neep.org/heating-electrification/ccashp-specification-product-list

Response to Comment PW-13:

Staff appreciates working with stakeholders during the rulemaking process and believes amending PAR 1111 and PAR 1121 could prompt manufacturers to innovate heat pump technologies and drive overall costs down.

Comment PW-14: Robert Glass (Daikin Comfort Technologies)

For PAR 1111, the labeling requirement for furnaces sold before zero emission compliance dates requires manufacturers to include, "2) After January 1, 2028, only for installation in mobile homes," which could incur more labeling costs for manufacturers who do not manufacture a mobile home furnace. Recommend having separate labeling requirement based on whether a manufacturer manufactures a mobile home furnace or not.

After 2030, the alternative compliance option for emergency replacements and construction allow for a temporary rental installation of a natural gas-fired furnace for an additional six to 24 months. Therefore, the labeling portion that states, "3) After January 1, 2030, not compliant for use and installation in the South Coast AQMD" would suggest the rental installation is non-compliant.

Commercial furnaces, wall furnaces, and floor furnaces do not have an Annual Fuel Utilization Efficiency (AFUE) to calculate emissions.

Enforcement of rule based on installation date would create stranded inventory. Recommend enforcement based on manufacture date.

Recommend clarifying that dual fuel furnaces are not to be run with natural gas.

Response to Comment PW-14:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Revised PAR 1111 and PAR 1121 removed the provision for temporary rentals and updated the labeling provision. The commenter's concern on labeling requirement has been resolved.

The new rule concept also revised the proposed applicability to retain the current rule's size applicability, meaning commercial-sized furnaces will not be included in PAR 1111. Wall furnaces, and floor furnaces are not required to calculate NOx emissions using an AFUE. AFUE is used to calculate the nanograms of NOx per joule of Useful Heat Delivered to the Heated Space to demonstrate a furnace meets the NOx limits in Table 1 of Rule 1111; wall furnaces, and floor furnaces are not subject to those NOx limits. A compliance schedule based on installation date aligned with previous amendments to Rules 1111 and Rule 1121, as well as the current version of Rule 1146.2. Future effective dates gave time for the supply chain to ensure inventory would be compliant by the compliance dates and minimize stranded inventory.

Comment PW-15: Michael Rochmes (LA Climate Reality)

Regulations can send a market signal to manufacturers to provide affordable solutions for the proposed amended rules.

Response to Comment PW-15:

Staff agrees with the commenter. It is important to set the market signal that will drive technology development and reduce costs overtime.

Comment PW-16: Richard Markuson (Plumbing-Heating-Cooling Contractors Association (PHCC))

Costs to replace appliances will need to be communicated by HVAC contractors. Concerns about the economic impact on local businesses and rate of implementation. The industry needs additional time to comply with the proposed amended rules. Incentives are essential for consumers to offset costs.

Response to Comment PW-16:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Many HVAC contractors have been included in the working group meetings for this rule development. Staff has also met with several HVAC contractors to for individual discussions with regards to transitioning to zero-emission appliances. Staff will continue to work with stakeholders after the rule adoption and conduct technology check-in(s) to assess any issues with implementing zero-emission technologies. For more information on outreach, please see Response to General Comment 5. For more information on costs, please see Response to General Comment 2.

The federal, state, and local incentives, including the upcoming South Coast AQMD Go Zero incentive program, will help consumers offset some upfront costs. The Go Zero incentive program will launch in 2025 and will incentivize residences and small businesses to install zero-emission appliances.

Comment Letter #1: Los Angeles County Business Federation (BizFed)

Comment Letter #1

October 3, 2024

Hon. Vanessa Delgado, Chair
South Coast Air Quality Management District Governing Board
21865 Copley Dr.
Diamond Bar, CA 91765

Dear Chair Delgado and Governing Board members –

We are reaching out on behalf of BizFed, the Los Angeles County Business Federation, an alliance of more than 200 business organizations representing more than 400,000 employers in Los Angeles County, including large and small businesses in a wide range of industries throughout the South Coast Air Basin (SCAB). We are writing specifically regarding Proposed Amended Rule (PAR) 1111 and PAR 1121; many of the businesses we represent have or will be writing their own individual comment letters that specifically address the impacts to their industries. Our comments address the impacts on the business community as a whole and include overarching concerns of our diverse membership.

BizFed's concerns are related to the most recent draft rule language issued Friday, September 20. The SCAQMD's promotion of shared circuit 120v heat pump water heaters as alternatives to the devices currently permitted under Rule 1121, and the proposed January 1, 2027 compliance date for the proposed rule amendment, is of significant concern. As a result of staff's endorsement of these devices as adequate replacements for currently permitted water heaters, BizFed has sought and received an analysis of these new devices from a licensed plumbing engineer and general contractor and is providing results from that analysis below.

1-1

SCAQMD staff has taken the position that shared circuit 120v heat pump water heaters would be a cost-effective solution for owners/operators of multifamily communities and other affected entities to comply with the proposed amendments to SCAQMD's PAR 1121. Unfortunately, the data gathered by the licensed plumbing engineer shows that shared circuit 120v heat pump water heaters lack the reheating abilities provided by natural gas water heaters or dedicated circuit 240v heat pump water heaters. This is critical performance data that must be considered by the SCAQMD Governing Board when it considers amendments to PAR 1121; failing to consider this information will leave owners/operators to choose between prohibitively expensive retrofits or leaving millions of residents without sufficient hot water.

1-2

Two Simple Examples

Family of 4 living in a two bedroom / two bath apartment getting ready in the morning.

2022 California plumbing code 501.1(2) sets 49-gallon first hour rating as code. Manufacturers recommend 40-gallon natural gas hot water heaters be upsized to 60–70-gallon heat pump hot water heaters, with 60-76 gallon first hour ratings.

Ex.	First Hour Usage (Peak Hour) In Order	Hot water Usage (Gallons)	First Hour Rating	Result
1	1 Clothes washing machine (1 cycle) 1 Hand dishwashing (10 min) 1 Automatic dishwasher (1 cycle) 4 Bathroom faucets (1 min / person) 4 Showers (10 minutes / person) Total	11 13 04 04 +54 86 Gal.	60-76 Gallons	**The fourth person runs out of hot water for their shower.** 3 hours and 45 minutes for shared circuit 120V unit to reheat the tank
2	1 Hand dishwashing (10min) 1 Automatic dishwasher (1 cycle) 1 bath 4 Bathroom faucets (1 min / person) 3 showers (10 minutes / person)	13 04 26 04 +40 87 Gal.	60-76 Gallons	**The fourth person runs out of hot water for their shower.** 3 hours and 45 minutes for shared circuit 120V unit to reheat the tank

Water Heater	Natural Gas	Heat Pump (120V Shared)	Heat Pump (240V Dedicated)
Reheat Time	< 45 minutes	~3 hours 45 minutes (50 Gal) ~4 hours - 5 hours (60 Gal)	~ 1 hour 15 minutes

Cost & Scope to Install	**$1,700+** -New water heater -Permit	**$4,000 - $15,000** -New water heater -Drain pan w/ dedicated drain line -Demo -City permit & fee Likely Additions -New electrical outlet -New breaker -Electrical panel upgrade -Stucco, drywall, painting -Asbestos & lead abatement -Closet reframing -Utility provider permit & fee -Louvered doors or ducting -Carpentry / paint -Stacked drains	**$30,000 - $80,000** -New water heater -Dedicated electrical circuit -Drain pan w/ dedicated drain line -Demo -City permit & fee Likely Additions -Louvered doors or ducting -Electrical panel upgrade -Stucco, drywall, carpentry, painting -Asbestos & lead abatement -Utility provider permit & fee -Closet reframing -General contractor costs Commercial Buildings: -Potential transformer upgrade -Electrical wire & conduit upgrades -Site work -M.E.P engineering designs

Per the latest SCAQMD staff report posted 09/20/24, staff estimates there are 5.1 million hot water heaters impacted by rule 1121. At just $4,000 / conversion, the economic impact across the South Coast Air Basin (SCAB) would be more than $2 trillion dollars. In addition, this cost magnitude will be very inflationary for the local economies and lead to many of these costs being passed through to consumers, lessees, and 16+ million residents of the South Coast Air Basin.

The products, businesses, and residents of the SCAQMD are not ready for a rule change of this magnitude ($2+ trillion) affecting millions of people. At a minimum, compliance for retrofits should be extended to coincide with the conversion of the vehicle fleet to electric in 2035, or at a minimum 2029, consistent with the timeframe included within the 2022 Air Quality Management Plan adopted by the Governing Board (Table 4-20), and there needs to be other safeguards to protect homeowners and renters from potential disproportionate financial impacts that can be associated with converting dual-fuel households to a single energy source. 1-3

Additionally, consideration should also be given to the true cost per day of tons of NOx removed, and an option provided for an in-lieu fee on the sale of gas hot water heaters as a means to support the acceleration of the SCAQMD's incentive program, Go Zero. 1-4

Los Angeles County Business Federation / 1150 South Olive Street, Floor 10, Los Angeles, CA 90015 / T:323.889.4348 / www.bizfed.org

Thank you for your thoughtful consideration.

Sincerely,

Fran Inman
BizFed 2024 Chair
Majestic Realty

David Fleming
BizFed Founding Chair

Tracy Hernandez
BizFed Founding CEO
IMPOWER, Inc.

David Englin
BizFed President

BizFed Association Members

Action Apartment Association
Advanced Medical Technology Association
Alhambra Chamber
American Beverage Association
Antelope Valley Chamber formerly Lancaster Chamber of Commerce
Apartment Association of Greater Los Angeles
Apartment Association of Orange County
Apartment Association, CA Southern Cities, Inc .
Apartment Association of California
Arcadia Association of Realtors
AREAA North Los Angeles SFV SCV
Armenian American Business Association
Armenian Trade & Labor Association
Arts District Los Angeles
ASCM Inland Empire Chapter
Associated Builders & Contractors SoCal (ABC SoCal)
Associated General Contractors
Association of Independent Commercial Producers
AV Edge California
Azusa Chamber
Bell Chamber
Beverly Hills Chamber
BioCom
Black Business Association
Black Professional Network
Boyle Heights Chamber of Commerce
Bridge Compton Org
Building Industry Association - LA/Ventura Counties
Building Industry Association of Southern California
Building Industry Association- Baldyview
Building Owners & Managers Association of Greater Los Angeles
Burbank Association of Realtors
Burbank Chamber of Commerce
Business and Industry Council for Emergency Planning and Preparedness
Business Resource Group
CalAsian Chamber
CalChamber
California African American Chamber of Commerce
California Apartment Association- Los Angeles
California Asphalt Pavement Association
California Bankers Association
California Black Chamber of Commerce
California Business Properties
California Business Roundtable
California Cleaners Association
California Contract Cities Association
California Council for Enviornmental & Economic Balance (CCEEB)
California Fuels & Convenience Alliance- Formerly California Independent Oil Marketers Association (CIOMA)
California Gaming Association
California Grocers Association
California Hispanic Chamber
California Hotel & Lodging Association
California Independent Petroleum Association
California Infrastructure Delivery Coalition
California Life Sciences Association
California Manufacturers & Technology Association
California Metals Coalition
California Natural Gas Producers Association
California Restaurant Association
California Retailers Association
California Self Storage Association
California Small Business Alliance
California Travel Association (CalTravel)
California Trucking Association
Californians For Smarter Sustainability
Carson Chamber of Commerce
Carson Dominguez Employers Alliance
Central City Association
Century City Chamber of Commerce
Chatsworth Porter Ranch Chamber of Commerce
Citrus Valley Association of Realtors
Civil Justice Association of California CJAC
Claremont Chamber of Commerce
Commerce Business Council formerly Commercial Industrial Council/Chamber of Commerce
Compton Chamber of Commerce
Compton Community Development Corporation
Compton Entertainment Chamber of Commerce
Construction Industry Air Quality Coalition
Construction Industry Coalition on Water Quality
Council of Infill Builders
Crenshaw Chamber of Commerce
Culver City Chamber of Commerce
Downey Chamber of Commerce
Downtown Alliance
Downtown Long Beach Alliance
DTLA Chamber of Commerce
El Monte/South El Monte Chamber
El Salvador Corridor Association
El Segundo Chamber of Commerce
Employers Group
Energy Independence Now EIN
Engineering Contractor's Association
EXP The Opportunity Engine
FastLink DTLA
Filipino American Chamber of Commerce
Friends of Hollywood Central Park
FuturePorts
Gardena Valley Chamber
Gateway to LA
Glendale Association of Realtors
Glendale Chamber
Glendora Chamber
Greater Antelope Valley AOR
Greater Bakersfield Chamber of Commerce
Greater Coachella Valley Chamber of Commerce
Greater Downey Association of REALTORS
Greater Lakewood Chamber of Commerce
Greater Leimert Park Crenshaw Corridor BID
Greater Los Angeles African American Chamber
Greater Los Angeles Association of Realtors
Greater Los Angeles New Car Dealers Association
Greater San Fernando Valley Chamber
Harbor Association of Industry and Commerce
Harbor Trucking Association
Historic Core BID of Downtown Los Angeles
Hollywood Chamber
Hospital Association of Southern California
Hotel Association of Los Angeles
ICBWA- International Cannabis Women Business Association
Independent Cities Association
Independent Hospitality Coalition
Industrial Environmental Association
Industry Business Council
Inglewood Board of Realtors
Inland Empire Economic Partnership
Irwindale Chamber of Commerce
Kombucha Brewers International
La Cañada Flintridge Chamber
LA County Medical Association
LA Fashion District BID
LA South Chamber of Commerce
Larchmont Boulevard Association
Latin Business Association
Latino Food Industry Association
Latino Golfers Association
Latino Restaurant Association
LAX Coastal Area Chamber
Licensed Adult Residential Care Association-LARCA
Long Beach Area Chamber
Long Beach Economic Partnership
Long Beach Major Arts Consortium
Los Angeles Area Chamber
Los Angeles Economic Development Center
Los Angeles Gateway Chamber of Commerce
Los Angeles Latino Chamber
Los Angeles LGBTQ Chamber of Commerce
Los Angeles Parking Association
Los Angeles Regional Food Bank
MADIA Tech Launch
Malibu Chamber of Commerce
Manhattan Beach Chamber of Commerce
Manhattan Beach Downtown Business & Professional Association
Marina Del Rey Lessees Association
Marketplace Industry Association
Monrovia Chamber
Motion Picture Association of America, Inc.
MoveLA
MultiCultural Business Alliance
NAIOP Southern California Chapter
NAREIT
National Association of Minority Contractors
National Association of Theatre Owners CA/Nevada
National Association of Women Business Owners
National Association of Women Business Owners - LA
National Association of Women Business Owners-California

National Federation of Independent Business Owners California
National Hookah
National Latina Business Women's Association
Norwegian American Chamber of Commerce
Ofiso Community Foundation
Orange County Business Council
Orange County Hispanic Chamber of Commerce
Pacific Merchant Shipping Association
Panorama City Chamber of Commerce
Paramount Chamber of Commerce
Pasadena Chamber
Pasadena Foothills Association of Realtors
PGA
Pharmaceutical Care Management Association
PhRMA
Pico Rivera Chamber of Commerce
Pomona Chamber
Rancho Southeast REALTORS
ReadyNation California
Recording Industry Association of America
Regional CAL Black Chamber, SVF
Regional Hispanic Chambers
San Gabriel Valley Economic Partnership
San Pedro Peninsula Chamber of Commerce
Santa Clarita Valley Chamber
Santa Clarita Valley Economic Development Corp.
Santa Monica Chamber of Commerce
Secure Water Alliance
Sherman Oaks Chamber
Signal Hill Chamber
South Bay Association of Chambers
South Bay Association of Realtors
South Gate Chamber of Commerce
Southern California Contractors Association
Southern California Golf Association
Southern California Grantmakers
Southern California KFC Franchise
Southern California Leadership Council
Southern California Minority Suppliers Development Council Inc.
Southern California Water Coalition
Southland Regional Association of Realtors
Specialty Equipment Market Association
Structural Engineers Association of Southern California
Sunland/Tujunga Chamber
Sunset Strip Business Improvement District
Swiss American Chamber of Commerce
Thai American Chamber of Commerce
The Bridge Network
The LA Coalition for the Economy & Jobs
The Los Angeles Taxpayers Association
The Two Hundred for Homeownership
Torrance Area Chamber
Tri-Counties Association of Realtors
United Chambers – San Fernando Valley & Region
United Contractors
United States-Mexico Chamber
Unmanned Autonomous Vehicle Systems Association
Urban Business Council
US Green Building Council
US Resiliency Council
Valley Economic Alliance, The
Valley Industry & Commerce Association
Venice Chamber of Commerce
Vermont Slauson Economic Development Corporation
Veterans in Business
Vietnamese American Chamber
Village of Sherman Oaks BID
Warner Center Association
West Covina Chamber
West Hollywood Chamber
West Hollywood Design District
West Los Angeles Chamber
West San Gabriel Valley Association of Realtors
West Valley/Warner Center Chamber
Westchester BID
Western Electrical Contractors Association
Western Manufactured Housing Association
Western Propane Gas Association
Western States Petroleum Association
Westside Council of Chambers
Westwood Community Council
Whittier Chamber of Commerce
Wilmington Chamber
World Trade Center
Yes in My Backyard
7-Eleven Franchise Owners Association of Southern California

Los Angeles County Business Federation / 1150 South Olive Street, Floor 10, Los Angeles, CA 90015 / T:323.889.4348 / www.bizfed.org

Response to Comment Letter #1

Response to Comment 1-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Consumers will have the choice of both zero-NOx emission units and NOx-emitting natural gas-fired units. For zero-NOx emission units, as mentioned in Chapter 2 of this report, Rule 1111 and Rule 1121 are fuel and technology neutral, meaning any technology that can meet the emission limits is compliant with the rule. Shared circuit 120V heat pumps offer a viable solution to buildings that are unable to accommodate a utility upgrade, as they can use an existing 120V circuit to power the heat pump water heater. These shared circuit 120V heat pumps are one of several options that can be used as adequate replacements for currently permitted water heaters for consumers who choose a zero-NOx emission replacement.

Response to Comment 1-2:

Staff recognizes that 120V heat pump water heaters and 240V heat pump water heaters have different first hour rating and recovery rates compared to their natural gas-fired counterpart. Increasing the storage capacity of the heat pump water heater can help to overcome the slower recovery rate of the zero-emission units. While manufacturer calculations can provide insight on the ability for these technologies to provide sufficient water, staff has also considered the anecdotal testimonies from residents who use heat pump water heaters for their source of hot water. The ability to provide sufficient hot water to a resident is dependent on the number of occupants, the time of use, and the extent of hot water use.

PAR 1121 establishes a market signal for manufacturers to further advance their technologies. The new rule concept for manufacturer alternative compliance option will be a slower transition to zero-NOx emission allowing further time for technology advancement.

Chapter 2 provides an example of the analysis on the replacement of a natural gas-fired residential water heater less than 75,000 Btu/hr subject to the rule, with a heat pump, which is one example of a zero-emission unit. The capital cost of a natural gas-fired unit is estimated to be $3,000 based on the 2019 E3 “Residential Building Electrification in California”[(4)], while the capital cost of the heat pump is estimated to be $5,200 based on TECH Clean California heat pump rebate program[(5)] real world installation data. The commenter estimated capital costs of the heat pump replacements based on the worst-case scenarios counting all possible installation and construction work which are not expected for most cases. Therefore, staff believes those costs would not be representative for the purpose of rule analysis. Please find more discussion on the cost-effectiveness method in Response to General Comment 6.

[(4)] https://www.ethree.com/e3-quantifies-the-consumer-and-emissions-impacts-of-electrifying-california-homes/
[(5)] https://techcleanca.com/public-data/

Response to Comment 1-3:

PAR 1111 and PAR 1121 proposed compliance dates were determined feasible by BARCT analysis discussed in Chapter 2 and aligned with the timelines of other agencies and the 2022 AQMP Control Measures, R-CMB-01, and R-CMB-02. . . Staff recognized that cost-effectiveness of some categories by the original rule concept are over the 2022 AQMP screening threshold. The new manufacturer alternative compliance option allowing NOx-emitting units satisfies the direction set forth by 2022 AQMP addressing higher cost-effectiveness categories for zero-NOx emission standards.

Response to Comment 1-4:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The cost-effectiveness analysis detailed in this report is generally used to compare alternative means of emissions control relating to the cost of purchasing, installing, and operating control equipment to achieve the projected emission reductions. For information regarding the cost per ton of NOx reduced, please refer to Chapter 2 of this report.

Staff has also prepared a Draft Socioeconomic Impact Assessment released for public review and comments at least 30 days prior to the public hearing. The analysis considers the range of probable costs or savings, impact to small businesses, and impact on employment and the regional economy. The preliminary analysis estimates overall unit lifetime savings as the lower operational costs would offset the higher upfront costs. For more discussion on the cost-effectiveness analysis, please see Response to General Comment 6.

Previous amendments to Rule 1111 and Rule 1121 provided mitigation fee alternative compliance options because no compliant technology was available in the market. The new technologies were still under development and more time was needed for commercialization. For the zero-emission market, staff has identified various technologies that are commercially available. For the new rule concept for manufacturer limits, there will be a mitigation fee component. The Control Measure, R-CMB-01, set forth by the 2022 AQMP is focused on achieving the maximum NOx emission reductions possible. Allowing an additional equipment lifetime (15 -25 years) for natural gas use would ultimately delay emission reductions.

COMMENT LETTER #2: KORY GRIGGS

Comment Letter #2

From: kory indoorweatherhvac.com <kory@indoorweatherhvac.com>
Sent: Friday, October 4, 2024 7:03 PM
To: Peter Campbell <pcampbell@aqmd.gov>
Subject: [EXTERNAL] Comment on Rule 1111 and 1121

My name is Kory Griggs, and I am an HVAC contractor in the San Bernardino mountains.

I want to comment about the proposal the AQMD is working on to amend rule 1111 and 1121.

1. The public is unaware of the amendment's implications on their future budgets and the costs of repairs to their homes. This must be addressed.
   - You recognize that as much as 13% of the structures in the SCAQMD district will require a major expense in infrastructure upgrades to install a heat pump
   - You recognize that the cost of operation will increase by as much as 38%
   - In climate zones that are cooler than the average SoCal locations equipment cost will be greater due to the need for specialized equipment (low ambient equipment).

2-1

2. The reliance of rebate programs to offset the cost of upgrades for the building owners of greatest need.
   - These programs usually incentivize early adopters, as they are first come, first served. (Folks of less means typically do not replace equipment in advance of its failure.)
   - There is no guarantee that the programs will be available from year to year. (Again, biasing people that have the budget to adapt prior to equipment failure.)
   - The programs typically exclude lower efficiency equipment in favor of higher efficiency units. (Favoring higher ticket items over budget friendly equipment, ticket items that those of lower means typically do not choose due to lack of funds.)
   - There are no known socioeconomic-based programs.
   - There are no known programs for residential infrastructure improvements: panel upgrades, electrical home runs, disconnects, etc.

2-2

3. Cost of operation.
   - In many areas in CA our electricity rates are artificially inflated (due to "over usage" penalties or TIERED rates, the rates vary from climate zone to climate zone with variable different Teir thresholds.)
   - The programs offered by the utility providers for all electric homes rarely offset the cost of operation enough to be effective solutions for most users.
   - Higher charges for high use times of day ie. 4-9pm

2-3

4. Temporary, emergency replacements.
   - The current plan is not workable from a cost perspective.
   - In actual emergency situations the possible length of approval times may cause a real hazard to persons or property.
   - If the distributors are not allowed to sell gas-fired furnaces or water heaters, who will have the temporary equipment available?

2-4

Kory Griggs
Indoor Weather Heating, Air & Refrigeration, Inc., President
(919) 289-6201
9092896201 ext 4
http://www.indoorweatherHVAC.com

Response to Comment Letter #2

Response to Comment 2-1:

Thank you for your comments.

While staff has worked hard to ensure all stakeholders are aware of the current rulemaking, we recognize that further education is needed. The outreach portion of the upcoming Go Zero incentive program is intended not only to educate consumers about the rebates, but also the upcoming compliance dates for zero-emission units. Please see Response to General Comment 5 for further discussion on outreach.

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. For consumers who choose zero-NOx emission units, staff acknowledges that the upfront cost may be higher for many cases; however, based on the IEPR projected future year rates for electricity and natural gas, staff has identified operational cost savings due to the higher efficiency of zero-emission technologies. Cold climate heat pumps are built to work efficiently in conditions down to 20 degrees Fahrenheit and can operate in conditions down to negative 25 degrees Fahrenheit. Average heat pumps will achieve above 200 percent efficiency at 20 degrees Fahrenheit and beat low-temperature heat pumps will achieve 188 percent efficiency even at 0 degrees Fahrenheit.[6]

[6] https://learnmetrics.com/best-heat-pumps-for-cold-climates/

Please see Response to General Comment 2 for discussion on cost and Response to General Comment 8 for discussion on high altitudes.

Response to Comment 2-2:

Incentive programs like the South Coast AQMD's Go Zero, the state's TECH Clean California are intended to accelerate the market for heat pumps and encourage adoption. This will allow the market to mature, providing lower prices and more options by the time the future effective compliance dates for manufacturers go into effect. Most incentive programs do prefer higher efficiency units to realize higher operational cost savings and lower electricity use. The existence of multiple incentive programs means lower income consumers can stack rebates to afford more expensive high efficiency heat pump systems. Finally, most incentive programs, including Go Zero include greater funds and incentive amounts for low income or otherwise overburdened communities. For example, Go Zero will allocate 75 percent of funding for overburdened communities.

Response to Comment 2-3:

In order to mitigate the costs of more electrical appliances in households, the state legislature passed Assembly Bill 205, which creates a flat rate for electric bills, resulting in lower per kilowatt-hour charges. In addition, the IEPR forecast projects rapidly increasing natural gas prices, while electricity rates will go up more slowly. Overall, staff expects consumers to save money in operating costs when switching to zero-emissions. Finally, staff will re-evaluate operational cost based on the updated projection on the utility rates at the technology check-in(s).

Response to Comment 2-4:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. By this new rule concept, consumers may opt to install NOx-emitting gas units if installing zero-NOx emission units would be challenging for emergency replacements. Short-term replacement with rental equipment is no longer needed and thus removed from the proposed amended rules.

COMMENT LETTER #3: ALLEN MAIRS

From: Allen Mairs <mairs1952@gmail.com>
Sent: Thursday, October 10, 2024 2:56 PM
To: Yanrong Zhu <yzhu1@aqmd.gov>
Subject: [EXTERNAL] November 1 meeting

Comment Letter #3

Greetings,
If these measures to make Mountain communities all electric are implemented, it will be devastating for residents and the real estate market.
I have a friend that FROZE TO DEATH during Snowmagedon winter before last. She lived in an all electric home and we had extended periods where we had no electricity.
Conversion to heat pumps is cost prohibitive to most mountain residents, plus they just don't work when temperatures drop as they do in winter months, PLUS temperatures HAVE to be maintained to prevent water pipes from freezing.
People live in mountain/rural areas because they CHOOSE not to live in cities.
Please help us with this delima.
Allen Mairs

3-1

Response to Comment Letter #3:

Response to Comment 3-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff understands the importance of space heating in mountain communities. By the new rule concept, consumers will have the choice of both zero-NOx emission units and natural gas-fired units for installation.

For consumers who choose zero-NOx emission units The costs are expected to decrease when the zero-emission technologies gain more market adoption. Heat pumps are currently used in cold climates, such as Maine, Vermont, and Alaska. For more information regarding cold climate heat pumps please refer to Chapter 2 of this report. Staff acknowledges the higher upfront costs to retrofit and operate heat pumps. Costs associated with retrofitting heat pumps can be offset using federal and state rebates. In addition, the South Coast AQMD's Go Zero incentive program is also expected to help minimize costs. Please see Response to General Comment 2 for further discussion on costs and Response to General Comment 8 for further discussion on high altitudes. Chapter 2 provides some discussion on grid reliability, and please see Response to General Comment 3 for further discussion. Local and state agencies are working together for a pathway in meeting the future increased electrical demand and providing local grid infrastructure upgrades.

COMMENT LETTER #4: RINNAI

Comment Letter #4

Rinnai.

October 11, 2024

Jen Vinh
Planning, Rule Development, and Implementation
South Coast Air Quality Management District (SCAQMD)
21865 Copley Drive, Diamond Bar, CA 91765
(Submitted via email to: jvinh@aqmd.gov)

RE: Proposed Amended Rule 1121. Control of Nitrogen Oxides from Residential-Type, Natural Gas-Fired Water Heaters

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Dear Ms. Vinh,

On behalf of Rinnai America Corporation, we appreciate the opportunity to provide comments on SCAQMD Rule 1121. As a leading manufacturer of gas water heaters and boilers, we have a long-standing commitment to reducing emissions and improving energy efficiency. However, the proposed zero-NOx emission limitations in Rule 1121 raise substantial concerns. Specifically, by requiring zero NOx emissions, Rule 1121 effectively eliminates all gas-fired appliances from the market, leaving heat pumps as the only alternative. While most of our products, such as instantaneous water heaters and boilers, fall under Rule 1146.2, as a prominent member of the water heating industry we feel the need to oppose unreasonable standards for all types of water heaters. Such restrictions could hinder the availability of affordable and high-efficiency options for consumers. This regulatory approach is not only impractical but is also inconsistent with the needs of consumers and the current state of infrastructure in Southern California. 4-1

Federal Preemption Under EPCA: The proposed limitations under Rule 1121 raise serious concerns regarding federal preemption under the Clean Air Act (CAA) and Energy Policy and Conservation Act (EPCA). EPCA prohibits states from enacting their own regulations related to the energy use of covered products, which includes water heaters and boilers regulated at the federal level. Imposing state-specific NOx limits could create a regulatory patchwork that directly conflicts with established federal standards. Additionally, these unique requirements could disrupt the national market, placing undue burdens on manufacturers to produce separate models for California and the rest of the country, thus violating the Dormant Commerce Clause. 4-2

Technical Feasibility and Lack of Alternatives: While Rinnai supports efforts to reduce emissions, the zero-NOx requirement under Rule 1121 fails to recognize that the development of technologies like hydrogen-enriched gas and advanced low-NOx combustion systems that are still evolving. Eliminating ultra-low NOx gas-fired appliances in favor of heat pumps as the sole option ignores the substantial benefits and advancements that gas technologies have achieved in improving both efficiency and emissions performance. 4-3

Rinnai America Corporation | 103 International Drive, Peachtree City, GA 30269 | 800-621-9419

The zero-NOx standard would effectively exclude gas-fired water heaters and boilers, regardless of the emissions reductions they could achieve through cleaner combustion technologies. This blanket approach stifles innovation and dismisses any potential for hybrid systems or hydrogen-enriched natural gas, both of which offer promising pathways to reducing NOx without eliminating gas-fired systems altogether. 4-4

Economic and Consumer Impact: From an economic standpoint, the zero-NOx rule creates significant burdens for consumers. Transitioning to heat pumps, while viable in some cases, presents substantial challenges in terms of upfront costs, installation complexity, and performance in varied climates. These costs would disproportionately affect low- and middle-income households, as well as those living in older homes not readily equipped for electric retrofits. It is vital to acknowledge that heat pumps are not a one-size-fits-all solution, particularly in colder environments where gas-fired systems offer more reliable heating. 4-5

Grid Reliability and Infrastructure Challenges: One of the most pressing concerns associated with Rule 1121 (as well as other rules such as Rule 1111 and 1146.2) is its impact on grid reliability. Shifting the entire burden of water and space heating to electric heat pumps will place significant strain on California's already challenged electrical grid. Recent rolling blackouts and grid instability during peak demand periods underscore the fragility of the current infrastructure. Requiring widespread adoption of electric heat pumps under these conditions will exacerbate the problem, leading to greater risks of power outages and heightened energy costs for consumers. It is imperative that any regulatory approach consider the readiness of the electric grid to handle such a drastic increase in demand. 4-6

Conclusion and Recommendation: Rinnai urges SCAQMD to reconsider the zero-NOx emission requirement under Rule 1121. Although the majority of our products, like instantaneous water heaters and boilers, are regulated under Rule 1146.2, we believe it is crucial, as a leading member of the water heating industry, to oppose unworkable standards that affect all types of water heaters. We recommend a more pragmatic approach that encourages the continued development of ultra-low-NOx gas technologies, hydrogen-enriched natural gas systems, and hybrid solutions that combine gas and electric technologies. These alternatives can achieve meaningful reductions in emissions without eliminating consumer choice or undermining the economic feasibility of gas-fired systems. 4-7

A balanced, technology-neutral policy that fosters innovation across a range of heating solutions will be far more effective than a zero-NOx mandate that forces a costly and premature shift to electric heat pumps. Such an approach would allow the market and our industry to continue evolving toward cleaner technologies while maintaining reliable, affordable, and efficient options for consumers.

We appreciate your consideration of these concerns and look forward to continued dialogue on how best to meet the region's environmental goals in a manner that respects both consumer needs and economic realities.

Sincerely,

Marc D. Neufcourt
Director, Regulatory and Government Affairs

Response to Comment Letter #4

Response to Comment 4-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

PAR 1121 aligns the new building compliance date with the CEC Building Code effective date and the previous rule concept set existing building compliance dates with other agencies' proposals and the goal set by the 2022 AQMD Control Measure R-CMB-01. As discussed in Chapter 2, various technologies could achieve zero-emission standards and the South Coat AQMD is technology and fuel neutral. Nevertheless, staff understands that heat pumps are the predominant zero-emission technology in the current market. Modern heat pumps can reach 300 to 400 percent efficiency or even higher. Manufacturers suggested a clear policy direction of future effective zero-emission standards is needed to justify further product development. PAR 1121 would encourage more market adoption of highly efficient units and further advancement on product development. Staff expects the costs of zero-emission technologies to come down overtime. For further discussion on costs, please see Response to General Comment 2. For further discussion on technology readiness, please see Response to General Comment 4.

Staff would also like to point out that Rule 1146.2 was amended in June 2024 to include future effective zero-emission standards.

Response to Comment 4-2:

PAR 1121 is not preempted by the Clean Air Act. It is well-established that under Section 116 of the Clean Air Act, states retain the right to adopt and enforce any standard or limitation respecting emissions of air pollutants from stationary sources, including from products subject to Rule 1121. (*See* 42 U.S.C. 7416). In fact, Rule 1121 (last amended 2004) was approved into the State Implementation Plan and is federally enforceable.

Moreover, PAR 1121 is not preempted by the EPCA. Please see Response to General Comment 9.

Finally, PAR 1121 does not violate the Dormant Commerce Clause. As held by the Ninth Circuit Court of Appeals, there are two broad categories of state regulations that may contravene the Dormant Commerce Clause: "(1) those that directly burden interstate commerce or otherwise discriminate against out-of-state interests; and (2) those that incidentally burden interstate commerce." (*Pacific Merchant Shipping Association v. Goldstene,* 639 F.3d. 1154, 1177 (9th Cir. 2011)). "Regulations falling under the first category are generally struck down, while those in the second category are reviewed under a balancing test. Under this balancing test, a regulation may violate the Commerce Clause if the burdens they impose so outweigh the putative local benefits so as to render the regulations unreasonable or irrational. …'[I]t is clear, however, that the Supreme Court used the term 'direct' to refer to regulations whose *central* purpose is to regulate commerce, usually in order to benefit local interests.' " (*Id.* at 1177-78) (citations omitted)). Under the balancing test, courts do not substitute their judgment as to the relative value of the benefits

and burdens imposed by the regulation. Instead, "[a] statute is unreasonable or irrational when the asserted benefits of the statute are illusory or relate to goals that evidence an impermissible favoritism of in-state industry over out-of-state industry." (*Alaska Airlines, Inc. v. City of Long Beach,* 951 F.2d 977, 983 (9th Cir. 1991)).

Here, PAR 1121 does not directly burden interstate commerce or otherwise discriminate against interstate commerce. PAR 1121 does not favor in-state manufacturers or distributors over out-of-state industry. Nor is the rule's central purpose to regulate commerce or markets. Instead, it is a classic air pollution regulation, originally adopted in 1978, to reduce pollution from the regulated sources. Accordingly, the proposed rule amendments are valid unless they impose such a burden on interstate commerce as to be "unreasonable or irrational." This test is only violated where the asserted benefits of the rule are "illusory" or relate to goals of economic protectionism—favoring in-state industry over out of state. There is no evidence of a protectionist motive here. And the benefits of the rule are far from illusory—it is expected that upon full implementation, PAR 1121 will obtain approximately 2.3 tons per day of NOx emission reductions.)

Response to Comment 4-3:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The 2022 AQMP's objective is to transition to zero-emission technologies, wherever feasible, and staff identified technically feasible zero-emission control options for equipment subject to Rule 1121. South Coast AQMD is designated as "extreme" nonattainment and NOx emission reductions are critical to meet National Ambient Air Quality Standards. Zero-emission air and water heating technologies exist today and waiting for technologies to develop and emerge that will achieve fewer NOx emission reductions and take longer to become commercially viable would not meet South Coast AQMD's air quality goals.

Cold climate heat pump technology is currently utilized in cold climates successfully. For more information regarding cold climate heat pumps please refer to Chapter 2 of this report and Response to General Comment 8.

Response to Comment 4-4:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

South Coast AQMD is technology and fuel neutral and is focused on achieving NOx emission reductions. The new rule concept allows NOx-emitting natural gas-fired units. Further, should zero-NOx natural gas technologies be developed and adopted, consumers would have the opportunity to choose between newly designed natural gas and other zero-emission appliances.

Response to Comment 4-5:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff acknowledge the higher upfront cost in many zero-emission installations; however, lower annual operational costs are anticipated. Federal, state, and local incentives, including the upcoming South Coast AQMD Go Zero incentive program, will help alleviate the financial burden. Moreover, staff will re-evaluate operational cost based on the updated projection on the utility rates at the technology check-in(s). Please see Response to General Comment 2 for further discussion on cost.

Response to Comment 4-6:

Staff recognizes the importance of electric grid reliability for electric units, but also for natural gas units, which often require electricity to operate. The CEC, CPUC, and CARB are working to coordinate efforts, identify issues not covered by ongoing efforts, and assess needed actions to better align the energy system with the state's climate targets. The new rule concept provides a slower transition that will slow demand increase and time to enhance the grid for future demand. For further discussion, please see Response to General Comment 3.

Response to Comment 4-7:

Staff appreciates Rinnai's comments. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

As the South Coast Air AQMD has been classified as "extreme" nonattainment for the 2015 8-hour ozone standard, staff is required to consider emission reduction for all categories and set future effective dates to reduce emissions as early as feasible. PAR 1121 is technology and fuel-neutral and is focused on achieving the maximum NOx emission reductions possible. The new rule concept provides a pragmatic approach for transition to zero-emission technologies to achieve needed NOx emission reductions, while ensuring consumer choices of zero-NOx emission and natura gas units.

COMMENT LETTER #5: LOS ANGELES CLIMATE REALITY PROJECT

Comment Letter #5

October 11, 2024

Chair Larry McCallon and Committee Members
Stationary Source Committee
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765

RE: SUPPORT for Proposed Amended Rules 1111 and 1121

Dear Chair McCallon and Members of the Stationary Committee:

The undersigned organizations write in strong support of Proposed Amended Rules (PAR) 1111 and 1121 to set a zero-NO_x emission limit on gas-powered furnaces and water heaters, which will be on the committee agenda at your October 18 meeting. 5-1

The 2022 Air Quality Management Plan (AQMP) states that the "only way to achieve the required nitrogen oxide (NO_x) reductions is through extensive use of zero-NO_x technologies

across all stationary and mobile sources."[1] Applying zero-NO_x standards on furnaces and water heaters is critical for meeting National Ambient Air Quality Standards (NAAQS) and steering the region away from severe nonattainment.

When fully implemented, these rules will reduce NO_x emissions by 10 tons per day, approximately 10% of the regional NO_x pollution under Air District authority. Residential appliances alone emit more NO_x than – and nearly comparable levels of direct fine particulate matter ($PM_{2.5}$) as – the South Coast region's oil and gas production, oil refineries, and cement production combined.[2]

Implementation of zero-emission appliance standards will have significant health benefits for people living in the South Coast region. NO_x emissions negatively impact respiratory and cardiovascular health. They also contribute to the formation of ozone and secondary $PM_{2.5}$,[3,4] which is tied to severe health issues, including respiratory, pulmonary, cardiovascular, cognitive, reproductive, and developmental problems; cancer; and premature mortality.[5] 5-2

The true value of zero-NO_x solutions like energy efficient heat pumps also encompasses significant additional benefits, such as reduced greenhouse gas emissions and increased access to efficient cooling and air filtration during more frequent and intense extreme heat and wildfire events. This clean equipment can be powered by distributed energy resources, improving resilience for Southern California communities.

Opponents of these measures argue that further studies are needed before amending Rules 1111 and 1121. These calls for further studies serve no purpose but to delay a transition to pollution-free heating equipment in the South Coast region. Staff has made clear through the rulemaking process that technology to support this transition exists today and that these measures are feasible. Indeed, heat pumps have already outsold gas furnaces in the United States for the last two years,[6] with 35% year-over-year growth in the heat pump water heater market last year as well.[7] These technologies are proven.

As you know, zero-NO_x standards on furnaces and water heaters have already passed at the Bay Area Air Quality Management District, where they are well underway on implementation planning. The South Coast region has an even greater need to pass zero-NO_x standards on an expedited timeline. The region has failed to meet any national ozone standards, including 5-3

[1] South Coast Air Quality Management District (SCAQMD), 2022 Air Quality Management Plan, Executive Summary (December 2, 2022).
[2] U.S. Environmental Protection Agency (EPA), 2020 National Emissions Inventory, March 2023. Appliance emission estimates include residential & commercial emissions for the gas, oil, & other fuel categories, with commercial emissions adjusted to exclude certain non-appliance sources like pipeline compressor stations.
[3] J.A. Last et al., "Ozone and Oxidant Toxicity," *Comprehensive Toxicology 15*, pp. 389-402, 2018.
[4] World Health Organization, "WHO global air quality guidelines. Particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide," 2021.
[5] California Air Resources Board, "Inhalable Particulate Matter and Health (PM2.5 and PM10)."
[6] D. Reisinger (CNET), "Heat Pumps Outsell Gas Furnaces Once Again: What's the Difference?" February 24, 2024.
[7] EPA, "ENERGY STAR® Unit Shipment and Market Penetration Report Calendar Year 2023 Summary," 2024.

standards the U.S. EPA adopted in 1997, almost thirty years ago.[8] These ongoing attainment failures mean the Air District cannot afford to delay feasible measures that are known to reduce significant NO_x and $PM_{2.5}$ emissions. 5-3

Your staff is estimating that the full implementation of these rules will not be achieved for 15-25 years after their latest compliance date.[9] This is already past 2050 for some sources of pollution. The longer it takes to pass these amendments and to send the important market signal they represent, the longer it will take to actualize their full benefit. These rule amendments must pass this year. 5-4

South Coast AQMD staff has undergone a thorough public process and found that zero-emission appliances are the best available control technology. Installation of heat pumps in new buildings and as replacements for existing gas-powered appliances at end of life generally provide cost savings over the life of the appliances, and these rules provided reasonable accommodation for more complicated emergency replacements, as well as master-metered mobile home parks. With the passage of the Go Zero rebate program, the South Coast AQMD has also provided financial support for compliance, with priority in the transition going to disadvantaged communities. This financial support supplements existing federal, state, and local rebates for heat pump installation. 5-5

By setting future effective compliance dates, PAR 1111 and 1121 send an important market signal to zero-emission furnace and water heater supply chains. The sooner this rule is passed, the more beneficial this market signal will be. The technology check-in planned for June 2027 will provide an opportunity to evaluate market adoption and supply of heat pump technology for small spaces, limited power supply, and mobile homes – all areas addressed in the rule by alternative compliance options and later implementation dates. 5-6

The proposal to move these equipment categories to zero-NO_x alternatives has been part of the AQMP since 2022. The District must stay the course to deliver on the promise of the 2022 AQMP. We respectfully ask the Stationary Source Committee to move PAR 1111 and 1121 forward to the Governing Board expeditiously and lay the groundwork for reducing up to 10 tons of NO_x per day in the South Coast region. 5-7

Sincerely,

Charles Miller
Chapter Chair
Los Angeles Climate Reality Project

David Diaz, MPH
Executive Director
Active San Gabriel Valley

[8] EPA, "Finding of Failure to Attain 1997 8-Hour Ozone Standard; Los Angeles-South Coast Air Basin," August 15, 2024.
[9] SCAQMD, "Preliminary Draft Staff Report [PAR 1111 and PAR 1121]," pg. 5-3, September 2024.

Claire Robinson
Managing Director
Amigos de los Rios

Tomas Castro
OC Climate Equity Advocate
Climate Action Campaign

Lisa Swanson
Policy Chair
Climate Reality Project Orange County Chapter

Christopher Chavez
Deputy Policy Director
Coalition for Clean Air

Christy Zamani
Executive Director
Day One

Fernando Gaytan
Senior Attorney
Earthjustice

Jorge Rivera
Executive Co-Director
Healing and Justice Center

Margo A Reeg
President
League of Women Voters of Los Angeles County

Tori Kjer
Executive Director
Los Angeles Neighborhood Land Trust

Charlotte Matthews, Managing Director
Jed Holtzman, Senior Associate
RMI

Sharon Ungersma
Chapter Chair
San Fernando Valley Climate Reality Project

Kim Orbe
Senior Conservation Program Manager
Sierra Club, Angeles Chapter

Sam Fishman
Sustainability and Resilience Policy Manager
SPUR

Anne Pernick
SAFE Cities Senior Advisor
Stand.earth

Stuart Wood PhD
Executive Director
Sustainable Claremont

Ben Stapleton
Executive Director
USGBC California

Response to Comment Letter #5

Response to Comment 5-1:

Staff appreciates the comments and believes that amending PAR 1111 and PAR 1121 at its current projected date would help achieve emissions reductions more effectively.

Response to Comment 5-2:

Implementation of PAR 1111 and PAR 1121 will result in a NOx emissions reduction of 6 tons per day. Reduction of NOx emissions would improve air quality, which could reduce health risks associated with air pollution.

Response to Comment 5-3:

Since rules enforced by the South Coast AQMD cannot be less stringent than those by other air districts, unless such a rule would be infeasible, staff has considered the compliance dates of other air districts, such as BAAD, in the BARCT assessment.

Response to Comment 5-4:

PAR 1111 and PAR 1121 are area sources rules that regulate the product supply chain that achieves emission reductions at equipment natural turnover. This aligns with other agencies for similar rules. Staff acknowledges the benefits from full implementation of the rules. PAR 1111 and PAR 1121 have proposed implementation dates as early as feasible. Staff agrees that the public hearing should not be delayed.

Response to Comment 5-5:

Staff determined the feasibility of zero-emission standards through the BARCT analysis and is developing the Go Zero incentive program to help lower the upfront cost for some consumers with a focus on the overburdened communities. The new rule concept for manufacturer alternative compliance option would further address installations when zero-NOx emission technologies are not as cost effectiveness.

Response to Comment 5-6:

Staff agrees with the commenter.

Response to Comment 5-7:

Staff appreciates the support.

COMMENT LETTER #6: ANN STALWICK AND CHANA NEVO

Comment Letter #6

Peter Campbell

From: CHANA NEVO <chanalenevo@msn.com>
Sent: Monday, October 14, 2024 12:18 PM
To: Peter Campbell
Subject: [EXTERNAL] Comment on rule 1111and 1121

I been a realtor since 1979 and have sold in northern and southern California. The real estate market is not stable at present. Migration to other states from Californian has a one percent increase (average)due to several causes ,inflation, pricing, interest rates and cost of living.

By implementing and having homeowners retrofit their houses to all electrical appliances will affect the market pricing on properties. Present electrical system in houses will not carry the high amperage appliances. The National Association of Builders states the cost would be $30,000. to $40,000. to retrofit a house. This could bankrupt people and send the housing market in a downward dive. The State Incentive Programs will not work. That money comes from the taxpayers and people still have to purchase all the appliances; stove, furnace, AC, and water heaters. What about pool and jacuzzies is that an additional cost.

How is the disposal of all those appliances going to affect the demand on the waste disposal system. The higher demand on the electrical grid will cause blackouts. The cost of electrical use will be quite higher to the consumer than natural gas. All this extra expenses affects buyers decision on purchase and sellers on selling.

This is great impact on people's lives causing a lot of stress and anxiety which will create more problems because of the waste disposals of metal, plastic, Freon, and electronics.

6-1

6-2

6-3

THIS WILL NOT HELP TO REACH CLEANNER AIR QUALITY!!!

Thank you,
Ann Stalwick
Crestline, California

In addition.
Regarding 1111 and 1121
I live in Crestline, CA which is in climate 16, snow country where the heat pumps can freeze. You would need low ambient equipment in these area at a much higher cost to the consumer. This is a big risk to resident's health and safety, Last year's storm caused state of emergency and blackouts and some people froze to death .
Thank you.
Chana Neno

6-4

Response to Comment Letter #6

Response to Comment 6-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff has evaluated the cost of electrical upgrade and included the required cost in the cost-effectiveness analysis as discussed in Chapter 2. Given 87 percent of homes in the South Coast AQMD region have air conditioning systems, most of the homes will not require electrical upgrades if the consumer chooses a zero-emission unit to comply with PAR 1111. In addition, there are various zero-emission options that do not need electrical upgrades, such as portable heat pumps for space heating and cooling and 120V plug-in heat pump water heaters. While an increase in electrical service may be needed in some cases, some planners such as Redwood Energy[(7)] believe it can be avoided, even with all electric appliances in a home. For further discussion on cost, please see Response to General Comment 2.

Response to Comment 6-2

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. For consumers that elect to install zero-NOx emission units, the proposed zero-emission standards have future effective dates that would apply at natural appliance replacement when old units break down or consumers choose to replace them, which means most consumers would have sufficient time to plan for future replacement. Federal, state, and local incentives, including the upcoming South Coast AQMD Go Zero incentive program, will help alleviate the financial burden for consumers who choose zero-emission appliances. Please see Response to General Comment 2 for further discussion on cost.

Response to Comment 6-3:

For both the original and new rule concept, the transition to zero-emission appliances would occur at the natural replacement of the furnace or water heater, so there would be no additional waste created. For a discussion on grid reliability, please see Response to General Comment 3.

Response to Comment 6-4:

Staff understands the importance of space heating in mountain communities. Please see Response to General Comment 8.

[(7)] https:Whe//www.redwoodenergy.net/watt-diet-calculator

COMMENT LETTER #7: STEVE PEARSON (DAUM COMMERCIAL REAL ESTATE SERVICES)

DAUM
COMMERCIAL REAL ESTATE SERVICES

Comment Letter #7

Mr. Peter Campbell
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Email: pcampbell@aqmd.gov

Re: Comments on PAR 1111 and PAR 1121

Dear Mr. Campbell:

DAUM Commercial Real Estate Services appreciates the opportunity to provide comments on the South Coast Air Quality Management District proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces (PAR 1111) and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural Gas-Fired Water Heaters (PAR 1121).

Our company is one of the oldest commercial real estate services companies in Southern California. We are committed to reducing our carbon footprint while meeting the needs of our tenants. Installation of energy efficient lighting controls, compliance with outdoor water conservation requirements, and other energy-reducing measures can be found throughout our properties.

We are concerned that the proposed rules do not consider issues facing commercial and industrial real estate property owners and our tenants. For example, commercial property owners already face sky high costs for rent, insurance and other daily operating necessities. 7-1

We would respectfully request that the District revise PAR 1111 and PAR 1121 to provide commercial and industrial property owners with greater flexibility and time to deal with already existing leases set to renew by the end of 2026 or until such time that our local utility provider informs us that they can accommodate any new electrical hook-up which would be required due to the installation of a new system in order to avoid any additional delays for occupancy of our properties. 7-2

Thank you for taking into consideration our concerns. Please contact me with any questions.

Sincerely,

Steve Pearson

Principal
DAUM Commercial Real Estate Services

4400 MacArthur Blvd., Suite 950 • Newport Beach, CA 92660 • Phone (949) 724-1900 • Fax (949) 474-1771 • www.daumcommerical.com
City of Industry • Inland Empire • Los Angeles • Newport Beach • Phoenix • South Bay • Valencia • Ventura County • Woodland Hills
Commercial Real Estate Services Since 1904
ONCOR INTERNATIONAL

Response to Comment Letter #7

Response to Comment 7-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. The new rule concept also revised the proposed applicability and will not expand to large size spacing heating units such as commercial furnaces. The revised PAR 1111 and PAR 1121 have minimized the impact to commercial properties.

Many installations in commercial and multifamily properties are subject to Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters, Small Boilers and Process Heaters which was adopted in June 2024 for zero-emission standards. Please refer to the Rule 1146.2 Public Hearing documents, which include the staff report and the socioeconomic impact assessment for more information on the analysis.[8] Staff will conduct a technology check-in and report to the Stationary Source Committees in June 2026 for the implementation of Rule 1146.2.

Response to Comment 7-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For consumers electing to install zero-NOx emission units, the 2026 compliance date was delayed until 2027 and is for new construction only, when the building code will also require new building electric ready, and the 2029 compliance date is for existing building. These existing building compliance dates only applied to appliances that were sold or installed after the compliance effective dates. Existing units could continue to operate until natural replacement. The revised PAR 1111 and PAR 1121 will provide flexibility and more time to comply.

[8] http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2024/2024-Jun7-026.pdf

COMMENT LETTER #8: DENNIS L SANDOVAL (DAUM COMMERCIAL REAL ESTATE SERVICES)

Comment Letter #8

DAUM
COMMERCIAL REAL ESTATE SERVICES
"Serving Southern California Businesses since 1904!"

SCAQMD PAR 1111 and PAR 1121

Mr. Peter Campbell
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Email: pcampbell@aqmd.gov

Re: Comments on PAR 1111 and PAR 1121

Dear Mr. Campbell:

My associates and I appreciate the opportunity to provide comments on the South Coast Air Quality Management District proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces (PAR 1111) and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural Gas-Fired Water Heaters (PAR 1121).

Our company provides corporate real estate consulting to a large cross section of businesses within the State of California. Our goal is to help businesses grow and expand within our incredible State. We are aiding our clients to help them not only identify quality buildings but also introduce them the architects and builders who are committed to reducing their carbon footprint while meeting the operational and economic needs of the business environment, which will create good paying jobs in a responsibly designed building.

Installation of energy efficient lighting controls, compliance with outdoor water conservation requirements, and other energy-reducing measures can be found throughout the inventory of buildings we promote and market.

We are concerned that the proposed rules do not take into account issues facing commercial and industrial real estate property business owners, property owners and tenants. Construction costs, material costs, layers of compliance regulations and operational costs are escalating to the point where we are asked much too frequently, "*What are our out of state alternatives for relocation and expansion?*" 8-1

Conversion costs in various areas of the business are compounding the cost to expand in California, let alone relocate to within the state (trucks, forklifts, ambient air issues, etc.).

We would respectfully request that the District revise PAR 1111 and PAR 1121 to provide commercial and industrial property owners with greater flexibility and time to deal with already existing leases set to renew by the end of 2026 or until such time that our local utility providers can confidently inform us that they can accommodate any new electrical hook-up which would be 8-2

required due to the installation of a new system in order to avoid any additional delays for occupancy of our properties. The threat of "Black outs," "Business Disruption" and "Increased Costs" are very concerning and causing much angst within our business communities. 8-2

Thank you for taking into consideration our concerns. Please contact me and my associates at DAUM Commercial Real Estate Services directly for any additional questions or concerns.

Sincerely,

Dennis L. Sandoval

Dennis L. Sandoval
Executive Vice President / Principal
DAUM Commercial Real Estate Services

Direct: 562-576-1421
Email: dsandoval@daumcre.com

Response to Comment Letter #8

Response to Comment 8-1:

Staff appreciates your comment. Please see Response to Comment 7-1.

Response to Comment 8-2:

Staff appreciates your comment. Please see Response to Comment 7-2.

COMMENT LETTER #9: ELIZABETH ELLIOTT

Comment Letter #9

Peter Campbell

From: Mel and Elizabeth Elliott (phoebeintheforest) <melandlizelliott@gmail.com>
Sent: Monday, October 14, 2024 12:36 PM
To: Curt Hagman (GBM); Supervisor.Rowe@bos.sbcounty.gov; Peter Campbell
Subject: [EXTERNAL] Rules 1111 & 1121

Dear Mr. Hagman, Ms. Rowe and Mr. Campbell:

Thank you for taking the time to read my email.

I am a resident of Lake Arrowhead, CA and have lived on the mountain since 1980. While my home is a 45-minute drive away from the valley and in the county of San Bernardino, it may as well be hundreds of miles away in regards to weather! My garden reflects this difference: daffodils in the spring, peonies in the summer, autumn color, and white Christmases in the winter. Weather-wise, the mountain communities have more in common with New England than with the rest of the Inland Empire.

Because of this dramatic difference in weather and temperatures, our communities need an exception to Rules 1111 and 1121. The planned changeover mandating electric heat and water heating appliances is unnecessarily punitive! An unelected group of people who are ignorant of the different climates in our vast state are making rules for people who live in moderate-climate areas because that is where they live and what they experience. 9-1

Electric bills will soar in the mountains. Guaranteed. These rules will cause a lot of hardship on this mountain. **So I am asking that there be an exception put into place for people who live above the 3,000 ft. elevation**. It is not right...or even "scientific"...to place everyone under the same rules. There must be an exception for those living in a cold climate. One size does not fit All, or even Most. 9-2

Thank you for your consideration,

Elizabeth Elliott
Lake Arrowhead, CA

Response to Comment Letter #9

Response to Comment 9-1:

South Coast Air Basin has been classified as "extreme" nonattainment for the 2015 8-hour ozone standard and the region has the worst air quality in the nation. Therefore, there is a need to identify and propose cost-effective control/compliance options, while striving to achieve the emission reductions necessary for regional air quality attainment, especially given the magnitude of the emission reductions required to meet the ozone standards.

The South Coast AQMD Governing Board (Board), who will ultimately decide to approve or disapprove the proposed rule amendments, is comprised of elected officials and appointed officials. The Board has 13 members; ten are elected officials. Of these, four are county supervisors representing Los Angeles, Orange, Riverside and San Bernardino counties, elected to South Coast AQMD's Board by their Boards of Supervisors. Six are City Council members representing the cities in each county (because of its size, Los Angeles County has two representatives, elected by respective city selection committees, and the City of Los Angeles has one representative, selected by the Mayor of Los Angeles). The remaining three Board members are appointed by state elected officials; one by the

Governor of California, one by the Speaker of the State Assembly and one by the State Senate Rules Committee. The Board includes representatives from all areas within the jurisdiction of the South Coast AQMD to ensure the concerns of all the residents are considered.

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff understands that the mountain communities have cold climates as compared with the other areas of South Coast AQMD; however, as discussed in Chapter 2, zero-emission technologies have been adopted in many cold climate regions. Please see Response to General Comment 8 for further discussion on high altitudes.

Response to Comment 9-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Staff acknowledges that for consumers who choose zero-emission units, the upfront cost may be higher in many cases; however, based on the IEPR projected rates for electricity and natural gas in future years, staff has identified operational cost savings due to the higher efficiency of zero-emission technologies. Please see Response to General Comment 2 for further discussion on cost. Please see Response to General Comment 4 for more information on technology readiness.

COMMENT LETTER #10: GREGORY RICE

Comment Letter #10

Peter Campbell

From: greggcrice@aol.com
Sent: Monday, October 14, 2024 9:53 AM
To: Peter Campbell
Subject: [EXTERNAL] Comments on 1111 & 1112

I want to comment about the proposal the AQMD is working on to amend rule 1111 and 1121.

I understand your intent to limit emissions from natural gas fueled appliance. However, I feel the industry is not ready for that change.

First, I have directly contacted multiple manufacturers of both HVAC Heat Pumps and manufacturers of Domestic Water Heat Pumps. The response so far is that even the new high efficiency heat pumps are not really very efficient in areas above 4500 ft. elevation because of the cold temperatures in the wintertime combined with the freezing rain and snow. I even looked into geothermal units and got the same response. Although different refrigerants are available and different percentages of antifreeze could be used for a closed loop geothermal system, the installation instructions and comments to questions asked resulted in a low ambient temperature of 20 degrees to prevent the heat pumps from ceasing. 10-1

Some recommended dual fuel systems, but of course the second fuel would be natural gas which you are intending to eliminate. A few (like Trane) provide efficiency charts of their most efficient cold climate units based on ambient temperature. Below 20 degrees, the efficiency really drops off. Some use a cycle to provide heat to the heat pump and heat exchanger to provide the unit from ceasing up. Unfortunately, it is taking heat back from the conditioned space and cooling the inside of the house or using heat elements that draw a lot of power. When it is below 20 degrees outside, the inside is provided with colder air at a time when the occupants need warmth. Additionally, the heat pumps are designed to run continuously. Therefore, the cold air can't even be turned off. 10-2

I was also informed, and I verified that the typical house electrical would have to be upgraded to 200 Amp services for the heating and water heating heat pump systems. Additionally, your likely next step will be to require other gas fueled appliance follow suit and be converted to heat pumps. The additional demand for the additional appliance (stoves, dryers, etc.,) would require the services be upgraded to 400-amp services. Something SCE does not approve for residences in 10-3

1

the mountain areas. Because of the temperature limits on lithium batteries, battery backups for solar is also considered a fire hazard. 10-3

I doubt SCE has grid upgrade plans in place to cover the capacity needed for your proposed rule changes.

In fact, SCE currently recommends gas fueled generators be in place for the mountain areas because of the many power outages caused by maintenance or periods of fire hazards. In the area I live, over the past 4 years we have averaged at least two such outages a month, mostly during cold weather. 10-4

I truly believe that you are proposing rule changes that will likely cause illness, or death to many residents in the mountains above 4500 ft elevation. Having worked in both ethe north and south deserts for many years, I believe it will have similar health impacts in those areas as well. Contrary to common belief, the deserts get very cold during winter. And the electrical power grid is not at the same level in the deserts or mountains. 10-5

That doesn't even take into consideration the financial impact to residents or business owners.

A final note: Your reason for the rule changes is to improve air quality for health of the residents in your region. As you propose these changes, are you also amending your budget for the potential of a class action lawsuit because of the more immediate negative health impacts to the residents in the mountain and desert areas and the of higher fire risk from battery backup to solar? The efficiency of solar during winter months really drops because of shading from the tall trees, cloud cover, fog, or snow on the panels. Thus, some type of backup is necessary, which generally seems to require natural gas. 10-6

Gregory Rice
PO Box 1455
Crestline CA 92325

Response to Comment Letter #10

Response to Comment 10-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Cold climate heat pumps are available on the market and can operate at outside air temperatures as low as negative 25 degrees Fahrenheit. Geothermal heat pumps are not reliant on outside air and can operate even in very cold conditions. For further discussion on cold climate heat pumps, please see Response to General Comment 8.

Response to Comment 10-2

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Heat pumps, especially ones designed for cold climates, often have a defrost mode to prevent the outside unit from freezing over. Cold climate heat pumps are built to work down to negative 25 degrees Fahrenheit, and to work efficiently down to 20 degrees Fahrenheit. Average heat pumps will achieve above 200 percent efficiency at 20 degrees Fahrenheit and cold climate heat pumps will achieve 188 percent efficiency even at 0 degrees Fahrenheit.[(9)] This efficiency is much higher than the most efficient gas furnace with efficiency below 100 percent. Dual fuel systems using a natural gas furnace will have higher emissions and less energy efficiency. Please see Response to General Comment 8 for further discussion on high altitudes.

Response to Comment 10-3

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Many homes with 100 amps never get close to maxing out that limit, according to Blake Herrschaft, building electrification programs manager at Peninsula Clean Energy, a California provider of 100 percent carbon-free electricity. Technology advances in the last few years, from low-power 120V heat-pump water heaters to smart electrical panels that automatically flatten demand peaks by pausing nonessential loads, make 100-amp electrification feasible. That is especially true for single-family homes that are under 2,500 square feet.[(10)] Please see Response to General Comment 4 for further discussion on technology readiness.

Response to Comment 10-4:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

[(9)] https://learnmetrics.com/best-heat-pumps-for-cold-climates/
[(10)] https://www.canarymedia.com/articles/electrification/yes-its-possible-to-electrify-a-home-on-just-100-amps

The topic of grid infrastructure was brought up during the public process, and staff has been in contact with utilities and other state organizations on grid reliability topics. Staff recognizes there are challenges for certain situations, and the new proposed rule concept addresses the concern. Through conversations with utilities, staff found there are existing efforts on the utility and state level to address future electricity demand and reliability, and some of these points are described in Chapter 2 of this staff report. For more information on the electric grid, please refer to Response to General Comment 3.

Staff also recognizes the health benefit to communities. BAAD evaluated ambient air quality and health impacts from NOx-emitting natural gas-fired furnaces and water heaters in commercial and residential buildings in support of the zero-emission standards BAAD adopted in March 2023. According to the BAAD staff report, the proposed zero-emission space and water heaters in residential and commercial buildings will result in reductions in NOx emissions and reductions in secondary PM2.5 across the Bay Area. These reductions in secondary PM2.5 avoid an estimated 23 to 52 deaths per year and about 71 new cases of asthma per year. Reductions in total PM2.5 attributable to the targeted appliances, including reductions in primary PM2.5 from adoption of electric appliances, would avoid an estimated 37 to 85 premature deaths per year and about 110 new cases of asthma each year. The valuations of the health impacts from total PM2.5 were estimated to be between 400 to 890 million U.S. dollars annually. Similar benefits would accrue to communities in the South Coast AQMD.

Response to Comment 10-5

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The rules are proposed for cleaner air to protect public health. Regarding the previous rule concept, the BARCT assessment determined the proposed zero-emission standards with future effective implementation dates were feasible. Staff is committed to monitoring the rule implementation after rule adoption, providing periodic updates to the Stationary Source Committee, and conducting technology check-in(s).

Response to Comment 10-6

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff also understands that residents in the mountain areas may consider back-up power generation technologies as important resources in case of power outages during the winter months. PAR 1111 and 1121 do not contain any back up power requirements that would require or limit the use of or types or back-up power technologies. For further discussion on high altitudes, please see Response to General Comment 8.

It is essential for electrical generation and local grid infrastructure to meet demand. Local utilities such as SCE are mapping service areas, including the mountain communities, to determine where upgrades are needed. On the other hand, as the country transitions to a cleaner power grid, researchers are searching for the best ways to integrate energy storage

for backup power.[11] Staff will maintain regular contact with utilities and monitor the implementation. For further discussion on the electric grid, please see Response to General Comment 3.

[11] https://www.nrel.gov/news/program/2024/how-mountains-could-store-mountains-of-clean-energy.html

COMMENT LETTER #11: BOB HELBING

AIR-TRO HEATING & AIR CONDITIONING
1630 S. Myrtle Ave. Monrovia, CA 91016
(626) 357-3535 www.airtro.com
CSLB Lic. #258228

October 14, 2024

Comment Letter #11

SCAQMD
ATTN: Peter Campbell
Via email at:
pcampbell@aqmd.gov
21865 Copley Dr.
Diamond Bar, CA 91765

SUBJECT: PAR 1111 & PAR 1121

Dear Mr. Campbell:

The purpose of this letter is to comment on Proposed Amended Rules (PAR) 1111 and 1121. The proposed changes to PAR 1111 and PAR 1121 are flawed to the point of being unworkable. They will not improve air quality within the District, but they will inflict significant economic harm to the residents of the District.

My credentials on the topic come from being a fourth-generation contractor, a third generation engineer with a B.S. in Mechanical Engineering from the California Institute of Technology (Caltech), 30 years as owner and manager of a $15 million HVAC firm (Air-Tro, Inc.), past President of the Institute of Heating and Air Conditioning Industries (IHACI) as well as past President of the Monrovia Chamber of Commerce. This has given me practical experience, academic and technical education, and decades of work within the community as a tradesman, advocate and industry leader.

The proposed changes ignore basic scientific facts about ozone formation. The economic analysis is based on bad numbers. And the conclusions are made in defiance of recent court cases that deny local agencies the power to ban gas appliances. Staff should withdraw these proposals and rework them using better scientific models and more accurate economic projections and with a consciousness of legal limits to SCAQMD authority.

PAR 1111 and PAR 1121 ban the sale of gas appliances for comfort heating and water heating on the basis that these appliance emit oxides of nitrogen (NOx) which are precursor chemicals to ozone. Ozone is a major component of smog, and ozone levels in the District routinely exceed EPA limits. 11-1

However, gas appliances don't emit very much NOx. The District sees close to 400 tons of NOx emissions daily. Of that total, only about 10 tons (or about 2.5%) come from gas furnaces and water heaters. By way of comparison, a single container ship by itself emits just over 10 tons of NOx daily (assuming a 40,000 kw power plant emitting 10g/kwh).

Not only that, but the small amounts of emissions from these units occurs when ozone formation is already at its lowest level due to natural conditions. NOx also does not create ozone by itself. It requires energy from solar ultraviolet rays to break off oxygen ions from N_2O. These free oxygen ions then combine with oxygen molecules to form ozone. The more sunshine, the more ozone. We can see this if we look at SCAQMD data for peak ozone days at their Rubidoux Riverside sampling station, which records some of the worst ozone conditions in the district. (Attachment #1). *All* occurrences where ozone levels exceed the EPA's one-hour limit (90 parts per billion) take place on afternoons where high mean outdoor temperatures exceed 84°. 11-1

What are these units doing when natural conditions favor ozone creation? They aren't running. Furnaces operate on cold winter nights, not hot summer afternoons. The highest ozone level in the dataset is 139 ppb on August 29 at 2pm, on a 103° day, and we can be assured no one had their furnace running when it's 103° out. Water heating is more distributed, but domestic hot water is most in demand in the early morning or early evening for use in showers, laundry, and washing dishes. Few people shower at 2pm.

In short, PAR 1111 will achieve *no* changes in peak ozone levels, and PAR 1121 will have an impact too small to be measured. Neither rule will bring district ozone closer to EPA compliance.

The economic calculations provided by staff are equally flawed. A ban on gas furnaces and water heaters will force customers to rely on electrically driven heat pumps. By the calculations of district staff (Slide #25 of the Working Group #4 presentation, available at https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm4-april-2024.pdf?sfvrsn=14), residents currently pay the gas company 6¢ per kilowatt-hour of energy while electricity costs 26¢/kwh, over 4 times as much. That 26¢/kwh estimate is far too low. As an Edison customer, I currently pay winter rates of 43¢/kwh (Attachment #2). In addition, on that same slide district staff assumes that gas prices will rise 50% while electricity will only go up 21%. In fact, the CEC's Integrated Energy Policy Report California Energy Commission Report cited by staff (https://efiling.energy.ca.gov/GetDocument.aspx?tn=254463) predicts "gas price projections out to 2050 remain relatively steady," while Edison has requested a 46% electricity rate hike by 2028 (https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/pao/customer-notices/cn-2023/sce-grc-2025--a2305010--final.pdf). That will take rates from 43¢/kwh to 63¢/kwh, more than ten times the 6¢/kwh cost that same amount of energy costs when purchased as natural gas. Increasing energy costs by a factor of ten is an unconscionable burden on the communities that make up the district. 11-2

In addition, district staff overestimate the energy efficiency of heat pump technology. One of the major benefits of heat pumps is that they don't create heat. Instead they move it (or pump it). They capture outdoor heat and bring it inside to heat the home (or the home's hot water). As a

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result, for every kilowatt of energy used, several kilowatts of heat result. The ratio of heating to consumption is called the COP (coefficient of performance). Unfortunately for their analysis, district staff assumed a COP of 5, or five times as much heat is generated for every unit of energy consumed. There are indeed heat pumps capable of this high level of performance. They are called "ground source heat pumps" and rely on coiled heat exchangers buried or submerged below grade to use soil or water as a heat source. Such systems are used successfully in other parts of the country, but to function they need at least a half-acre of land or an adjacent water feature such as a lake or pond.

There are few residential lots of such size or with access to such water features within the district. Even for homes with large lots, the cost of trenching to lay the lines runs into the tens of thousands. Trenching for typical ground source heat pump system in the Midwest can run over $50,000. It's hard to imagine what the cost would be in Southern California, which has some of the highest construction costs in the nation. It's also unclear if such work could even be permitted; no local building department has the expertise to oversee such work.

Air source heat pumps, on the other hand, are frequently installed in Southern California. These require no trenching or other exotic techniques. In fact, they look and operate just like residential central air conditioning units. But their efficiencies don't match ground source models. The very best air source heat pumps have COPs of 3 (or just a bit less). By using a COP of 5 rather than 3 district staff overestimated heat pump performance and underestimated energy use by 66%. Combine this with the miscalculated electricity rates, and calculated costs for one kwh of heat rises from staff estimates of 6¢/kwh to an expected cost of 21¢/kwh, or three and a half times higher. 11-2

Similar errors exist in district staff's estimates of first costs. They used historical information from the TECH fuel swapping program for the cost of a heat pump installation, which yielded a figure of $7,000 for installation. But the majority of heat pumps installed under that program were mini ductless systems. The majority of furnaces installed in the district are for ducted central heating systems. Replacing these with ducted heat pumps would cost at least $15,000 and that presumes no major electrical upgrades are needed. A new electrical service would add another $5,000 to $8,000.

District staff similarly used incorrect numbers to estimate expected equipment life. They used estimates of TECH staff that heat pumps and furnaces have similar lifespans of about 20 years. However, furnaces only run in the winter while heat pumps provide summer cooling as well as winter heating. The increased run time means increased wear and tear, and in fact heat pumps only last 10 to 15 years. This raises life cycle costs from staff estimates of $350/yr ($7,000 divided by 20 years) to actual costs of either $1,000/yr ($15,000 divided by 15 years) or $1,330/yr if electrical improvements are needed. Again, costs will prove to be three to four times higher than staff estimates.

Staff frequently refer to a proposed "Go Zero" rebate program being offered to disadvantaged communities or homeowners to help mitigate these costs. The proposed funding of $50 million will not go far in a District with 17 million residents; the funding amounts to about $3/resident. 11-3

Let's touch briefly on the legal issues, with SCAQMD potentially embarrassing itself through regulatory overreach. In 2019 the city of Berkeley banned gas hookups to new structures built within their city. Within two years dozens of other California cities and counties passed similar bans. The California Restaurant Association sued to overturn the ban and earlier this year prevailed before the Ninth Circuit Court of Appeals. The court ruled that the only authorities that can issue such a ban are the US Congress and the Federal Department of Energy. If the district moves forward with this ban, they can expect to see it swiftly overturned by the courts. 11-4

If the Board approves PAR 1111 and 1121, the response from industry trade groups like PHCC (Plumbing, Heating and Cooling Contractors) and AHRI (American Heating and Refrigeration Institute) will likely be swift. SCAQMD will likely find itself in prolonged, expensive and ultimately embarrassing legal action, seeing its efforts set aside by the Federal courts.

In short, PAR 1111 and 1121 are based on poor science, flawed economics and bad law. This board should withdraw this proposal from consideration before it imposes massive replacement costs and electric bills on the community with no resulting improvement in air quality, or before it suffers an embarrassing legal defeat.

If you have any questions or wish more background information, feel free to call me at (626) 357-5315 x14 or email me at bobhelbing@airtro.com

Sincerely,

Robert Helbing

Robert Helbing
President

AIR-TRO INC. Since 1969

Response to Comment Letter #11

Response to Comment 11-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

PAR 1111 and PAR 1121 are technology and fuel-neutral and are focused on achieving the maximum NOx emission reductions possible. Equipment that meets the NOx emission limits, regardless of the energy source, is not prohibited by PAR 1111 or PAR 1121.

For information regarding the emissions inventory, please refer to Response to Comment PW-4. By reducing NOx emissions, PAR 1111 and PAR 1121 would achieve control on both ozone and PM2.5 formation. While ozone formation is most efficient during peak UV production hours, it still occurs during other daylight hours and NOx concentrations are still relevant outside of those peak hours. In addition, NOx emitted in the early morning, even though it may still be dark, will have a much longer chemical lifetime for daytime reactions or be transferred to eastern part of the region for warmer daytime reactions. NOx is also an important PM2.5 precursor making NOx reductions from the ozone control strategy instrumental in attaining federal standards for PM2.5. Additionally, PM2.5 levels are highest in the winter months during the overnight hours with nearly all exceedances of the 24-hour federal standard occurring between November and February.

Response to Comment 11-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

As discussed in Chapter 2 for zero-NOx emission unit installations, staff analysis relied upon the fuel price estimates which are based on a combination of the CEC's 2023 IEPR and EIA national level forecasts extended to 2050. Electricity forecasts are based on the LADWP and SCE planning areas. Natural gas forecasts are based on SoCalGas forecasts. Forecasted prices will not match observed electric and natural gas prices in any given year and may differ materially.

The commenter mentioned "gas price projections out of 2050 remain relatively steady" is modeled prices at California's Malin and Topock border hubs, which reflect what utilities or large end users (for example, power plants and industrial) pay for gas delivered to the state's borders from out -of-state suppliers (shippers, supply basins, third party marketers). Those wholesale prices at the border do not reflect retail prices. Staff believe the IEPR and EIA forecasted rates for consumers are more appropriate for the purpose of this rule analysis.

Staff analysis on the fuel switch/operational cost is based on the 2019 RASS released by the CEC. The RASS includes information on the energy use of both electrical and natural gas appliances in Californian's homes. Heat pump energy efficiency rate was not utilized in the calculation; however, staff has included the discussion of the technologies and their efficiencies with the references to information sources in Chapter 2.

Most of the homes in the region have a 100-amp or 200-amp panel, which means minimum construction for electrical upgrade would be needed for those homes if the consumer chooses a zero-emission unit. Staff recognizes that there may be some cases where a utility upgrade is required and could include trenching, which adds to the cost. While trenching is costly, the end user would not bear the full cost when the trenching is required before the facility's meter. For homes that require construction, PAR 1111 and PAR 1121 provide flexibility in the new rule concept.

Regarding the upfront cost, staff understands a ducted heap pump could cost $15,000. However, the rules apply at natural replacement when a new installation is needed with or without the rule requirements. Therefore, analysis would count the incremental cost, which is the difference of installing a zero-emission unit versus a conventional unit.

The expected equipment life used in staff analysis is appropriate. The California Public Utilities Commission recently conducted a Residential HVAC and DHW measure Effective Useful Life Study[(12)] and summarized the effective useful life as 23 years for heat pump HVAC and 38 years for heat pump water heaters. Effective useful life is defined as an estimate of the median number of years that the measures installed under a program are still in place and operable.

Response to Comment 11-3:

The upcoming Go Zero pilot incentive program will have future phases of the program with potential expansion of a fivefold increase of the funding level. By the new rule concept, mitigation fees will be collected from the sales of gas units to further support Go Zero incentive program. Staff anticipates that Go Zero rebates may be layered with other federal, state, or local incentives, such as: TECH Clean California.

Response to Comment 11-4:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. The South Coast AQMD rules are technology and fuel-neutral and are focused on achieving the maximum NOx emission reductions possible. Please see Response to General Comment 9 for more details regarding the comment on banning gas appliances.

[(12)] Chttps://www.calmac.org/publications/CPUC_Group_A_2023_Res_HVAC_and_DHW_EUL_Study_Final_Report.pdf

COMMENT LETTER #12: BERNARD CANE

Comment Letter #12

NAIOP SOCAL MEMBERS
SCAQMD PAR 1111 and PAR 1121

Mr. Peter Campbell
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Email: pcampbell@aqmd.gov

Re: Comments on PAR 1111 and PAR 1121

Dear Mr. Campbell:

I appreciate the opportunity to provide comments on the South Coast Air Quality Management District proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces (PAR 1111) and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural Gas-Fired Water Heaters (PAR 1121).

I am committed to reducing my carbon footprint while meeting the needs of my poor and struggling tenants. Installation of energy efficient lighting controls, compliance with outdoor water conservation requirements, and other energy-reducing measures can be found throughout my properties and most of these underperforming Pieces of Dog Schiff are made in communist Chyna and last less than a used piece of toilet paper, thus causing another form of waste that you guys created to soil Mother Earth! Shame Shame shame! 12-1

I am concerned that the proposed rules do not consider issues facing commercial and industrial real estate property owners, humanity as a whole, and/or tenants. For example, like all PUC and related regulations and policies emanating from Sacto and the California GOOBERMINT you guys can't get anything right, so all of this is an absolute waste of time until we get some smart people with common sense in Sacto's GOOBERMINT. The level of stupidity and contrarianism boggles the mind! 12-2

I would respectfully request that the District revise PAR 1111 and PAR 1121 to provide commercial and industrial property owners with greater flexibility and time to deal with already existing leases set to renew by the end of 2026 or until such time that my local utility provider informs me that they can accommodate any new electrical hook-up which would be required due to the installation of a new system in order to avoid any additional delays for occupancy of my bankrupt properties, due to the idiots ruining this state. 12-3

Thank you for taking into consideration my concerns. Please contact a psychiatrist and a priest to confess your sins and stupidity before you all ruin this once great state! If you have any questions, we are already doomed!

Sincerely,

Bernard Cane
We, the People///

Response to Comment Letter #12

Response to Comment 12-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff appreciates the comments and the effort for a better environment. There are many heat pump manufacturers worldwide, with several located in the United States. A list of heat pump manufacturers for space heating and water heating can be found on the Department of Energy website[(13)].

Response to Comment 12-2:

The new rule concept also revised the proposed applicability and will not expand to large size spacing heating units such as commercial furnaces. The revised PAR 1111 and PAR 1121 have minimized the impact to commercial and industrial properties. Please see Response to Comment 7-1 regarding the similar comment.

Response to Comment 12-3:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Please refer to Response to Comment 7-2 and Response to General Comment 3 for electricity demand and grid sustainability.

[(13)] https://www.regulations.doe.gov/eecompass/consumer-products

COMMENT LETTER #13: RAQUEL J. COMSTOCK

Comment Letter #13

Peter Campbell

From: Raquel Comstock (Rocky) <realtorraq@gmail.com>
Sent: Tuesday, October 15, 2024 1:12 PM
To: Raquel Comstock; Peter Campbell; Jivar Afshar; Jennifer Vinh; PICRequests
Subject: [EXTERNAL] Comment about the proposal the AQMD is working on to amend rule 1111 and 1121.

For our Mountain Communities Temporary, emergency replacements are not practicle:

- The current plan is not workable from a cost perspective. 13-1
- In actual emergency situations the possible length of approval times may cause a real hazard to persons or property. 13-2
- If the distributors are not allowed to sell gas-fired furnaces or water heaters, who will have the temporary equipment available? 13-2
- Can all the California Mountain Communities receive an exemption the same as the mobilehome parks? 13-3
- Our weather system in the California Mountains differs from other areas, we need gas as a backup supply because we do not have solar energy available on most of the North Face communities at all. 13-4

Please kindly reply to verify receipt of this email.

Grateful One,
Raquel J. Comstock, R.E. Broker
CA.DRE lic 02240817

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PO Box 4696 Crestline, CA 92325

email: realtorraq@gmail.com

Response to Comment Letter #13

Response to Comment 13-1:

The cost-effectiveness analysis for PAR 1111 and PAR 1121 are included in this report. Please refer to Response to Comment 7-1, Response to General Comment 6, and Chapter 2 of this report for information regarding the cost-effectiveness analysis.

Response to Comment 13-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

By this new rule concept, consumers may opt to gas units if installing zero-NOx emission units would be challenging for emergency replacements. Short-term replacement with rental equipment is no longer needed and thus removed from the proposed amended rules.

Response to Comment 13-3:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The new rule concept provides more flexibility and consumer choice. Consumers, including residents in mountain community, may choose to install gas units for challenging situations. Moreover, based on stakeholder comments, PAR 1111 is retaining the exemption of downflow furnaces for high-altitude installation.

Response to Comment 13-4:

Staff understands the need for grid reliability and back-up power for installing zero-NOx emission units. For further information, please see Response to General Comment 3.

COMMENT LETTER #14: TURNER WHITE (DAUM COMMERCIAL REAL ESTATE SERVICES)

Comment Letter #14

SCAQMD PAR 1111 and PAR 1121

Mr. Peter Campbell
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Email: pcampbell@aqmd.gov

Re: Comments on PAR 1111 and PAR 1121

Dear Mr. Campbell:

Daum Commercial appreciates the opportunity to provide comments on the South Coast Air Quality Management District proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces (PAR 1111) and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural Gas-Fired Water Heaters (PAR 1121).

Our company focuses on Industrial Real Estate in Orange county. We are committed to reducing our carbon footprint while meeting the needs of our tenants. Installation of energy efficient lighting controls, compliance with outdoor water conservation requirements, and other energy-reducing measures can be found throughout our properties.

We are concerned that the proposed rules do not take into account issues facing commercial and industrial real estate property owners and our tenants. For example, with the price of running a business there are already so many extra fees that most businesses struggle to get a location that works for them when it's time to sign a new lease and these additional costs are only going to make it more difficult for small businesses to grow as they immediately have to

14-1

We would respectfully request that the District revise PAR 1111 and PAR 1121 to provide commercial and industrial property owners with greater flexibility and time to deal with already existing leases set to renew by the end of 2026 or until such time that our local utility provider informs us that they can accommodate any new electrical hook-up which would be required due to the installation of a new system in order to avoid any additional delays for occupancy of our properties.

14-2

Thank you for taking into consideration our concerns. Please contact Steve Pearson at steve.pearson@daumcommercial.com 714-307-6511 with any questions.

Sincerely,

Turner White

Salesperson
DAUM COMMERCIAL

Response to Comment Letter #14

Response to Comment 14-1:

Staff appreciates the comment on PAR 1111 and PAR 1121. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. The new rule concept also revised the proposed applicability and will not expand to large size spacing heating units such as commercial furnaces. The revised PAR 1111 and PAR 1121 have minimized the impact to commercial and industrial properties. Please refer to Response to Comment 7-1 and Response to General Comment 2 for cost and affordability.

Response to Comment 14-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Please refer to Response to Comment 7-2 and Response to General Comment 3 for electricity demand and grid sustainability.

COMMENT LETTER #15: JOSH LEITE (ECM MANAGEMENT)

Mr. Peter Campbell
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Email: pcampbell@aqmd.gov

Re: Comments on PAR 1111 and PAR 1121

Comment Letter #15

Dear Mr. Campbell:

ECM Management LLC appreciates the opportunity to provide comments on the South Coast Air Quality Management District proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces (PAR 1111) and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural Gas-Fired Water Heaters (PAR 1121).

Our company is involved in ground up development and construction of industrial buildings. We are committed to reducing our carbon footprint while meeting the needs of our tenants. Installation of energy efficient lighting controls, compliance with outdoor water conservation requirements, and other energy-reducing measures can be found throughout our properties.

We are concerned that the proposed rules do not take into account issues facing commercial and industrial real estate property owners and our tenants. For example, the need to install electric water heaters and furnaces will have added cost implications both for these components (which are costlier than their natural gas options) as well as the added cost for increased electrical service components and usage. Modifying the size of an already design electrical system requires both additional schedule considerations as well as design costs. 15-1

We would respectfully request that the District revise PAR 1111 and PAR 1121 to provide commercial and industrial property owners with greater flexibility and time to deal with already existing leases set to renew by the end of 2026 or until such time that our local utility provider informs us that they can accommodate any new electrical hook-up which would be required due to the installation of a new system in order to avoid any additional delays for occupancy of our properties. 15-2

Thank you for taking into consideration our concerns. Please contact myself, Josh Leite, with any questions.

Sincerely,

Josh Leite
Senior Development Manager
ECM Management LLC

Response to Comment Letter #15

Response to Comment 15-1:

Staff appreciates the comment on PAR 1111 and PAR 1121. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. The new rule concept also revised the proposed applicability and will not expand to large size spacing heating units such as commercial furnaces. The revised PAR 1111 and PAR 1121 have minimized the impact to commercial and industrial properties. Please refer to Response to Appendix C Comment 7-1 and Response to General Comment 2.

Response to Comment 15-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Please refer to Response to Appendix C Comment 7-2 and Response to General Comment 3.

COMMENT LETTER #16: HEATHER COLLINS

Peter Campbell

From: Heather Collins <heatherashlyncollins@gmail.com>
Sent: Tuesday, October 15, 2024 3:58 PM
To: Peter Campbell
Subject: [EXTERNAL] Gas Appliance Issues for Mountain Areas

Comment Letter #16

Hello
As a recent resident of Crestline it came to my attention that there is a measure that would require us to get rid of all our gas appliances. After going to a few meetings and talking with neighbors who lived through the large ice storm, I feel this would be detrimental to people's health and may even cause unintentioned death. Many of my neighbors relied on their gas appliances to stay warm and cook when they were trapped in the blizzard. Trees fell on the power lines in the area and made using electricity impossible. I also heard of a few people who didn't have gas appliances pass away during this time, since they were trapped for weeks on end and eventually froze to death here. I understand the importance to try and do what we can for the environment, I feel like most people that live up here have a respect and love for the planet and trees that surpass most people that live in the large cities but I dont feel like forcing communities that have such drastic weather to install something that could be a potential hazard and potential legal liability is the answer. 16-1

Please reconsider this mandate
Thank you

--
Heather Ashlyn Collins
BG Designer/Painter
http://www.heatherashlyndesign.com/
IG: HeathBarDraws
TRAUST OG VIRÐING

Response to Comment Letter #16

Response to Comment 16-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff understands that the mountain communities have a cold climate and heating in wintertime is essential. As discussed in Chapter 2, zero-emission technologies have been adopted in many cold climate regions. PAR 1111 and PAR 1121 are technology neutral, and the new rule concept addresses concerns for high altitudes. Please see Response to General Comment 4 and Response to General Comment 8 for more about the zero-emission technologies adopted in cold climate regions. For further discussion on grid reliability and back-up power sources, please refer to Response to General Comment 3.

COMMENT LETTER #17: NANCY HOSKINS

Peter Campbell

From: nancy nieto <nancynieto36@yahoo.com>
Sent: Tuesday, October 15, 2024 7:37 PM
To: Peter Campbell
Subject: [EXTERNAL] Rules 1111 and 1121

Comment Letter #17

In 1952, my parents bought out home in the San Bernardino Mountains. I was 8 years old and now I am 80. The house is 100.

It is important to note that the environmental study for Rules 11 11 and 11 21 did not review the mountain ranges of Southern California. Winter weather in the mountains includes freezing temperature, snow, sleet and powerful winds. The elevation where I live is 5,000 feet. From my research, it appears that the unique mountain conditions were not considered in the AQMD Board's evaluation. A heavy winter snow storm regularly causes a power outage that leaves freezing temperatures in homes. Roads are laden with snow and in non-maintained County roads, they are not plowed. That means that there is no way out and no way in. During the blizzard 2 years ago, I was snowed in for 3 weeks. The feeling of isolation is very scary: no heat, no lights, no tv, WiFi or landline. There is no way to order a delivery of food. I live with my cousin and we depend on these services. Solar power is not practical when there is heavy snow. No sunshine; no electricity. Fog can do the same thing
: no sunshine, no electricity. Fierce winds break the branches off trees; they fall on the power lines and take them down. No electricity is the result. My generator and fire place saved my life. Two warm dogs were also a help. We would cuddle in front of the fireplace. Nancy Hoskins. 25131 Grandview Dr. Crestline, CA. 92325.
(909) 589-0439
Sent from my iPhone

17-1

Response to Comment Letter #17

Response to Comment 17-1:

Staff appreciates your comments. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Staff evaluated the feasibility of heat pumps in cold climates as part of the BARCT assessment, which can be found in Chapter 2 of this report. Cold climate heat pumps can pull heat from the air even at sub-zero temperatures and are utilized in colder climates in the U.S. and abroad. Please see Response to General Comment 8 for more about the zero-emission technologies adopted in cold climate regions. Please refer to Response to General Comment 3 for information regarding electricity demand and grid sustainability. Sustainable electricity supply is essential for both zero-NOx emission and NOx-emitting units. Many natural gas appliances also rely on electricity to operate. For example, all gas-fired fan-type central furnaces currently regulated by Rule 1111 require electricity to operate and therefore cannot operate during a power outage. Some older model water heaters may not need electricity to operate; however, newer features on modern water heaters require electricity to operate. Further, for tank type water heaters, the water in the tank will stay warm for several hours in the event of a power outage.

COMMENT LETTER #18: C. C. SONG (CLEAN POWER ALLIANCE)

CPA CLEAN POWER ALLIANCE

October 16, 2024

South Coast Air Quality Management District
Planning, Rule Development, and Implementation
21865 Copley Dr.
Diamond Bar, CA 91765

Comment Letter #18

Re: Clean Power Alliance Comments on SCAQMD PARs 1111 and 1121

Clean Power Alliance of Southern California ("CPA") appreciates the opportunity to provide comments on South Coast Air Quality Management District's ("SCAQMD") Proposed Amended Rules 1111 and 1121 ("PARs"). CPA is generally supportive of the PARs' approach to reduce nitrogen oxide ("NOx") emissions from natural gas-fired furnaces and water heaters by implementing zero-emission appliance standards. CPA commends SCAQMD's development of the Go-Zero Rebate Program which will help customers and the market prepare for and adapt to the PARs.

CPA recommends the following modifications to, or related to, PARs 1111 and 1121:

- Expand current public outreach efforts to a broader stakeholder base before the SCAQMD Board votes to adopt the PARs;
- If adopted, develop and implement a thorough public education, engagement, and outreach strategy focusing on the general public and community-based organizations;
- Incorporate panel upgrades, equipment rentals, and construction costs associated with transitioning to PAR-compliant appliances in the Go-Zero Rebate Program; consider requiring decommissioning non-compliant equipment as part of the program; and align the program with other complementary incentives; and
- Consider additional incentives for demand response enabled appliances and controls to enable responsiveness to periods of peak demand to reduce customer operational costs and increase grid reliability.

CPA further recommends SCAQMD coordinate among:

- Stakeholders to identify and develop opportunities to stack the Go-Zero Rebate Program with other incentives to maximize their impact; and
- Local permitting agencies to encourage the acceleration of permitting process timelines and mitigate unnecessary delays associated with appliance electrification.

CPA appreciates SCAQMD's substantial considerations of the impacts of increased electrical load as a result of implementing the PARs on the state's resources. SCAQMD's analysis of grid reliability in their

801 S. Grand Ave., Suite 400, Los Angeles, CA 90017
cleanpoweralliance.org

draft staff report[1] demonstrates SCAQMD has invested the time and resources to address such an important and pressing issue.

Background

CPA is California's largest community choice aggregator ("CCA"), serving over three million residents and one million customers across 35 communities in Los Angeles and Ventura counties. CPA is governed by a Board of locally elected officials who represent and serve our communities. CPA has been ranked the number one green power provider in the United States by the National Renewable Energy Laboratory ("NREL") for two years in a row.[2]

CPA helps our customers and communities enhance resilience, conserve energy, reduce harmful greenhouse gas emissions, and save money on their electric bills. We seek to recognize and address the importance of healthy communities, including those disproportionately affected by air pollution and climate change. CPA advances the efforts noted above, in part, through our customer programs. CPA offers programs that provide incentives and benefits for low-income customers and disadvantaged communities that mitigate energy affordability challenges while advancing clean energy solutions.

The PARs and Go-Zero Rebate Program will help equitably improve the air quality, reduce emissions, and mitigate costs associated with the clean energy transition for CPA's customers and the communities we serve.

CPA Supports SCAQMD's Approach in PARs 1111 AND 1121

CPA understands the potential long-term health, climate, and cost benefits associated with expanding use of zero-emission appliances and electrification in general. With improved indoor air quality and no combustion and greatly reduced fire risk, all-electric buildings are safer and healthier to live in along with being cost effective. The potential benefits of zero-emission appliance standards are magnified in CPA's service territory considering CPA is recognized as the leading green power provider among all utilities in the country.

CPA also understands there are challenges with electrification that must be addressed to achieve emissions reduction. Cost impacts associated with electrification, including upfront and capital costs, especially to low-income customers, are of particular concern to CPA.

CPA therefore recommends SCAQMD adopt the PARs after incorporating the recommendations and considerations discussed below.

SCAQMD Should Pursue Wider Education, Engagement, and Outreach Strategies and Practices

CPA recommends SCAQMD 1) immediately identify and coordinate with community partners who may not have been engaged in the development process to solicit feedback and expand awareness of the

18-1

[1] Preliminary Draft Staff Report for: Proposed Amended Rule 1111 – Reduction of NOx Emissions From Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NOx Emissions From Small Natural Gas-Fired Water Heaters ("Preliminary Draft Staff Report"), September 2024, at pp. 2-23 – 2-26.
[2] NREL 2023 Utility Green Power Rankings, 2024, at pp. 3 and 6. Found here: https://www.nrel.gov/analysis/assets/pdfs/green-pricing-top-10-2022-data-plus-archives-28aug2024.pdf

PARs before the SCAQMD Board votes to adopt the PARs, and 2) if the PARs are adopted, build upon those identified stakeholders to further expand general public and consumer awareness of the PARs through the end of the PARs compliance timelines. CPA would be happy to work with SCAQMD staff to collaborate on options and strategies to connect with community partners, local governments, and utilities both before and following the potential adoption of the PARs.

A thorough public education, engagement, and outreach strategy is important to the success of SCAQMD's PARs and will improve customers' abilities to plan for potential changes in costs and installation needs or time that may result from compliance with the standards. SCAQMD staff have driven an extensive and ongoing outreach process to seek, receive, and incorporate input throughout the development of the PARs. However, it is apparent that the stakeholders SCAQMD has been able to engage with have been largely limited to those who will have compliance obligations: manufacturing and contractor experts. Unfortunately, members of (or representatives of) the general public, energy consumers, and community-based organizations ("CBOs") have not been extensively engaged across the development of the PARs to the same extent as manufacturing and contractor experts. 18-1

Though SCAQMD's engagement efforts are extensive they are often conducted through e-newsletters and email distribution lists, meaning stakeholders who are 1) aware of SCAQMD and its purpose, and 2) savvy enough to sign up for the proper distribution lists will be most aware of and prepared to provide their input on SCAQMD efforts.

In the immediate term, CPA urges SCAQMD rapidly engage community partners (such as CBOs representing low-income residents and disadvantaged communities) to solicit further input and perspectives before SCAQMD votes on the adoption of PARs 1111 and 1121. CPA suggests SCAQMD engage members of its Environmental Justice Advisory Group[3] ("EJAG") to help identify and solicit input from regional CBOs who have not yet provided input on the PARs before SCAQMD's Board votes on the PARs. SCAQMD staff could coordinate with the CBOs SCAQMD and the EJAG are already engaging regarding application assistance under the Go-Zero Rebate Program ("Rebate Program").[4] Given the compressed timeline between submitting these comments and the anticipated Board vote in December 2024, CPA reiterates our interest in assisting SCAQMD staff identify and engage community partners and local governments. 18-2

Assuming the PARs are adopted, CPA then recommends SCAQMD continue to identify and engage community partners to develop and execute a thorough education, engagement, and outreach strategy through the end of the final compliance deadline to improve public awareness of the standards and Go-Zero Rebate Program. CPA suggests SCAQMD continue its collaboration with members of its EJAG and expand those efforts to members of similar groups and committees, such as the California Air Resources Board ("CARB") Environmental Justice Advisory Committee[5] and the Disadvantaged

[3] https://www.aqmd.gov/nav/about/groups-committees/environmental-justice-advisory-group
[4] SCAQMD EJAG meeting presentation, August 30, 2024, at slide 12, found here: https://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/rescheduled-2024-ejag-agenda-august-30.pdf?sfvrsn=9
[5] https://ww2.arb.ca.gov/environmental-justice-advisory-committee

Communities Advisory Group[6] advising California Public Utilities Commission ("CPUC") and California Energy Commission ("CEC") actions.

CPA also suggests SCAQMD incorporate efforts to collaborate with local governments and utilities regarding solutions to unnecessarily prolonged service upgrade processes in its strategy. Some installations of appliances compliant with the PARs will require service and/or panel upgrades which can take more than 12 months to complete.[7] As an example, the alternative compliance option for emergency replacements could be particularly burdensome to low-income customers who need to upgrade to electrical appliances as a result of an unexpected equipment failure. That could add months or years of rental costs and could potentially exceed the 6-month alternative compliance rental option afforded to emergency replacements in the PARs. Similarly, CPA urges SCAQMD to coordinate with local permitting agencies to resolve challenges to quickly reviewing electrification upgrade permit applications to help streamline the process and reduce the need for temporary gas equipment. 18-3

The PARs will affect millions of customers across SCAQMD's jurisdiction and SCAQMD's engagement of and coordination with the impacted public should reflect the scope of the PARs' impacts.

The Go-Zero Rebate Program Should Address Additional Incentives Opportunities

CPA supports the Rebate Program and recommends SCAQMD to make the following changes:

- Expand the scope of its Rebate Program to mitigate costs, borne by low and moderate-income customers, of necessary infrastructure upgrades (e.g. panel upgrades) or construction to transition to appliances that comply with PARs 1111 or 1121;
- Ensure the Rebate Program is stackable with other incentives that will help ease upfront compliance costs;
- Coordinate with stakeholders to identify and expand access to other incentives, including those not associated directly with the upfront costs of the appliances themselves. This could include panel upgrades, equipment rentals, permitting fees and other required costs to electrify; 18-4
- Consider requiring decommissioning non-compliant equipment as a requirement for participation in the Rebate Program; and
- Consider higher incentives for demand response-enabled devices and controls to enable grid responsiveness and increase customer abilities to lower operational costs.

SCAQMD's Rebate Program will appropriately direct fees collected for non-compliance with the PARs and reinvest those funds in compliant appliance incentives. Even with the Rebate Program's incentives, customers may still face significant upfront costs associated with compliance with the PARs – including costs that extend beyond the capital costs of the appliances which are not currently considered in the Rebate Program. The cost of a panel upgrade, increasing the size of a space that houses equipment, or costs related to service upgrades can make upgrades prohibitive.

[6] https://www.energy.ca.gov/about/campaigns/equity-and-diversity/disadvantaged-communities-advisory-group-dacag

[7] San Francisco Bay Area Planning and Urban Research Association ("SPUR") Policy Brief: "Solving the Panel Puzzle," May 14, 2024, at p. 6. Found here: https://www.spur.org/publications/policy-brief/2024-05-14/solving-panel-puzzle?utm_medium=redirect&utm_source=solvingthepanelpuzzle.

The PARs will result in millions of customers transitioning from natural gas-fired appliances to electric appliances.[8] CPA is aware that this transition sometimes requires infrastructure upgrades or construction work to accommodate electrification before or during installation work. This additional work often results in higher parts and labor costs and protracted construction and installation timelines and is likely to disproportionately impact low-income customers. Additional resources and funding should be made available to assist low- and moderate- income customers make this transition.

Relatively few programs currently provide rebates for installation costs and those that do – such as the Technology and Equipment for Clean Heating Program ("TECH")[9] and Southern California Edison Company's ("SCE") Energy Assistance Savings Program[10] – do not cover all costs and do not always have funding available. The Rebate Program may be able to supplement those incentive gaps and provide stackable rebates to make water heater and furnace upgrades at low-to-no cost for low- income and disadvantaged residents. CPA also suggests SCAQMD consider incorporating into the Rebate Program a requirement to decommission non-compliant equipment at the time of replacement, as a condition to receiving the rebate, to avoid the potential for second markets for or customer retention of non-compliant equipment. Further, the education, engagement, and outreach strategy addressed above would provide SCAQMD staff the opportunity to also identify other programs (including regional programs) that may be stackable with the Rebate Program. 18-4

Conclusion

CPA appreciates SCAQMD staff's hard work on the PARs and looks forward to collaborating with staff throughout the remaining development and potential implementation processes.

If you have any questions, please contact C.C. Song at csong@cleanpoweralliance.org and Clark McIsaac at cmcisaac@cleanpoweralliance.org.

Sincerely,

C.C. Song
Senior Director of Regulatory Affairs
Clean Power Alliance of Southern California

[8] Preliminary Draft Staff Report, Table 5-1: PAR 1111 and PAR 1121 Baseline Emissions Estimate, at p. 5-2.
[9] https://techcleanca.com/
[10] https://www.sce.com/residential/assistance/energy-saving-program

Response to Comment Letter #18

Response to Comment 18-1:

Staff understands that outreach and community engagement regarding the rules are important for adoption of the rules and, moreover, emissions reductions. In addition to newsletter and newspaper postings, staff conducted numerous meetings with manufacturers, contractors, environmental groups, building owners, business associations, energy providers, local and state government agencies, consulting firms, etc. Staff also conducted many site visits to installations in various buildings, including single family homes, mobile home parks, low-rise and high-rise apartment buildings, office buildings, and grocery stores. Staff will continue the public outreach after rule adoption. In addition, the Go Zero incentive program has an outreach, education, and application assistance element. Please refer to Response to General Comment 5 for further information regarding outreach.

Response to Comment 18-2:

Through the public process, staff has engaged with environmental groups including EJAG, CBOs, and utilities, such as SoCalGas and SCE, for the development of PAR 1111, PAR 1121, and the Go Zero incentive program. In addition, education to disadvantaged communities is a key objective for the Go Zero incentive program that is projected to launch in early 2025. Please refer to Response to General Comment 5 for further information regarding outreach.

Response to Comment 18-3:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

By this new rule concept, consumers may opt to gas units if installing zero-NOx emission units would be challenging for emergency replacements. Short-term replacement with rental equipment is no longer needed and thus removed from the proposed amended rules. Please see Response to General Comment 7 for discussion on emergency replacements.

Response to Comment 18-4

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The Go Zero incentive program pilot phase has 75 percent of funds allocated to overburdened communities identified by CalEnviroScreen. To further help ease upfront costs, staff is exploring ways to identify other eligible incentive programs to stack with Go Zero incentives. In addition, a key objective of the Go Zero incentive program is to educate residents and small businesses about incentives and rebates that they can use with the Go Zero incentive program. The Go Zero incentive program will launch as a pilot program with the opportunity to expand and integrate any findings made during the pilot phase in future phases. Staff will consider stakeholder's suggestions for the pilot and future phases of the program.

COMMENT LETTER #19: PAUL GRANILLO (INLAND EMPIRE ECONOMIC PARTNERSHIP)

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Walter Marquez, *Fairplex*

Michael Curley, *Southern California Edison*

Michael D'Elia, *PNC Bank*

Georgina Garcia, *Kaiser Permanente*

October 16th, 2024

The Honorable Vanessa Delgado
Chair South Coast Air Quality Management District Governing Board
21865 Copley Dr.
Diamond Bar, CA 91765

To: The Honorable Vanessa Delgado

From: Inland Empire Economic Partnership

Comment Letter #19

RE: Proposed Amended Rules (PAR) 1111 & 1121

Dear South Coast Air Quality Management District Governing Board and the Honorable Vanessa Delgado,

The Inland Empire Economic Partnership (IEEP) is writing to express our opposition to Proposed Amended Rules 1111 and 1121. While we recognize and value the intention of the South Coast Air Quality Management Board (SCAQMD) in reducing NOx emissions to promote clean energy usage and protect the longevity of our changing environmental needs, PAR 1111 and PAR 1121 directly place our Inland Empire communities in a disadvantageous fiscal position that harms the residents and businesses within our region.

Economic Impact on the Region

With an average personal annual income nearly doubled below the state average, our concern lies with the anticipated increase in costs for installation, maintenance, and compliance for Inland Empire residents. The disproportionate fiscal impact PAR 1111 and 1121 would have on the region, in an effort to effectively meet zero-emission compliance standards, would further the financial disparity already seen across the Inland Empire, creating a wider divide between economic mobility and a stagnant or decreasing financial standing of Inland Empire residents. 19-1

Burden on Small Businesses

PAR 1111 and 1121 act as foundational efforts in the rise of burgeoning costs for small businesses, including, but not limited to, installation fees, certification and labeling fees, and mitigation fees. These additional costs have a realistic potential force to reduce the profitability of local small business, and in some cases, aid in closure of regional businesses altogether. 19-2

3403 Tenth Street, Suite 300
Riverside, California, 92508
Phone: (909) 944 – 2201
www.ieep.com

While we support the goal of adapting our environmental plans for the betterment of our regional and state-wide communities, PAR 1111 and 1121 create unrealistic standards and schedules that place Inland Empire residents and businesses in an immovable and detrimental financial position, with the potential for long-term counterproductive effects.

We urge SCAQMD to continue their efforts in reducing NOx emissions in a feasible manner, with a manageable and flexible schedule that best serves the individuals and businesses that will be directly impacted by their installation.

Thank you for your consideration,

Paul Granillo
President & CEO
Inland Empire Economic Partnership

3403 Tenth Street, Suite 300
Riverside, California, 92508
Phone: (909) 944 – 2201
www.ieep.com

Response To Comment Letter #19

Response to Comment 19-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For consumers electing to install zero-NOx emission units, staff understands that the upfront cost may be higher for some units; however, the socioeconomic analysis for this rule development estimates overall unit lifetime savings as the lower operational costs for zero-emission heat pumps would offset the higher upfront costs. In addition, zero-emission appliances such as heat pumps have significantly lower maintenance costs than those of traditional heating systems, meaning they will require a smaller annual budget for their proper functioning.[(14)] The upfront cost of zero-emission appliances for units subject to PAR 1111 is comparable to the cost of conventional replacements in buildings with preexisting AC. According to the U.S. Census' American Community Survey, almost 96 percent of homes in the Inland Empire region have AC, resulting in very little additional cost for homes in the region. PAR 1111 and PAR 1121 will provide regulatory certainty for the manufacturers to further advance the zero-emission technologies and provide more products to the market. Staff expects unit and installation costs will decrease when the market adoption increases during the future rule implementation. Federal, state, and local incentives, including the South Coast AQMD Go Zero Incentive Program, could offset some upfront costs for zero-emission appliances. Please see Response to General Comment 2 for more information on cost.

Response to Comment 19-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

PAR 1111 and PAR 1121 do not have certification or mitigation fee requirements for zero-NOx emission appliances. There are limited labeling requirements for manufacturers, but not for consumers. The socioeconomic analysis for this rule development estimates overall unit lifetime savings for zero-NOx emission units such as heat pumps as the lower operational costs would offset the higher upfront costs. Furthermore, the Go Zero incentive program has allocated funding for small businesses. Finally, staff will conduct a technology check-in(s) to assess the market adoption of zero-emission technologies and re-evaluate the cost and provide updates to the Stationary Source Committee. Please see Response to General Comment 2 for more information on cost.

[(14)] https://mygreenhome.io/heatpumps/heat-pumps-pros-and-cons#:~:text=Indeed%2C%20the%20cost%20of%20yearly%20maintenance%20of%20a,a%20smaller%20annual%20budget%20for%20their%20proper%20functioning.

COMMENT LETTER #20: JEFFREY BALL (ORANGE COUNTY BUSINESS COUNCIL)

ORANGE COUNTY BUSINESS COUNCIL
2 Park Plaza, Suite 100, Irvine, CA 92614 | P 949.476.2242 | F 949.476.0443 | www.ocbc.org

October 16, 2024

The Honrable Vanessa Delgado, Chair
South Coast Air Quality Management District Governing Board
21865 Copley Drive
Diamond Bar, CA 91765

Comment Letter #20

Re: Delayed Action Requested on Proposed Amended Rules 1111 & 1121

Dear Chair Delgado:

Orange County Business Council (OCBC), the leading voice of business in Orange County, kindly requests that the South Coast Air Quality Management District (SCAQMD) Governing Board postpone any action on Proposed Amended Rules (PAR) 1111 & 1121.

OCBC supports sustainable public and private infrastructure that protects public health, facilitates a well-educated public and workforce, and supports a robust economy – all while providing for reliable natural gas and electric transmission, distribution, and storage systems and supports sufficient "green" and open space infrastructure to promote quality of life. However, OCBC has serious concerns regarding PAR 1111 & 1121 – namely, we simply believe that there has not been enough time to collect a robust set of data and information regarding the overall impact these rules would have on the business communities thoughout the district. 20-1

If these PARs are adopted as written, it could have a significantly negative impact on the housing market, which is already a point of contention for Orange County's resident workforce. Mandating building owners to refurbish their facilities to be in compliance with these regulations, especially when done at scale, will cost owners an excessive amount in costs – which will likely be passed down to renters. This comes at a time in which the cost of living is at an all time high across the region. 20-2

These PARs will also have a significant impact on the hospitality industry – which is one of Orange County's most vibrant and diverse economic sectors. Many in the hospitality industry are still recovering from losses that were experienced during the state mandated lockdowns during the COVID-19 pandemic. Adding expansive regulatory burdens only a mere few years removed from the pandemic could prove to be detrimental. 20-3

OCBC will continue to support a comprehensive approach, and inclusive dialogue, to addressing the state's infrastructure needs and will continue to work with government entities, such as SCAQMD, to ensure that the voice of the Orange County business community is engaged when discussing comprehensive infrastructure improvements – such as natural gas infrastructure, among other things.

Orange County Business Council appreciates your consideration of our concerns on this matter.

Sincerely,

Jeffrey Ball
President/CEO

THE LEADING VOICE OF BUSINESS IN ORANGE COUNTY

Response to Comment Letter #20

Response to Comment 20-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural "gas-fired units to be sold and installed for use.

Staff has been working with business associations (e.g., Bizfed), businesses, and installers since the prior zero-emission rule development for Proposed Amended Rule 1146.2 - Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters and with the development of the 2022 AQMP. The public process for PAR 1111 and PAR 1121 started in October 2023, and staff held eight working group meetings, one public workshop, and one public consultation for stakeholders' engagement. Further, staff conducted many individual meetings and site visits with stakeholders regarding the feasibility of zero-emission standards. Some of the site visits were conducted in Orange County to single family homes, apartment buildings, hotels, and grocery stores. The PAR 1111 and PAR 1121 BARCT assessment includes real world installation data from TECH Clean California, which include costs for both single-family and multifamily installations since 2021. Finally, staff will conduct technology check-in(s) to assess market adoption of zero-emission technologies and re-evaluate the cost and provide updates to the Stationary Source Committee. For further discussion on outreach, please refer to Response to General Comment 5.

Response to Comment 20-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For consumers electing to install zero-NOx emission units, PAR 1111 and PAR 1121 had future effective compliance dates to allow for the technology and market to evolve as a response to regulatory requirements and for consumers to plan for future installations. Additionally, the Go Zero incentive program is expected to launch in 2025 to encourage retrofitting zero-emission appliances in single-family homes, multifamily homes, and small businesses. Staff presented current legislation regarding tenant protections, rent control, and pass-through costs in Working Group Meeting #5[(15)]. For more information regarding the Go Zero incentive program, please refer to Appendix C Response to Comment 18-4.

Response to Comment 20-3:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff understands the financial impacts the pandemic took on all industries, especially the hospitality industry. The proposed rule requirements will not take effect until future effective dates and only upon natural unit replacement, when existing units fail and must be replaced. The extended compliance schedule is designed to minimize the financial

[(15)] http://sfdev.aqmd.gov/home/news-events/calendar_v2?month=6&day=20&year=2024

impact. The proposed amended rules are critical to meet National Ambient Air Quality Standards, as healthy ambient air is important to protect public health and can help encourage tourism to the region. The new rule concept further addresses consumer concerns as it will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

COMMENT LETTER #21: ROSALIE BARCINAS (SOUTHERN CALIFORNIA EDISON)

SOUTHERN CALIFORNIA EDISON

October 16, 2024

Michael Krause
Assistant Deputy Executive Officer
South Coast Air Quality Management District
21865 Copley Dr.
Diamond Bar, CA 91765

Comment Letter #21

RE: Public Workshop for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause,

Southern California Edison (SCE) appreciates the opportunity to provide the following comments based on the Public Workshop (Workshop) for Proposed Amended Rules on Reduction of NOx emissions from Natural-Gas-Fired Furnaces (Rule 1111) and Reduction of NOx Emissions from Small Natural-Gas-Fired Water Heaters (Rule 1121), held on October 3, 2024, by the South Coast Air Quality Management District (SCAQMD).

SCE supports the proposed revisions to SCAQMD Rules 1111 and 1121 as outlined on October 3, 2024.

Under Rules 1111 and 1121, SCAQMD has introduced zero-emission regulations for new space and water heating equipment. This marks a significant step towards California's goal of achieving carbon neutrality by 2045, a goal that requires coordinated efforts and strategic actions across all sectors. These zero-emission regulations also pave the way for improved air quality, aiming to meet federal air pollution standards by 2037 within the SCAQMD area, while continuously promoting cleaner technologies to safeguard public health and the environment.

At SCE, we commend SCAQMD for its thorough rule update assessments, developed through extensive public engagement, numerous workshops, site visits, and collaboration with various stakeholders, including SCE.

SCE supports SCAQMD's proposed compliance dates and technology check-in.

The proposed rule by SCAQMD states that no person shall manufacture, supply, sell, resell, offer for sale, import, or install equipment for use within the SCAQMD, according to the Zero-Emission Limits and Compliance Schedule identified in Tables 1-2 of the Proposed Amended Rules. This provides a clearer path compared to using the manufactured date, as some entities have suggested. This proposed language helps prevent the issue of unsold equipment from outside the SCAQMD area being transferred and installed within the SCAQMD area, potentially delaying the intended air emission reductions by up to two years or more, depending on manufacturers' and distributors' inventory levels. Additionally, the compliance dates for the Bay Area AQMD Rules 9-4 and 9-6, which are equivalent to the SCAQMD Rules 1111 and 1121, are also not based on the manufactured date. Therefore, allowing the addition of the manufactured date could incentivize the transfer of unsold equipment from other areas to SCAQMD. Consequently, SCE supports SCAQMD's proposed compliance dates. 21-1

In addition, SCE supports a future technology check-in to identify updates on market supply of zero-emission technology for all equipment categories, market adoption of new technologies, reevaluation of fuel switching costs, and evaluation of building readiness addressing issues on small spaces, limited power supply, mobile home application, and any equity issues.

1

SCE is transforming the grid to enable the transition to a zero-carbon economy while managing the impacts of these rules.

SCE is proactively transforming the electric grid to accommodate significant advancements in decarbonized generation, the widespread adoption of customer-owned distributed energy resources, and the increasing use of electric vehicles and zero-emission appliances like heat pumps. As outlined in Edison's whitepapers "Countdown to 2045"[1] and, most recently, "Reaching Net Zero,"[2] electrification is the most cost-effective path to decarbonize California's economy and we are proactively working to plan for grid infrastructure needs. the necessary grid planning efforts required. "Countdown to 2045" calls for 100% of retail sales of electricity to be decarbonized, 90% of vehicles to be electrified, and 95% of buildings to be electrified and found that even accounting for grid upgrades required, customers would save about 40% on their energy bills by 2045. As California progresses towards its goal of becoming carbon neutral by 2045, the grid also must evolve to remain safe, reliable, resilient, and affordable. "Reaching Net Zero" expands on this analysis to look at Edison International's specific impacts, examining how "challenge scenarios" can inform potential risks and opportunities, and identifies certain policy solutions (such as proactive grid planning and reducing permitting timelines) to enable a rapid and equitable clean energy transition.

21-2

We are collaborating closely with the California Public Utilities Commission (CPUC), the California Independent System Operator (CAISO), and the California Energy Commission (CEC) to identify and ensure the state's energy needs are captured in the integrated energy policy reports and other planning processes. Through these coordinated efforts, California strives to make the electric grid ready to support the state's clean energy future. With a combination of diffuse adoption of new equipment and sufficient planning horizons, SCE should be able to accommodate these impacts with the traditional load planning processes. Preliminary analysis of adopting heat pumps for space and water heating in residential buildings is not expected to significantly impact the remaining capacity of distribution circuits serving these buildings.

Lastly, technology that allows for demand flexibility will help further reduce the grid impacts of these rules. The CEC has identified the need for 7GW of flexible demand by 2030 and is developing flexible demand appliance standards and partnering with other agencies to help enable the rapid expansion of flexible demand. Locally, SCE is developing innovative incentives and flexible demand programs to promote the market adoption of clean and energy-efficient technologies.

SCE acknowledges the critical role of workforce education and equity in implementing the proposed Rules 1111 and 1121 and is eager to collaborate with SCAQMD.

While the current market share of heat pump technologies in the SCAQMD area remains relatively low compared to traditional gas-fired technologies, the market is rapidly transitioning towards cleaner, more efficient solutions. According to ENERGY STAR's 2022 report, heat pump water heaters sales have increased by 26%, while gas-fired water heaters have decreased by 17%.[3] Additionally, the California Energy Commission's (CEC) recently adopted 2025 Building Energy Efficiency Standards are expected to

21-3

[1] Countdown to 2045. Edison International. https://www.edison.com/clean-energy/countdown-to-2045
[2] Reaching Net Zero. Edison International. https://www.edison.com/clean-energy/reaching-net-zero
[3] Heat Pump Water Heater Sales in 2022 Signal a Decisive Shift in Water Heating Trends. CleanTechnica. https://cleantechnica.com/2023/10/25/heat-pump-water-heater-sales-in-2022-signal-a-decisive-shift-in-water-heating-trends

drive 500,000 heat pump installations within the first three years of adoption[4], significantly accelerating market growth.

As heat pump adoption increases, SCE acknowledges the critical need for contractor education and awareness. SCE's Energy Education Centers offer a variety of heat pump and related courses, which are continually updated based on industry needs and insights. These courses, offered free of charge, cover best installation practices and emphasize the benefits of heat pumps, ensuring contractors, installers, and market actors are equipped to meet customer and regulatory expectations.[5] SCE has also developed a Contractor Demand Building Program that provides a free heat pump water heater for contractors who attend a series of trainings on proper installation techniques for heat pump water heaters.[6]

While drawing lessons learned from CEC's Building Initiative for Low-Emissions Development (BUILD) Program[7] and Technology and Equipment for Clean Heating (TECH) Clean California, SCE also supports statewide initiatives to accelerate the adoption of clean space and water heating technology across California homes to help create an equitable pathway to carbon-free homes by 2045. The TECH Clean California program provides essential support for contractors installing heat pumps, including heat pump water heaters. The program offers technical and sales training from certified instructors and manufacturers, with a focus on installation techniques and incentives designed to ease the transition to heat pump technologies.[8] These programs not only provide financial incentives but also enhance contractor training relevant to SCAQMD's proposed Rules 1111 and 1121. Additionally, SCE's certified, expert-led training classes ensure contractors are equipped to deliver optimal performance and customer satisfaction.[9] 21-3

At a statewide level, there is significant momentum behind electrification initiatives. In October 2023, ten major heating and cooling equipment manufacturers joined the CEC in a public commitment to help the state achieve its climate target of installing six million heat pumps in California's buildings by 2030.[10] This collaboration includes workforce development support to ensure that contractors are well-prepared to meet growing demand, including in the Southern California region.

Equity considerations remain at the forefront of SCE's strategy, ensuring that these communities can benefit from heat pump installations. SCE's Energy Savings Assistance (ESA) Program further complements these efforts by providing income-qualified customers with no-cost installations of energy-efficient equipment, including heat pumps and other energy-saving measures. This program helps reduce energy costs while improving comfort in low-income households, making it a key

[4] Energy Commission Adopts Updated Building Standards Expanding Requirements for Heat Pumps and Electric-Ready Buildings. California Energy Commission. https://www.energy.ca.gov/news/2024-09/energy-commission-adopts-updated-building-standards-expanding-requirements-heat

[5] HVAC Heat Pump Systems. Your guide to efficient heating and cooling. Southern California Edison. https://www.sce.com/sites/default/files/inline-files/Heat Pump Overview Fact Sheet_WCAG.pdf

[6] HPWH Installation Solutions. Southern California Edison. https://www.sce.com/business/contractor-demand-building-program

[7] Building Initiative for Low-Emissions Development Program – BUILD. California Energy Commission. https://www.energy.ca.gov/programs-and-topics/programs/building-initiative-low-emissions-development-program-build

[8] TECH Clean California. https://www.switchison.org/contractors/tech-clean-california

[9] HPWH Installation Solutions. Southern California Edison. https://www.sce.com/business/contractor-demand-building-program

[10] Top Global Building Appliance Manufacturers and Distributors Commit to Help California Achieve Six Million Heat Pump Goal. California Energy Commission. October 10, 2023. https://www.energy.ca.gov/news/2023-10/top-global-building-appliance-manufacturers-and-distributors-commit-help

component of California's equity and energy efficiency goals. Additionally, TECH Clean California allocates 40% of its budget to equity communities, including those within the SCAQMD area. These efforts are crucial to ensuring that disadvantaged and low-income communities benefit from the transition to zero-emission technologies. SCE is committed to collaborating with SCAQMD to expand its efforts in these communities, ensuring an equitable transition to clean energy solutions. 21-3

We look forward to working with SCAQMD to enhance both workforce readiness and equity as part of the broader transition to zero-emission space and water heating technologies.

Conclusion

We thank SCAQMD for taking into consideration the above comments on the Public Workshop for Proposed Amended Rule 1111 and 1121 and look forward to working with SCAQMD staff and other stakeholders throughout this process. Please do not hesitate to contact me at (626) 302-9652 with any questions or concerns you may have. I am available to discuss these matters further at your convenience.

Sincerely,

/s/ Rosalie Barcinas

Rosalie Barcinas
she/her
Director – Electrification & Customer Services Policy
Strategy and Regulatory Affairs
Southern California Edison
2244 Walnut Grove Ave, Rosemead, CA 91770
T. 626-302-9652
Email: rosalie.barcinas@sce.com

CC: Peter Campbell
Planning, Rule Development, and Implementation
South Coast Air Quality Management District

Jen Vinh
Planning, Rule Development, and Implementation
South Coast Air Quality Management District

Response to Comment Letter #21

Response to Comment 21-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff appreciates the support on the rule proposal and acknowledges that enforcement of PAR 1111 and PAR 1121 through the supply chain, as opposed to the manufacture date, can remedy the issue of sales and installations of non-compliant units. Staff will conduct a technology check-in(s) to assess the market inventory and adoption of zero-NOx emission technologies and provide updates to the Stationary Source Committee.

Response to Comment 21-2:

Staff appreciates SCE transforming the grid, collaborating with other agencies, and developing programs such as flexible demand to enable the transition to zero-emission standards. The impacts of PAR 1111 and PAR 1121 on the electric grid infrastructure area matter of concern with increased adoption of zero-emission technologies. Increased supply and strategic distribution of energy are essential to support increased energy demands. Staff anticipates technologies will emerge as a response to regulations to offer solutions for effective use of energy. Finally, the new rule concept will provide a slower transition to zero-NOx emission and more time for the grid enhancement to meet future demand.

Response to Comment 21-3:

Staff agrees that education regarding installation and use of zero-emissions technologies is of utmost importance for the workforce and owners and operators of zero-emission equipment. The Go Zero incentive program will educate both contractors and residents about the logistics of installing and operating zero-emission equipment, in addition to the potential impacts of the proposed amended rules. Moreover, the Go Zero program will allocate 75 percent of its funding to overburdened communities as identified by CalEnviroScreen. Staff will explore opportunities to collaborate with other organizations including SCE for the Go Zero incentive program.

COMMENT LETTER #22: DAVID L. NEARING

Peter Campbell

From: Dave Nearing <ibdave236@gmail.com>
Sent: Wednesday, October 16, 2024 9:13 PM
To: Peter Campbell
Subject: [EXTERNAL] Required Heat Pumps

Comment Letter #22

Mr. Hagman I am totally against this effort to make it mandatory to install heat pumps.

I arrived in Crestline in 1957, my family purchased the existing home in 1958, and we have managed to live without heat pumps for many years.
Last year Farmers dropped me, only a few months ago I was finally accepted by Calif. "fair" plan. after some tree cutting and installing new breakers. With the wrap around policy I am now paying $5484.00 /yr. 2023 I was paying $1846. Now the "Government" wants to tell me what I need to do to the homestead. 22-1

Please find some workaround to eliminate the proposed requirements further putting the Mountain Community financially behind.

Sincerely
David L. Nearing

Response to Comment Letter #22

Response to Comment 22-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For consumers electing to install zero-NOx emission units, staff understands the higher upfront cost for some cases; however, the socioeconomic analysis estimates overall unit lifetime savings as the lower operational costs would offset the higher upfront costs. There are also federal, state, and local incentives that could offset some upfront costs. South Coast AQMD is expecting to launch the Go Zero incentive program in 2025 and allocate 75 percent of its funding for overburdened communities. In addition, staff has revised the rule proposals for PAR 1111 and PAR 1121 to provide more flexibility. Staff expects the costs of zero-emission appliances will come down over time when there is more market adoption. Please see Response to General Comment 1 for discussion on flexibility, Response to General Comment 2 for discussion on cost, and Response to General Comment 8 for discussion on heap pumps used in cold climates.

COMMENT LETTER #23: KORY GRIGGS (INDOOR WEATHER INC.)

Peter Campbell

From: kory indoorweatherhvac.com <kory@indoorweatherhvac.com>
Sent: Thursday, October 17, 2024 7:21 AM
To: Peter Campbell
Subject: [EXTERNAL] Rule 1111 and 1121 Comment Letter #23

Public comments on Rules 1111 and 1121 proposed amendments.
Submitted by Kory Griggs

These amendments need to be delayed further to allow more time for the many reasons listed below

Both 1111 and 1121- It's obvious that the stakeholders do not have a grasp on the costs associated with this proposal that they will be required to shoulder, and therefore have not had enough time to make public comments.

Both 1111 and 1121 - The ongoing need to "shore up" the workings of the proposal. Issues range from inaccurate cost analysis, lack of studies in all climate zones in SoCal (particularly zone 16's more extreme cases of operating cost, installation cost and infrastructure upgrade costs), lack of available funding on socioeconomic need basis and funding directed at infrastructure upgrades.

Both 1111 and 1121- A proper study and cost analysis needs to be done using actual data (not internet searches for the "average" cost of XYZ).
Staff at a minimum need to have the data from the manufacturers on the products available - heat pump HVAC systems both standard and low ambient *standard scroll or reciprocating, inverted, ducted, ductless, unitary, and proper knowledge of needs or lack thereof of backup heat requirements. AND heat pump tanked water heaters both 120 volt and 240 volt- and have a better working knowledge of the installation requirements of these products (which include permitting requirements involving both health a safety). Get real world estimates from actual HVAC contractors, electricians and plumbers for the installation and infrastructure upgrade requirements on the various building types and ages in the district to install these products. As in all state and government work there should be at least three different estimates for the cost of installation. Once staff has this data a real-world cost analysis can be made. 23-1

Both 1111 and 1121- The various building types should not be averaged together to provide a cost analysis. The operating cost, and installation requirement vary greatly from building type to building type, with data that is not averaged out across all types a better cost analysis can be made.

1111 - In the comparison of Gas furnace operating cost vs new heat pump technology cost, the data points are off.
Both the gas furnace and heat pump equipment that are being compared are unspecified. Based

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on the numbers used we can only assume the following.
A. The furnace is of average size 60-80k 3 ton, is of average efficiency 80% AFUE is a 40 NOx unit, and uses a PSC blower motor.
B. The heat pump is an inverted type, is of the highest SEER and of a smaller tonnage (3 tons or less).
In this comparison multiple assumptions are made.
1. That if the furnace were to be replaced it would be replaced with the same type using the same amount of energy BUT no furnace produced today by law is allowed to use PSC motor technology, therefore the wattage data of this data point is off. All furnace replacements in the district must be 14 NOx or less. The option for greater than 80% AFUE also exists, as well as multiple stage, modulating and variable speeds.
2. Unlike the gas furnace assumption, the data point for the heat pump assumes the highest SEER 2 rating (I'm guessing 18 SEER 2 or greater based on assumed size of 3 tons and wattage figures provided) when calculating wattage. This causes the wattage data to be skewed lower. The minimum efficiency and average efficiency installed is 14 SEER 2.
THESE ASSUMPTIONS AND THE EQUIPMENT COMPARISONS LEAD TO FALSE DATA POINTS. These data points need to be straight across, equipment size and efficiency types to be able to properly assess cost thresholds.

1111- all heat pump refrigerants will be changing next year. Currently we in the industry have little to no data on cost of new equipment and are just now receiving training on installation requirements. Leaving a proper cost analysis further skewed due to unknown costs of equipment and unknown cost of new installation requirements. Currently we are hearing that equipment will be as much as 20% more, and new installation requirements look like they may add 2-4 additional hours of work, which will add as much as a 20% increase in labor costs. 23-2

Both 1111 and 1121- At a minimum, a media campaign or public outreach program needs to be funded in advance of the passage of these amendments. The cost that will be incurred directly by the stakeholders are so great in many instances that the lack of effort to inform the public is unjust. 23-3

1121- Having a technology check-up in 2027 after the amendments have already taken effect in new construction and once the amendments take affect for "replacement" tanked water heaters is unworkable. Plumbers have nearly zero working knowledge and very little exposure to this new technology.
Unlike HVAC heat pump technology that has been in use and is well known by those that install, maintain, and repair the equipment, for years and years, plumbers have little to no working knowledge of the technology and equipment they will be required to install in all applications in just slightly more than two years from now. A major effort needs to be put forth to get the plumbing industry involved prior to the adoption of amendment 1121 to avoid the foreseeable technological and installation pitfalls after the passage of this amendment. 23-4

Both 1111 and 1121- Having a known need prior to the passage of the amendments for more financial assistance to bring cost thresholds in alignment and then propose after passage a

"follow-up" is not a workable solution. Not only does the AQMD not have a proper grasp of cost adoption, but they are going to rely on a hopeful future analysis in 2027 far too deep into the dates of effect of the amendments to allow for proper analysis of the cost thresholds used to justify the passage in the first place. 23-4

Both 1111 and 1121 - temporary or rental "emergency" replacement issues. As of now the proposal as written is completely unworkable. The cost to the stakeholders that will need access to this "emergency" temporary or rental is outsized. As an HVAC contractor I can tell you there is no such thing as a "temporarily" installed furnace or water heater, both are permanently installed items in a home's infrastructure, they require permits and inspection. Typically, a manufacturer requires knowledge of the location and installation date to provide a full factory warranty. Once this "temporary" furnace or water heater is installed it will then be required to be removed in as little as 6 months (not sure if we have a right to gain access to a private property and forcibly remove this product.. TBD (?). Therefore, the cost to temporarily install and "rent" a furnace is greater than just a regular install. Additional labor will be required to remove the equipment. Additional cost will be incurred in tracking and reporting needed to the AQMD. 23-5

1121 - Health department codes for the recovery time and temp of hot water in all public food establishments, hospitals etc. etc. The data I'm seeing with heat pump tanked water heaters does not appear to support the requirements, this needs to be accounted for due to public health and safety requirements. 23-6

Kory Griggs
Indoor Weather Inc
9092896201 ext 4
indoorweatherhvac.com

Response to Comment Letter #23

Response to Comment 23-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff started to solicit technology and cost information from manufacturers in the 2023 manufacturer survey during the process of the Rule 1146.2 amendment. The survey questions included appliances for residential and commercial buildings. At the first working group meeting for PAR 1111 and PAR 1121, staff discussed the survey outcome and continued to urge stakeholders to share the cost information or offer feedback on the information staff collected.

The PAR 1111 and PAR 1121 BARCT assessment used real world installation data from TECH Clean California installations, which include upfront costs for both single-family and multifamily installations since 2021 and included cold climate applications. Pease see Chapter 2 and Response to General Comment 6 for more discussion about the analysis and Response to General Comment 8 for more discussion on cold climate heat pumps.

Through previous rulemaking, staff gathered a list of installers for mountain communities. Those installers have been notified of all public meetings and documents released for this

rulemaking. Further, staff reached out to certain individual high-altitude installers to ensure participation.

Manufacturers have expressed that the regulatory certainty that comes with zero-NOx emission standards would have enhanced future product development. As BAAD adopted zero-emission standards for space and water heaters in residential and commercial buildings in March 2023 and CARB is also in rule development for similar requirements, the previous rule concept prior to the current rule concept for PARs 1111 and 1121 aligned with other agencies and with their policy direction. A group of manufacturers and agencies joined the California Heat Pump Partnership (CAHPP) and committed to advancing the state toward Governor Newsom's goal to install 6 million heat pumps by 2030.[(16)] Chapter 2 has detailed discussion on various types of heat pumps technologies and staff analysis has considered different building types and ages. Please refer to Response to General Comment 4 for more discussion on technology readiness and Response to General Comment 6 for more discussion on analysis.

Staff evaluated the high-altitude applications and understood that in cold climates and mountain communities, cooling by AC systems is less common. Cold climate heat pumps can pull heat from the air even at sub-zero temperatures and are utilized in colder climates in the U.S. and abroad. Recent technology development has also resulted in various zero-emission options that minimize building or electrical upgrades during installation and thus reduce the cost. Please see Response to General Comment 4 for more information. The new rule concept for PARs 1111 and 1121 further addresses the concern. Staff expects the technologies will further advance, market adoption will increase with clear policy direction, and costs of zero-NOx emission units will come down over time.

Staff analysis on the fuel switch/operational cost is based on the 2019 RASS released by the CEC. The RASS includes information on the energy use of both electrical and natural gas appliances in Californian homes. Heat pump energy efficiency rate was not utilized in the calculation; however, staff has included discussion of the technologies and their efficiencies with references of information sources in Chapter 2. Please refer to Response to General Comment 6 for more information.

Response to Comment 23-2:

Staff understands that effective in 2025 (or 2028 for window units), refrigerants with a global warming potential of over 750 will no longer be able to be used in new equipment. It is expected that most contractors' day-do-day work will not change and it will be "business as usual".[(17)] Manufacturers have chosen future compliant refrigerants (e.g., R-32 and R-454B) for zero-emission appliances and those refrigerants are designed to be more efficient. In addition, in the previous rule concept prior to the new rule concept, PAR 1111 and PAR 1121 zero-emission effective dates were one to five years after the effective dates of refrigerant transition and the installations are based on appliance natural turnover.

Response to Comment 23-3:

Staff understands that outreach and community engagement regarding the zero-emission rules are important. In addition to newsletter and newspaper postings, staff conducted

[(16)] https://heatpumppartnership.org/
[(17)] Whttps://www.rheem.com/air-conditioning/articles/what-to-know-about-the-2025-hvac-refrigerant-change/

numerous meetings with manufacturers, contractors, environmental groups, building owners, business associations, energy providers, local and state government agencies, consulting firms, etc. Staff also conducted many site visits to installations in various buildings, including single family homes, mobile home parks, low-rise and high-rise apartment buildings, office buildings, and grocery stores. Staff will continue the public outreach after rule adoption. In addition, the Go Zero incentive program has an outreach, education, and application assistance element. Please refer to Response to General Comment 5 for additional information regarding outreach.

Response to Comment 23-4:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff will provide updates/technology check-in(s) on the rule implementation to the Stationary Source Committee prior to major rule milestones. The effective date for zero-emission appliances installed in new building aligns with building code; therefore, installers will have to install the zero-emission technology in new buildings with or without PAR 1111 and PAR 1121.

There are many training opportunities offered to contractors through manufacturers, various incentive programs (e.g., TECH), utility companies, and local agencies. They could include in-person and virtual trainings. The Go Zero incentive program has also allocated funds for installer training. The training sessions will present contractors with the intricacies of installations and also provide training on permit processes and improve their ability to secure permits to complete electrical and mechanical connections. The anticipated launch of the Go Zero incentive program is 2025. For financial assistance, please see Response to General Comment 2 for more information.

Response to Comment 23-5:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Please see Response to General Comment 2 regarding the cost concern and Response to General Comment 7 regarding emergency replacements.

Response to Comment 23-6:

Staff understands the difference of recovery time between heat pumps and conventional gas units and included that in the analysis and working group meeting discussion. Water heaters used in restaurants and hospitals and the health code were discussed during the rulemaking for Rule 1146.2. Please check the Rule 1146.2 Public Hearing documents including staff report and socioeconomic impact assessment for analysis related to costs. [18]

[18] http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2024/2024-Jun7-026.pdf?sfvrsn=6

COMMENT LETTER #24: JEANINE JUST

Peter Campbell

From: jeanine jeaninejust.com <jeanine@jeaninejust.com>
Sent: Thursday, October 17, 2024 7:58 AM
To: Peter Campbell
Cc: jeanine jeaninejust.com
Subject: [EXTERNAL] MOUNTAIN RESIDENT JEANINE JUST ....Commenting on the AQMD Rule 1111 and 1121

Comment Letter #24

TO: Peter Campbell,

I want to comment about the proposal the AQMD is working on to amend rule 1111 and 1121.

• My name is Jeanine Just. I lived in Laguna Beach for over 20 years, before making Crestline my home for the past 15 years. Unlike Laguna Beach, it's common for electricity to frequently go out and sometimes for days. I'm a single woman in my 70s, and I'm happy to report that I have safely survived lots of tough mountain weather conditions. Why? Because I used my commonsense and selected from several options—gas, electric, fireplaces, candles and backup food supplies. I know for certain that electricity requirements in the mountains—are very different than in the Southern CA basin. I feel it's very important for AQMD to do a study specific on the mountains, to determine the detrimental effects of this proposal—and to consider making exceptions to the proposed rules that would apply to 4000 feet and above. California's power grid is already strained. The mountain needs a solution that would work for both the environment and the economy—not a one-size-fits all solution.

• Just as air quality is important to AQMD …. air quality is very important to mountain residents. In fact, many mountain residents moved here to get away from the poor air quality in the S. CA basin. We don't appreciate it when the wind blows the smog up to our mountains and creates unhealthy air quality. 24-1

• I'm also concerned about the proposal for "all electric mountain homes." Yesterday, the electric company sent a text that says, "Alert: High winds and fire conditions are forecast for Friday morning through Saturday afternoon. We may have to shut off your power to decrease risk during this time. Power restoration typically takes 8 hours and will start after the wind subsides. Delays may occur if daylight is required for safe inspections." My question is … how will mountain residents stay alive during cold winter weather—when their only option is electricity? 24-2

• I've been a business consultant and entrepreneurs' advocate for over 40 years. I know for certain that small businesses in America, and especially in the mountains, are struggling to stay in business. There are lots of reasons, but California small business laws over the past 10 years, have reduced small businesses profitability. On top of that the Covid business closures forced lots of business to close their doors. IF … mountain business property owners or business renters have to pay all the fees and money required to upgrade their utilities to all electric (and then pay extra electric bills) —it will be the "straw that breaks the camels back" for lots of our mountain businesses. Lots of buildings are older and would require huge amounts of money to bring them up to AQMD standards. We need our small businesses!!! 24-3

• Our mountain has some upper socio-economic residents—but lots of residents are mid to lower socio-economic status, who moved here because the cost of living was affordable. We also have lots of retirees and seniors that are on fixed incomes. Many people are suffering from the home/property damage caused by Snowmageddon in 2023—and struggling financially because they had to take out SBA loans to rebuild their damaged property. Now insurance cancellation and/or huge increases in 24-4

1

home insurance costs have many people living in fear of losing their homes or are losing their homes. The AQMD proposal would further devastate the mountain economy and the lives of many mountain residents. 24-4

I am asking AQMD to seriously reconsider the unique mountain challenges and our unique weather environment. I believe the AQMD proposal would have major unintended negative consequences. Thanks for your consideration,

Sincerely,
Jeanine Just

23581 Lake Drive, Crestline, Ca
909-338-1313

Response to Comment Letter #24

Response to Comment 24-1:

Staff appreciates the comments on PAR 1111 and PAR 1121 and the understanding of importance of air quality to the mountain communities.

Response to Comment 24-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff recognizes there are buildings in the mountain communities that are already all-electric, and that there is concern about grid reliability during extreme weather conditions. As electricity is required to operate not only zero-emission appliances but also many NOx-emitting natural gas units (e.g., gas furnaces), it is essential to ensure electric grid reliability. Please see Response to General Comment 3 on electric grid reliability. As zero-emission technologies advance, some new technologies will enter the market that require minimal electrical upgrade and construction, for example, currently available 120V heat pump water heaters and portable heat pumps for HVAC. Please see Response to General Comment 4 for more discussion on technology readiness.

Response to Comment 24-3:

State and local incentives could offset some upfront costs for small businesses, including the ongoing state-wide TECH Clean California rebates; local or utility programs for commercial applications such as the SCE program implemented by Willdan Energy Solutions; and the upcoming South Coast AQMD pilot incentive program, Go Zero, which will have $5 million allocated for small businesses to transition natural gas units to heat pumps. Go Zero will allocate 75 percent of funding for overburdened communities, and there is potential for a fivefold funding increase for future phases of the program. The new rule concept also includes mitigation fees for NOx-emitting units sold which will create a revenue stream for future Go Zero rebate funding. Staff anticipates that Go Zero rebates

for small businesses may be layered with other applicable rebates and tax credits, as well as local incentives, and the application assistance funding will allow for further guidance to program applicants on the incentive stacking process.

Heat pumps can be over 300 percent more efficient than conventional natural gas or electric resistance units, leading to operational cost savings over the lifetime of the unit. For more information on cost, please see Response to General Comment 2.

Regarding the rule applicability, installations in small businesses may subject to Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters, Small Boilers and Process Heaters which was adopted in June 2024 and includes future effective zero-emission standards. Please check the Rule 1146.2 Public Hearing documents including staff report and socioeconomic impact assessment for analysis related to costs. [(19)]

Response to Comment 24-4:

For consumers choosing to install zero-NOx emission units, despite capital cost funding opportunities and operational cost savings mentioned in above Response to Appendix C Comment 24-3, staff understands there may still be cost concerns. A status update/technology check-In will re-evaluate the market for zero-emission technology and the associated costs. As manufacturers provide the market with more heat pump models, costs may decrease overtime. PAR 1111 and PAR 1121 are applicable to new installations at end of unit life, or at natural turnover, meaning that existing units can continue to operate until they naturally break down, resulting in long implementation timelines. In addition, staff has proposed a new rule concept which addresses the concern. Please see Response to General Comment 1.

[(19)] http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2024/2024-Jun7-026.pdf?sfvrsn=6

COMMENT LETTER #25: BIZFED

Los Angeles County Business Federation
Strengthening the Voice of Business Since 2008

Comment Letter #25

October 17, 2024

Hon. Vanessa Delgado, Chair
South Coast Air Quality Management District Governing Board
21865 Copley Dr.
Diamond Bar, CA 91765

Dear Chair Delgado and Governing Board members –

We are reaching out on behalf of BizFed, the Los Angeles County Business Federation, an alliance of more than 200 business organizations representing more than 400,000 employers in Los Angeles County, including large and small businesses in a wide range of industries throughout the South Coast Air Basin (SCAB).

We are writing specifically regarding Proposed Amended Rule (PAR) 1111 and PAR 1121; many of the businesses we represent have or will be writing their own individual comment letters that specifically address the impacts to their industries. Our comments address the impacts on the business community as a whole and include overarching concerns of our diverse membership.

Recently BizFed has hosted SCAQMD staff and Governing Board members to demonstrate the impact of the proposed rulemaking on multifamily residential properties. These proposed rules, with their expedited implementation timelines, will be the highest cost for the lowest amount of NOx reduction in the agency's history. We are extremely concerned about the impact on the southern California economy and ton an already overburdened and constrained housing market. 25-1

We have attached the presentation that was shared with SCAQMD staff and Governing Board members that illustrates the real-world costs of these proposed rules on multifamily residential properties. In each case a licensed professional HVAC/mechanical engineer was retained to develop a scope of work to implement the proposed rules for water and space heating at two separate residential properties. The scope was then provided to a licensed general contractor to obtain quotes to complete the work.

As you will see from the attached, the costs are astronomical. In the first case, the buildings will need to be retrofitted to eliminate the existing hydronic space heating system, which is common for larger multifamily buildings built since the late 1980's. In that case, the total retrofit cost exceeds $37,000 per unit.

In the case of the older property which will require much more extensive site and electrical system updates to accommodate Proposed Amended Rules 1111 and 1121, the cost exceeds $72,000 per unit. Properties similar to this exist throughout the South Coast Air 25-2

Los Angeles County Business Federation / 1150 South Olive Street, Floor 10, Los Angeles, CA 90015 / T: 323.889.4348 / www.bizfed.org

Basin and this example is reflective of the tremendous cost and detrimental impact these proposed rules will have if adopted as written.

It is our desire that these real- world costs and impacts be included in the record of this rulemaking should the Governing Board decide to move forward. However, we strongly recommend that the Governing Board conduct further due-diligence to better understand these significant costs and impacts to housing in southern California before moving forward. At the minimum, we recommend that the Board modify both PAR 1111 and 1121 to align implementation with the district's own Air Quality Management Plan which identifies 2029 as the implementation date for each proposed rulemaking. 25-2

Further, we appreciate that staff has somewhat recognized the significant challenge that implementing these rules will be for single family and multifamily owners by allowing for an extension of time for projects that will require construction and/or utility upgrades. We believe this a good first step but that the rule needs to go farther to address what could be devastating cost impacts to homeowners and renters. Specifically, there should be a further extension of time for implementation in buildings where the existing hydronic heating systems will need to be replaced. Additionally, homeowners facing costs of $20,000 or more should be given additional time to secure financing and/or let the market mature to see implementation costs come down with new technologies. 25-3

Thank you for your attention to these critical issues. We look forward to continuing to collaborate with you to make these proposed rules less onerous and impactful to homeowners and renters in the South Coast Air Basin.

Thank you for your thoughtful consideration.

Sincerely,

Fran Inman
BizFed 2024 Chair
Majestic Realty

David Fleming
BizFed Founding Chair

Tracy Hernandez
BizFed Founding CEO
IMPOWER, Inc.

David Englin
BizFed President

BizFed Association Members

Action Apartment Association
Advanced Medical Technology Association
Alhambra Chamber
American Beverage Association
Antelope Valley Chamber formerly Lancaster Chamber of Commerce
Apartment Association of Greater Los Angeles
Apartment Association of Orange County
Apartment Association, CA Southern Cities, Inc .
Apartment Association of California
Arcadia Association of Realtors
AREAA North Los Angeles SFV SCV
Armenian American Business Association
Armenian Trade & Labor Association
Arts District Los Angeles
ASCM Inland Empire Chapter
Associated Builders & Contractors SoCal (ABC SoCal)
Associated General Contractors
Association of Independent Commercial Producers
AV Edge California
Azusa Chamber
Bell Chamber
Beverly Hills Chamber
BioCom
Black Business Association
Black Professional Network
Boyle Heights Chamber of Commerce
Bridge Compton Org
Building Industry Association - LA/Ventura Counties
Building Industry Association of Southern California
Building Industry Association- Baldyview
Building Owners & Managers Association of Greater Los Angeles
Burbank Association of Realtors
Burbank Chamber of Commerce
Business and Industry Council for Emergency Planning and Preparedness
Business Resource Group
CalAsian Chamber

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CalChamber
California African American Chamber of Commerce
California Apartment Association- Los Angeles
California Asphalt Pavement Association
California Bankers Association
California Black Chamber of Commerce
California Business Properties
California Business Roundtable
California Cleaners Association
California Contract Cities Association
California Council for Enviornmental & Economic Balance (CCEEB)
California Fuels & Convenience Alliance- Formerly California Independent Oil Marketers Association (CIOMA)
California Gaming Association
California Grocers Association
California Hispanic Chamber
California Hotel & Lodging Association
California Independent Petroleum Association
California Infrastructure Delivery Coalition
California Life Sciences Association
California Manufacturers & Technology Association
California Metals Coalition
California Natural Gas Producers Association
California Restaurant Association
California Retailers Association
California Self Storage Association
California Small Business Alliance
California Travel Association (CalTravel)
California Trucking Association
Californians For Smarter Sustainability
Carson Chamber of Commerce
Carson Dominguez Employers Alliance
Central City Association
Century City Chamber of Commerce
Chatsworth Porter Ranch Chamber of Commerce
Citrus Valley Association of Realtors
Civil Justice Association of California CJAC
Claremont Chamber of Commerce
Commerce Business Council formerly Commercial Industrial Council/Chamber of Commerce
Compton Chamber of Commerce
Compton Community Development Corporation
Compton Entertainment Chamber of Commerce
Construction Industry Air Quality Coalition
Construction Industry Coalition on Water Quality
Council of Infill Builders
Crenshaw Chamber of Commerce
Culver City Chamber of Commerce
Downey Chamber of Commerce
Downtown Alliance
Downtown Long Beach Alliance
DTLA Chamber of Commerce
El Monte/South El Monte Chamber
El Salvador Corridor Association
El Segundo Chamber of Commerce
Employers Group
Energy Independence Now EIN
Engineering Contractor's Association
EXP The Opportunity Engine
FastLink DTLA
Filipino American Chamber of Commerce
Friends of Hollywood Central Park
FuturePorts
Gardena Valley Chamber
Gateway to LA
Glendale Association of Realtors
Glendale Chamber
Glendora Chamber
Greater Antelope Valley AOR
Greater Bakersfield Chamber of Commerce
Greater Coachella Valley Chamber of Commerce
Greater Downey Association of REALTORS
Greater Lakewood Chamber of Commerce
Greater Leimert Park Crenshaw Corridor BID
Greater Los Angeles African American Chamber
Greater Los Angeles Association of Realtors
Greater Los Angeles New Car Dealers Association
Greater San Fernando Valley Chamber
Harbor Association of Industry and Commerce
Harbor Trucking Association
Historic Core BID of Downtown Los Angeles
Hollywood Chamber
Hospital Association of Southern California
Hotel Association of Los Angeles
ICBWA- International Cannabis Women Business Association
Independent Cities Association
Independent Hospitality Coalition
Industrial Environmental Association
Industry Business Council
Inglewood Board of Realtors
Inland Empire Economic Partnership
Irwindale Chamber of Commerce
Kombucha Brewers International
La Cañada Flintridge Chamber
LA County Medical Association
LA Fashion District BID
LA South Chamber of Commerce
Larchmont Boulevard Association
Latin Business Association
Latino Food Industry Association
Latino Golfers Association
Latino Restaurant Association
LAX Coastal Area Chamber
Licensed Adult Residential Care Association-LARCA
Long Beach Area Chamber
Long Beach Economic Partnership
Long Beach Major Arts Consortium
Los Angeles Area Chamber
Los Angeles Economic Development Center
Los Angeles Gateway Chamber of Commerce
Los Angeles Latino Chamber
Los Angeles LGBTQ Chamber of Commerce
Los Angeles Parking Association
Los Angeles Regional Food Bank
MADIA Tech Launch
Malibu Chamber of Commerce
Manhattan Beach Chamber of Commerce
Manhattan Beach Downtown Business & Professional Association
Marina Del Rey Lessees Association
Marketplace Industry Association
Monrovia Chamber
Motion Picture Association of America, Inc.
MoveLA
MultiCultural Business Alliance
NAIOP Southern California Chapter
NAREIT
National Association of Minority Contractors
National Association of Theatre Owners CA/Nevada
National Association of Women Business Owners
National Association of Women Business Owners - LA
National Association of Women Business Owners-California
National Federation of Independent Business Owners California
National Hookah
National Latina Business Women's Association
Norweigian American Chamber of Commerce
Ofiso Community Foundation
Orange County Business Council
Orange County Hispanic Chamber of Commerce
Pacific Merchant Shipping Association
Panorama City Chamber of Commerce
Paramount Chamber of Commerce
Pasadena Chamber
Pasadena Foothills Association of Realtors
PGA
Pharmaceutical Care Management Association
PhRMA
Pico Rivera Chamber of Commerce
Pomona Chamber
Rancho Southeast REALTORS
ReadyNation California
Recording Industry Association of America
Regional CAL Black Chamber, SVF
Regional Hispanic Chambers
San Gabriel Valley Economic Partnership
San Pedro Peninsula Chamber of Commerce
Santa Clarita Valley Chamber
Santa Clarita Valley Economic Development Corp.
Santa Monica Chamber of Commerce
Secure Water Alliance
Sherman Oaks Chamber
Signal Hill Chamber
South Bay Association of Chambers
South Bay Association of Realtors
South Gate Chamber of Commerce
Southern California Contractors Association
Southern California Golf Association
Southern California Grantmakers
Southern California KFC Franchise
Southern California Leadership Council
Southern California Minority Suppliers Development Council Inc.
Southern California Water Coalition
Southland Regional Association of Realtors
Specialty Equipment Market Association
Structural Engineers Association of Southern California
Sunland/Tujunga Chamber
Sunset Strip Business Improvement District
Swiss American Chamber of Commerce
Thai American Chamber of Commerce
The Bridge Network
The LA Coalition for the Economy & Jobs
The Los Angeles Taxpayers Association
The Two Hundred for Homeownership
Torrance Area Chamber
Tri-Counties Association of Realtors
United Chambers – San Fernando Valley & Region
United Contractors
United States-Mexico Chamber
Unmanned Autonomous Vehicle Systems Association
Urban Business Council
US Green Building Council
US Resiliency Council
Valley Economic Alliance, The
Valley Industry & Commerce Association
Venice Chamber of Commerce
Vermont Slauson Economic Development Corporation
Veterans in Business
Vietnamese American Chamber
Village of Sherman Oaks BID
Warner Center Association
West Covina Chamber
West Hollywood Chamber
West Hollywood Design District
West Los Angeles Chamber
West San Gabriel Valley Association of Realtors
West Valley/Warner Center Chamber
Westchester BID
Western Electrical Contractors Association
Western Manufactured Housing Association
Western Propane Gas Association
Western States Petroleum Association
Westside Council of Chambers
Westwood Community Council
Whittier Chamber of Commerce
Wilmington Chamber
World Trade Center
Yes in My Backyard
7-Eleven Franchise Owners Association of Southern California

Los Angeles County Business Federation / 1150 South Olive Street, Floor 10, Los Angeles, CA 90015 / T:323.889.4348 / www.bizfed.org

Response to Comment Letter #25

Response to Comment 25-1:

Staff appreciates BizFed's work with staff during the rulemaking and for providing comments.

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

South Coast Air AQMD has been classified as in "extreme" nonattainment for the 2015 8-hour ozone standard with the worst air quality in the nation. Therefore, there is a need to identify and propose cost-effective control/compliance options, while striving to achieve the emission reductions necessary for regional air quality attainment, especially given the magnitude of the emission reductions required to meet the ozone standards. Implementation of PAR 1111 and PAR 1121 will result in a NOx emissions reduction of 6 tons per day, which means 10 percent of 2018 NOx emissions from all stationary and area sources in the region.

The proposed rules are based on the BARCT assessment as discussed in Chapter 2 of this report. The cost-effective analysis of the BARCT assessment utilizes real world installation data from TECH Clean California, which includes costs for both single-family and multifamily installations since 2021. The new manufacturer alternative compliance option addresses the concern for cases that may not be cost effective by installing zero-NOx emission units, when consumers may choose to install natural gas-fired units.

Response to Comment 25-2:

PAR 1111 and PAR 1121 apply at the unit natural turnover when a replacement unit must be installed, often at unit breakdown. The rules evaluate the incremental cost of installing a zero-emission appliance versus a conventional gas unit. Retrofitting work such as eliminating the existing system would not be considered in the incremental cost, as the existing unit would have to be removed even to install like-for-like units. Furthermore, as zero-emission technologies advance, technologies may emerge that can serve as drop-in replacements for existing systems, saving considerable costs, such as heat pump hydronic heating systems[(20)].

Staff analysis has considered the required electrical upgrades in the costs to retrofit a zero-emission appliance. Further, Chapter 2 provides discussion on new and emerging technologies that are less likely to require a panel upgrade. Please see Response to General Comment 4 for more information.

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

[(20)] https://www.harvest-thermal.com/product#air-handler

Response to Comment 25-3:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff will continue to work with stakeholders after the rule adoption for the implementation. Staff is also committed to the technology check-in to reassess the technologies and cost.

Incentive programs such as South Coast AQMD's Go Zero and the state's TECH Clean California, will help alleviate the financial burden of installing zero-emission appliances.

Hydronic heating systems are most likely subject to Rule 1146.2 which was amended in June 2024 for zero-emission standards with later compliance dates for installations in existing buildings. Please check the Rule 1146.2 Public Hearing documents for the staff analysis.[21]

[21] http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2024/2024-Jun7-026.pdf?sfvrsn=6

COMMENT LETTER #26: KEN BELDING

Comment Letter #26

Jennifer Vinh

From: Ken Belding <kbelding@empirecomfort.com>
Sent: Thursday, October 17, 2024 11:49 AM
To: Jennifer Vinh
Cc: Peter Campbell
Subject: [EXTERNAL] ARLO: RE: Proposed Amended Rule 1111Control of Nitrogen Oxides from Residential-Type, Natural Gas-Fired Space Heating Equipment

Dear Ms. Vinh,

On behalf of Empire Comfort Systems, we appreciate the opportunity to provide comments on SCAQMD Rule 1111. As a leading manufacturer of gas space heating appliances, we have a long-standing commitment to reducing emissions and improving energy efficiency. While this may seem like ancient history our company worked with The Gas Research Institute (GRI) in the 1990's reducing NOx on our Gravity Wall Furnaces. After many months of trying to establish a test method that would work consistently and accurately we then turned to reducing the NOx generated from the units. Again, after many months we were able to accomplish this feat. Again, we spent many months and more dollars developing tooling to create the parts to build and sell this product only to be told that it wasn't necessary. This new initiative by the SCAQMD is something unanticipated and of course has potential dangerous consequences.

This rule essentially eliminates all gas-fired appliances needlessly and recklessly. This rule is throwing the baby out with the bathwater. Our products generally and for the most part require no electricity to operate except what is supplied from the thermocouple on the unit. Those people who live in areas of the SCAQMD that require at least some heat in the winter to stay alive should have the ability to install one of our space heating appliances as back-up when the power goes out. They are as efficient as can be made and still run off of no externally supplied electricity. The DOE recognized this about 10 years ago when it gave space heaters (Direct Heating Equipment) in a Federal Register Listing the ability to not have to try and increase their efficiency. It was recognized that they were important appliances and also losing sales rapidly except in those areas where backup heat was necessary due to the adverse effect of cold weather combined with power outages. A good example of this was the power outages experienced in Texas a few years ago when people died due to hypothermia in the very widespread power outage due to an ice storm.)f course mountainous regions such as those in the SCAQMD have the same potential on a yearly basis. These heaters are supplemental and in general do not replace a central heat pump system but give the homeowner confidence that when the power goes out, they will be protected. This is hoping your friends and or relatives won't suffer this same fate as the Texans did and certainly in many other areas around the country. 26-1

Speaking of EPCA, the proposed limitations under Rule 1111 raise the issue of federal preemption under the Clean Air Act (CAA) and Energy Policy and Conservation Act. EPCA denies states the ability to enact their own regulations related to the energy use of covered products, including Direct Heating Equipment, which in fact they have had to protect in the past. NOx limits create a regulation that directly goes against federal standards. The requirements will disrupt markets not only in the SCAQMD but across the country because of different models being needed if in fact one can be made to emit zero NOx. This of course will violate the Dormant Commerce Clause. 26-2

1

Make no mistake about it, Empire Comfort Systems and our industry certainly support efforts to reduce emissions. As reported before, we were an industry leader on this issue 30 years ago. We are now involved with the Hydrogen infused gas and the advanced low NOx combustion systems that are still being researched and developed.

The consumer burden from this rule is obvious. Low-income folks and even those who aren't will suffer greatly and needlessly in order to switch from low NOx appliances to a zero NOx system. The estimates to do what is suggested by the creation of PAR 1111 is in the low thousands of dollars to a minimum of 20,000 dollars to upgrade a gas home to all electric heating. It will at a minimum put lives in danger to the point where there will be hypothermia victims in the SCAQMD. This will come with the already overburdened and very fragile California electrical grid system. The NOx produced by the site of creating the electric for this region will be off the charts again needlessly if a more even-keel approach is taken to what is a perceived issue. 26-3

An approach that uses a combined and long-term low NOx strategy versus one that will be a massive burden on a large percentage of your population. Not only in the higher elevations but in the low-income housing in the more populated areas that are using Gravity Wall furnaces as a sole source of heat and could certainly not afford a new heat pump system. 26-4

Please consider a slower phase in of low NOx versus this quick 12 month impossible turn-around schedule.

I hope you consider my topics carefully and for the good of the citizens of the SCAQMD please consider a more blended approach.
Thank you for your time and consideration.

Ken Belding | Director Government Affairs
Empire Comfort Systems, Inc.
918 Freeburg Avenue, Belleville, Illinois 62220
P: 618.233 7420
E: kbelding@empirecomfort.com

Response to Comment Letter #26

Response to Comment 26-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff recognizes the importance of electric grid reliability not only for zero-emission technologies, but also NOx-emitting natural gas technology, which often requires electricity to operate. Please see Response to General Comment 3 for discussion on grid reliability.

Response to Comment 26-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

PAR 1111 and PAR 1121 do not ban natural gas or otherwise regulate the amount of natural gas used by the equipment subject to PAR 1111 and PAR 1121. This rulemaking was not

any different from previous rulemakings lowering NOx emission limits of various equipment. PAR 1111 and PAR 1121 are technology and fuel-neutral and are focused on achieving the maximum NOx emission reductions possible. Equipment that meets the NOx emission limits, regardless of the energy source, is not prohibited by PAR 1111 and PAR 1121.

With the new rule concept, consumers will be able to choose either zero-emission appliance options or NOx emitting appliance options in the market. Please see Response to General Comment 1.

Response to Comment 26-3:

Staff acknowledge the higher upfront cost in many zero-emission installations; however, lower annual operational costs are anticipated. State, and local incentives, including the upcoming South Coast AQMD Go Zero incentive program, will help alleviate the financial burden. Finally, staff will re-evaluate operational cost based on the updated projection on the utility rates at the technology check-in. Please see Response to General Comment 2 for more information on cost.

Response to Comment 26-4:

Staff understands that the mountain communities have a colder climate and heating in wintertime is essential. Please see Response to General Comment 8 for discussion about cold climate regions.

COMMENT LETTER #27: AIR-CONDITIONING, HEATING, & REFRIGERATION INSTITUTE

AIR-CONDITIONING, HEATING, & REFRIGERATION INSTITUTE
we make life better®

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Phone 703 524 8800 | Fax 703 562 1942
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Comment Letter #27

October 17, 2024

Mr. Peter Campbell
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Ms. Jen Vinh
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

(Submitted electronically via pcampbell@aqmd.gov and jvinh@aqmd.gov)

RE: AHRI Comments in Response – South Coast Air Quality Management District (SCAQMD) Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired Furnaces (PAR 1111) and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural-Gas-Fired Water Heaters (PAR 1121)

Dear Mr. Campbell and Ms. Vinh:

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) respectfully submits this letter in response to the Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired Furnaces (PAR 1111) and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural-Gas-Fired Water Heaters (PAR 1121) from South Coast Air Quality Management District (SCAQMD or District).

AHRI represents more than 330 manufacturers of air conditioning, heating, water heating, and refrigeration equipment. It is an internationally recognized advocate for the HVACR industry and certifies the performance of many of the products manufactured by its members. In North America, the annual economic activity resulting from the HVACR industry is more than $211 billion. In the United States alone, AHRI member companies, along with distributors, contractors, and technicians employ more than 704,000 people.

AHRI and its members are committed to, and support, greenhouse gas (GHG) emission reductions, while promoting sustainable, safe, reliable, and affordable access to the essential air and water heating and cooling provided by the products they manufacture.

I. General Comments for PAR 1111 and PAR 1121

A. AHRI Member Products Provide Critical Services to California

Space and water heater products[1] include a wide range of manufactured goods, which provide comfort and ensure public health and safety. These space and water heater products serve and support nearly every major sector in California, providing life critical products and services for medical facilities and hospitals; government agencies; the U.S. military; law enforcement, first responders, and public safety; energy; public works and infrastructure support services; critical manufacturing; defense industrial base; and conservation. Often, the health, safety, and the functioning of society depend on these products. Overly burdensome regulations could impair the HVACR and water heating sector's ability to meet these critical needs.

27-1

B. AHRI Members Have Greatly Reduced Emissions

AHRI and its members are committed to the overall health of the environment and have a long history of developing products to meet ever-more-challenging aspirational carbon neutrality and emission-reduction goals. Over the past 20 years, the industry has made significant investments toward reducing its emissions and its carbon footprint by creating cleaner technologies and products.

However, on the path to carbon reductions, there are many significant challenges and technological constraints to what can be achieved.

C. Emergency Replacements

In most cases, space and water heating equipment is replaced upon failure of the appliance. If this occurs and the house needs a panel upgrade or other alterations to accommodate a zero-NOx solution, that house could go without space- or water heating for several days, if not weeks, while the retrofits occur. If such an event were to happen during a cold snap, there could be significant concern for the health and safety of the occupant(s). AHRI recommends for the District to continue to consider solutions to the emergency replacement issue, including proactive replacement programs, such that the impact of proposed PAR 1111 and PAR 1121 does not compromise safe and reliable access to services.

27-2

The California Statewide Codes and Standards Reach Codes Team (Statewide Reach Code Team) performed a cost effectiveness study for upgrading existing buildings in 2019.[2] In its report, the team recognized the challenges associated with emergency replacements of space

[1] Space heating products include space heaters, room heaters, ventless room heaters, infra-red heaters, heat pumps, furnaces, boilers, heating elements, burners, boiler equipment and associated parts and accessories, anti-scaling agents, filters, venting, and their associated spare parts, and similar products. These examples are meant to be representative, not exhaustive, of heating products. Water heating products include products which heat water for potable uses; water heating equipment that utilizes gas, oil, or electric (via electric resistance heating elements or a heat pump); storage water heaters; tankless water heaters; and others. Water heater products utilize oil, gas, or electricity to heat potable water for use outside the heater upon demand, and similar products. These examples are meant to be representative, not exhaustive, of water heater products.

[2] California Statewide Codes and Standards Reach Codes, "2019 Cost-Effectiveness Study: Existing Single Family Residential Building Upgrades" Prepared by: Frontier Energy, Inc. and Misti Bruceri & Associates, LLC. (2019), https://localenergycodes.com/download/826/file_path/fieldList/2019%20Res%20Cost-Eff%20Report-Glendale-2021-03-10.pdf

and water heating when moving from gas to electric, and outlined specific exceptions for these issues:

- Exception 1: Non-ducted space conditioning systems and systems without central air conditioning.
- Exception 2: Ducted space conditioning systems where only the gas furnace is replaced.
- Exception 3: The main service panel does not have the capacity or space to accommodate an additional 240V, 30 A circuit, and the cost to upgrade the main service panel and run required electrical service to the heat pump air handler is prohibitive as determined by the jurisdiction.

For heat pump water heaters, the Statewide Reach Code Team identified the need for the following exceptions:

- Exception 1: The proposed location of the new water heater is located within conditioned space.
- Exception 2: The proposed location of the replacement water heater is not large enough to accommodate a heat pump water heater (HPWH) equivalent in size and one-hour capacity rating to the existing water heater or the next nominal size available.
- Exception 3: The main service panel does not have the capacity or space to accommodate an additional 240 V, 30 A circuit, or the cost to upgrade the main service panel and run required electrical service to the water heater is prohibitive as determined by the jurisdiction.
- Exception 4: A solar water heating system is installed meeting the installation criteria specified in Reference Residential Appendix RA4.20 and with a minimum solar savings fraction of 60 percent.

27-2

AHRI recommends for the District to consider and address these exceptions in the continued development of PAR 1111 and PAR 1121.

II. Comments specific to Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired Furnaces (PAR 1111):

A. Dual-Fuel Systems

AHRI requests that the District reconsider its exclusion of dual-fuel systems as a compliance pathway for the ultra-low NOx requirements in PAR 1111. Dual-fuel systems provide an ideal pathway to lower NOx emissions and reach the average NOx emissions of less than 14ng/j required in the section. Not only would a dual-fuel pathway limit NOx emissions but it also would help homeowners move to heat pumps sooner, at a reasonable cost, and provide increased resiliency to the grid by reducing winter peak loads.

27-3

SCAQMD should include a definition of dual-fuel systems in the proposed rule with control requirements to ensure the weighted average NOx emissions are below the requirements. Dual-fuel systems also should be considered as an option in the environmental analysis, especially given the impact to low- and medium-income consumers.

B. Product Labeling

AHRI members do not support the requirement for a label on furnaces to enforce PAR 1111.

27-4

Manufacturers do not have a way to know where the equipment will ultimately be installed, as our members work through distributors and wholesalers, labeling specific to a state air district is impractical and overly burdensome. SCAQMD maintains a database[3] of equipment with NOx levels and an inspection agency therefore could look up equipment compliance. 27-4

C. Alternate Compliance – Rental Furnaces

AHRI members are concerned with the suggested alternate compliance options related to rental furnaces. The emergency replacement exemption for furnaces involves the temporary installation of ultra-low NOx furnaces for a very short period of time until electrical upgrades can be completed. This amounts to an unreasonable amount of labor and upgrade charges to the consumer. 27-5

AHRI believes a short-term rental furnace option will be costly for homeowners and contractors: requiring that almost twice the work be completed for one furnace replacement. If the District believes rental equipment will enable this option for alternate compliance, then AHRI recommends the District develop, administer and fund a program, as opposed to relying on the market to create such an offering.

III. Comments specific to Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural-Gas-Fired Water Heaters (PAR 1121):

A. Residential Applications

As referenced in the Preliminary Staff Report[4], the New Buildings Institute (NBI) worked closely with 120V HPWH manufacturers and utilities in California on a statewide 120-volt HPWH field validation program from 2021 to 2023[5]. AHRI reminds the District that notwithstanding 120V HPWHs ability to be "plugged in" to a standard 120V outlet, many utility closets, basements, and garages do not currently have a 120V outlet located by the water heater. This means that even when these products are readily available, an electrician would be required to install a dedicated outlet for the water heater. Further HPWHs require condensate removal. If a drain does not exist near the water heater, a plumber would be required to install one. These are just a few of the technical barriers and costs that need to be considered for the wide-scale adoption of these products, which are not accounted for in the Preliminary Staff Report's analysis. 27-6

A rushed technology transition may lead to unintended consequences with respect to installation and performance of the products, which would only serve to damage public perception and slow the adoption in other jurisdictions. Given the status of this market, the 2027 transition date for existing construction is unreasonable. A reasonable timeframe must be established for these products to be developed and matured, such that the supply chain can handle this regulation and contractors and technicians have time to be trained in proper installation and maintenance.

[3] http://www.aqmd.gov/home/programs/business/business-detail?title=certified-equipment
[4] https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf
[5] https://newbuildings.org/wp-content/uploads/2023/07/PlugInHeatPumpWaterHeaterFieldStudyFindingsAndMarketCommercializationRecommendations_NBI202308.pdf

B. Product Labeling

AHRI members do not support the requirement for a label on water heaters to enforce PAR 1121. SCAQMD maintains a database[6] of equipment with NOx levels and an inspection agency therefore could look up equipment compliance.

If the District continues to use labels as an enforcement mechanism, AHRI suggests the label language in PAR 1121 be consistent with the language adopted in Rule 1146.2, "For use in existing buildings only."

The label wording in PAR 1121 (g)(1) – *Labeling Water Heaters for Installation and Use in Existing Buildings* implies that any water heater is suitable for use in mobile homes:

> "If Installed in South Coast AQMD: 1) After January 1, 2026, shall not be sold for installation in new buildings; 2) After January 1, 2027, only for installation in mobile homes; and 3) After January 1, 2030, not compliant for use and installation in South Coast AQMD."

27-7

However, because of specific space constrainers and plumbing requirements, not all water heaters are suitable for use in mobile homes. This wording could be misinterpreted by stakeholders that any water heater with this label is suitable for use in a mobile home setting.

C. Alternate Compliance – Rental Water Heaters

AHRI members are concerned with the suggested alternate compliance options related to rental water heaters. Generally, warranties apply to water heaters installed in a specific dwelling and it is transferable between owners, but not between locations. Any contractor intending to use a water heater as a short-term rental for different locations could void the warranty.

AHRI believes a short-term rental water heater option will be costly for homeowners and contractors: requiring that almost twice the work be completed for one water heater replacement. If the District believes rental equipment will enable this option, then AHRI recommends for the District to develop, administer and fund a program, as opposed to relying on the market to create such an offering.

27-8

AHRI questions how a rental water heater option would permit contractors who rent water heaters to purchase equipment for rental purposes from manufacturers, when manufacturers are making every effort not to ship non-compliant product into the district.

D. Annual Reporting Requirements

AHRI members emphasize that the data that District staff is requiring to be provided under paragraph (g)(4)(E) is proprietary information of product manufacturers. It is unclear as to why the District believes this information is necessary to fulfill its enforcement obligations related to this rule. AHRI strongly urges District staff to add language to paragraph (g)(4)(E) of PAR 1121 clarifying that the District will treat such data as Confidential Business Information and will not be shared by the District with third parties. Such language would also provide assurances to manufacturers that they are not being compelled to directly or indirectly disclose confidential

27-9

[6] http://www.aqmd.gov/home/programs/business/business-detail?title=certified-equipment

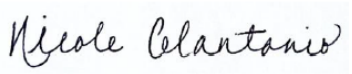
information, specific to their organization, to which other parties would not otherwise have access.

IV. Conclusion

Two fundamental pillars of industry are certainty and consistency. The proposals in these comments address certainty for industry. Consistency can only be achieved by local air quality management districts working to align on NOx requirements so that there is one clear, consistent path forward for manufacturers in California. Incentives should be provided for early adoption, and programs should be put in place to help low-income households afford this transition. This approach will aid in an equitable transition and remove the main hurdle for emergency replacements, which is cost. This approach will also allow for optimal environmental benefits.

AHRI appreciates the opportunity to submit these comments and welcomes the opportunity for further discussion. If you have any questions regarding this submission, please do not hesitate to contact me.

Sincerely,



Nicole Colantonio
Director, Regulatory Affairs
Direct: (703) 600-0332
Email: ncolantonio@ahrinet.org

Response to Comment Letter #27

Response to Comment 27-1:

Staff appreciates AHRI's comment on PAR 1111 and PAR 1121. Staff recognizes the importance of the public process to receive input and feedback from stakeholders in various industries and appreciates AHRI's participation in this process. The public process included a series of working group meetings and numerous individual meetings with stakeholders who may be impacted by this rulemaking. Staff conducted multiple site visits to various stakeholders and continues to be open to stakeholder feedback and input during the rulemaking process. Please see Response to General Comment 5 for more information on outreach.

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Response to Comment 27-2:

The commenter mentioned the 2019 study was based on 240V heat pumps. Since then, installers have gained more experience from greater heat pump adoption and more new technologies have been developed to address various installation challenges. Chapter 2

provides discussion on new and emerging technologies that are less likely to require a panel upgrade and construction. Some examples are 120V plug-in heat pump water heaters, portable heat pumps for space heating/cooling, and multi-function heat pumps for water heating and space heating/cooling. Split systems for both HVAC and water heating have been developed to address space constraints. Moreover, the utility companies are launching a meter collar technology that provides a connection path between the utility meter and the existing panel[(22)]. The meter collar can be used for connecting photovoltaic systems, electric vehicles, and other distributed energy resources such as home batteries. Additionally, it can be utilized to create a circuit for heat pumps used in water heating and space heating applications. Both SCE and PG&E are evaluating this meter collar under various programs, including pilot programs. As such, this meter collar presents a viable solution to the market barrier posed by panel upgrades. For further discussion on technology readiness, please refer to Response to General Comment 4.

Staff acknowledges the higher incremental costs when replacing only a furnace without simultaneous replacement of a cooling system and that cooling systems are less common in high-altitude regions. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Response to Comment 27-3:

Dual fuel systems were discussed in previous rulemakings for Rule 1111 but did not gain support from some manufacturers. Space heating/cooling dual fuel system is composed of an electric heat pump that provides heating and cooling paired with a gas furnace that provides heat below a certain external temperature threshold. While some manufacturers supported the dual fuel system, some other manufacturers opposed it as this allowance would undercut the development and commercialization of lower emission technologies which were zero-emission technologies.

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use, which also includes dual fuel units.

Staff understands it is essential for electrical generation and local grid infrastructure to meet demand. Please see Response to General Comment 3 for further discussion on the electric grid.

Due to the South Coast AQMD being in extreme nonattainment for various federal ozone standards, aggressive control measures targeting NOx emission reductions are the priority. PAR 1111 and PAR 1121 are technology and fuel neutral and are focused on achieving the maximum NOx emission reductions possible. Should zero-NOx natural gas technologies

[(22)] https://connectder.com/

be made available in the South Coast AQMD, such as natural gas fuel cell water heaters, consumers would have the opportunity to choose between zero-NOx emitting natural gas and other zero-emission appliances. With the current rule proposal and based on space and water heating appliances currently available in the South Coast AQMD, customers will have the choice to purchase NOx emitting natural gas units or other zero-NOx emission appliances.

Response to Comment 27-4:

With the new rule concept, the revised PAR 1111 and PAR 1121 have removed previously proposed alternative compliance options and the associated annual report requirement. Staff recognizes the need for a compliance tool to differentiate the units allowed to be installed in new and existing buildings. Labeling requirements are common for area source rules and are important tools for enforcement, especially when some units distributed to the market can only be installed under certain conditions. Manufacturers may elect to send a sticker or label to distributors to be applied upon unit installation.

Manufacturers that elect to comply by the new ZEM alternative compliance option will not be subject to labeling requirement for selling NOx-emitting natural gas-fired units.

Response to Comment 27-5:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Please refer to Response to General Comment 7 for discussion on emergency replacements.

Response to Comment 27-6:

Minimal or no electrical work is required for installing 120V plug-in heat pump water heaters. They are available in dedicated and shared circuit models and they require a 120V/15A outlet, which is the most common outlet in all homes, including older homes. It is also common for homes to have 120V/15A outlets next to the water heater or in the area with appliances. Chapter 2 provides more discussion on 120V heat pump water heaters which are commercially available in big box shops such as Home Depot and Lowes. [(23,)(24)] Manufacturers are also developing 120V split system heat pump water heaters to further alleviate the concern on electrical outlets and space constraints.

Condensate removal is required for high efficiency units, including high efficiency gas units. For example, all condensing (high efficiency) furnaces need condensate removal lines. Manufacturers expressed to staff that CEC requirements are driving the adoption of high-efficiency furnaces.

(23) https://www.homedepot.com/b/Plumbing-Water-Heaters-Tank-Water-Heaters-Heat-Pump-Water-Heaters/N-5yc1vZckra

(24) https://www.lowes.com/pl/water-heaters/hybrid-heat-pump-technology/120-volt/4294859099-4294400540-4294639144?msockid=06cbfa22943064fb081eeea095de6582

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff will continue to work with stakeholders after the rule adoption on implementation and market transformation to zero-emission appliances. Staff is also committed to conducting technology check-in(s) to reassess the technologies and cost.

Response to Comment 27-7:

Regarding the label wording that commenter mentioned), staff has made revisions to address the concern.

In addition, by the new rule concept, manufacturers that elect to comply by the new manufacturer alternative compliance option will not be subject to labeling requirement for selling NOx-emitting natural gas-fired units.

Response to Comment 27-8

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For more information regarding emergency replacements, please refer to Response to General Comment 7.

Response to Comment 27-9:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The revised PAR 1111 and PAR 1121 no longer include the report requirement mentioned in the comment. By the new rule concept manufacturers electing to comply by the new manufacturer alternative compliance option will report the sales of NOx-emitting natural gas units and Zero-NOx emission units after each compliance year to demonstrate the compliance target.

COMMENT LETTER #28: SAN GABRIEL VALLEY ECONOMIC PARTNERSHIP (SGVEP)

Comment Letter #28

October 17, 2024

Hon. Vanessa Delgado, Chair
South Coast Air Quality Management District Governing Board
21865 Copley Dr.
Diamond Bar, CA 91765

RE: PROPOSED AMENDED RULE 1111 & 1121

Dear Chair Delgado and Governing Board members,

On behalf of the San Gabriel Valley Economic Partnership (Partnership), I write to respectfully urge for more caution and ask for you as a board to defer consideration of Proposed Amended Rules 1111 and 1121 to allow South Coast Air Quality Management District (SCAQMD or District) Governing Board members and staff to receive additional information, data, input and dialogue from the numerous stakeholders potentially impacted by this proposed rule.

The Partnership is a regional non-profit organization committed to advancing the economic vitality of the San Gabriel Valley, representing small businesses, large industrial corporations, healthcare organizations, colleges and universities, local governments, non-profit organizations, and all other regional stakeholders. The Partnership supports efforts and policies that aim to provide clean air and water to our communities. We have significant concerns, however, regarding the scale of the mechanical, electrical, plumbing and other requirements necessary to comply with retrofits of existing commercial and multifamily residential properties, as well as the accuracy of the District's estimates of the utility costs associated with upgraded service, and the dramatic cost implications to hundreds of thousands of families who rent their homes.

Examine the cost impacts to homes and businesses that would require electrical upgrades. For many homes, installing an electric water heater would necessitate an upgrade to the electrical panel. Electric water heaters typically require more power, often running on a 240-volt circuit, which many older homes are not equipped to handle. Upgrading an electrical panel can cost anywhere from $1,000 to $3,000 or more, depending on the complexity of the work and the region. This is a substantial, unexpected expense for homeowners, particularly in low- to middle-income households, who may already be struggling with rising energy costs. We urge the District to examine the cost implications to homes requiring various levels of upgrades. 28-1

Consult with Investor and Municipal Electric Utilities to ensure their systems can handle the increased load. Electric water heaters would add considerable load to the already stressed electrical grid. During periods of peak demand, especially in colder months or during heatwaves, utilities often struggle to meet energy needs. Adding millions of electric water heaters to the grid could exacerbate this problem. To accommodate the surge in demand from millions of homes switching to electric water heaters, significant upgrades to the electrical grid would be required. These upgrades—such as increasing the capacity of transmission lines, substations, and local distribution systems—come at a huge financial cost, which would likely be passed down to consumers in the form of higher utility bills. We urge the District to work with electric utilities to understand the impacts such a policy could have from an implementation perspective but also to a cost one. 28-2

Provide offramps in cases of high cost or delays in installation. If a policy mandating electric water heaters is implemented, it is crucial to include offramps that allow for exceptions in cases where electric water heaters are either cost-prohibitive or installation cannot be done in a timely manner for consumers.

- *Cost prohibitive*: As mentioned earlier, for many homes installing an electric water heater requires significant electrical upgrades. These upgrades can cost thousands of dollars—far more than the cost of a new water heater itself. For homeowners facing these substantial costs, it would be unreasonable to require the installation of an electric water heater. Allowing them to opt for a gas water heater instead would provide a practical, cost-effective alternative. Without such an offramp, these homeowners could face severe financial strain or be forced to delay replacing an essential household appliance, which could affect their quality of life.
- *Delay in Installation*: Another practical concern is unreasonable delays in installing an electrical water heater due to extended installation time, especially if it involves complex electrical upgrades. Some of the required upgrades may not be in the control of the customer and rely upon upgrades to their local electrical system. Homes in underserved areas might face even longer wait times due to a shortage of qualified electricians or contractors. In these situations, homeowners should not be forced to wait weeks or months without hot water simply because an electric heater installation is delayed. Providing an offramp for the use of gas water heaters in cases where installation timelines are extended ensures that customers can maintain a functional home without unnecessary inconvenience.

28-3

The Partnership appreciates the time, work, and dedication the SCAQMD Governing Board and staff have put into ensuring that our region's air quality is clean and safe. In this instance, it is important that we respectfully urge the SCAQMD Governing Board to delay consideration/adoption of PAR 1111/1121 to allow District staff to continue to work with owners of a variety of commercial and incorporate the information gleaned from these visits and other sources in order to prepare a proposed rule and socioeconomic impact study that incorporates all available information. Thank you.

Luis Portillo
President & CEO

Response to Comment Letter #28

Response to Comment 28-1:

Staff appreciates the comment on PAR 1111 and PAR 1121.

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Please refer to Response to General Comment 2 for further discussion on cost.

Response to Comment 28-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

PAR 1111 and PAR 1121 are technology and fuel neutral but have identified all-electric heat pumps as the promising technology in the current market as discussed in Chapter 2. Conventional electric resistance water heaters can achieve zero-emission but are not preferred considering the low efficiency and higher power demand. Modern heat pumps can reach 300 to 400 percent efficiency or even higher which mitigates some challenges for grid reliability.

The topic of grid infrastructure was brought up during the public process, and staff has been in contact with utilities and other state organizations on grid reliability topics. Staff is continuing to be in communication with investor-owned utilities, municipal utilities, and community choice aggregators. Through conversations with utilities, staff found there are existing efforts on the utility and state level to address future electricity demand and reliability, and some of these points are described in Chapter 2 of this staff report. For more information, please refer to Response to General Comment 3 on grid reliability.

Response to Comment 28-3:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff analysis has considered the required electrical upgrades in the costs. Incentive programs like South Coast AQMD's Go Zero and the state's TECH Clean California, will help lower the upfront cost of zero-emission appliances.

Further, Chapter 2 provides discussion on new and emerging technologies that are less likely to require a panel upgrade. Some examples are 120V plug-in heat pump water heaters, portable heat pumps for space heating/cooling, and multi-function heat pumps for water heating and space heating/cooling.

Please see Response to General Comment 2 for further discussion on cost, Response to General Comment 4 for further discussion on technology readiness, and Response to General Comment 7 for further discussion on emergency replacements.

COMMENT LETTER #29: CARRIER

Comment Letter #29

Jason Thomas
Director Regulatory Affairs
HVAC North America
jason.m.thomas@carrier.com

October 17, 2024

Mr. Peter Campbell
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Submission via email: pcampbell@aqmd.gov

RE: Carrier Comments on Preliminary Draft PAR 1111

Dear Mr. Campbell,

Carrier is a global leader in intelligent climate and energy solutions. With more than a century of expertise, we drive innovation while pursuing our customers first and helping protect our planet. Our range of products include residential and commercials heating, ventilation, and air conditioning (HVAC) products, transport refrigeration products, chillers, and HVAC building services.

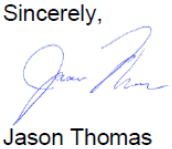
In the proposed rule, (d)(2) states *"On and after the applicable Table 2 compliance date, no person shall manufacture, supply, sell, resell, offer for sale, import, or Install, any Furnace for use in the South Coast AQMD, that exceed the Table 2 NOx emission limits. The applicable Table 2 compliance dates for New Building types shall be determined based on the construction or alteration completion date."* If our understanding is correct, new buildings that are started in 2025 but completed in 2026 would require zero NOx equipment. The timeline of equipment specification, purchase, manufacturing, installation, and building completion creates significant compliance challenges. Builders, equipment manufacturers, distributors, and contractors may be unable to change course in a short timeline, which will lead to significant delays in building projects. Additionally, restricting installation for existing buildings in January 1, 2028 will likely create issues in the market as well. Manufacturers, distributors, and contractors have uncertainty when predicting demand. This will inherently lead to misalignment in supply and demand. Carrier requests South Coast Air Quality Management District to allow the sale of product built prior to the compliance date to be sold and installed for both new and existing buildings.

29-1

30 S. Meridian Street, Suite 500, Indianapolis, Indiana 46204

Thank you for consideration of these suggestions. If you have questions or would like to have a deeper conversation on HVAC supply chain dynamics, please email to coordinate time for discussion.

Sincerely,



Jason Thomas
Director, Regulatory Affairs
Carrier

Response to Comment Letter #29

Response to Comment 29-1:

Staff appreciates the comment on PAR 1111. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff recommends maintaining the zero-emission requirement upon installation in new buildings but is proposing to exempt furnaces from meeting the zero-emission limit if the unit is installed into a new building with a building permit approved for the building construction by the appropriate enforcement agency prior to the date of rule adoption.

A compliance schedule based on installation date aligns with previous amendments to Rules 1111 and Rule 1121, as well as the current version of Rule 1146.2. Future effective dates will provide time for the supply chain to have adequate compliant inventories by the effective dates and to address any stranded asset concerns.

COMMENT LETTER #30: ALISE DAVIS

Comment Letter #30

Peter Campbell

From: Alise Davis <alh.davis99@gmail.com>
Sent: Thursday, October 17, 2024 1:22 PM
To: Curt Hagman (GBM); supervisor.rowe@bos.sbcounty.gov; Peter Campbell
Subject: [EXTERNAL] SCAQMD proposed changeover to electric appliances

October 17, 2024

Dear Supervisor Curt Hagman, Supervisor Dawn Rowe, and Mr Peter Campbell,

I have been a resident of the Lake Arrowhead area since 1978. I am a retired teacher from The Rim of the World School District and I am on a fixed income.

I am one of Southern California's mountain residents severely affected by the South Coast Air Quality Management's planned change mandating electric heat and water heating appliances. In our area, electrical shut downs often occur. If I don't have a gas water heater, **I could freeze to death in winter as some people have during harsh isolating storms.** 30-1

It is not right that an unelected group that does not understand our needs and does not represent the mountain residents should arbitrarily impose unrealistic, exorbitantly priced changes to the homes we have worked so hard to purchase and keep.

I am very concerned about the SCAQMD's proposed plans, and I beg you to understand how devastating and life-threatening they will be for me and other retired residents of the California mountains.

Sincerely,

Alise L.H. Davis

Response to Comment Letter #30

Response to Comment 30-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff understands that the mountain communities are located in a colder climate and that heating in wintertime is essential. Please see Response to General Comment 8 for further discussion about zero-emission technologies adopted in cold climate regions.

Staff appreciates the comment on the proposed amended rules and recognizes the importance of electric grid reliability for electric units, but also for NOx-emitting natural gas units, which often require electricity to operate. The CEC, CPUC, and CARB are working to coordinate across efforts, identify issues not covered by ongoing efforts, and assess needed actions to better align the energy system with the state's climate targets.

Please see Response to General Comment 3 for further discussion on electric grid reliability.

Staff recognizes the need to monitor the cost and market for zero-emission technologies and will conduct a status update/technology check-in and report back to the Stationary Source Committee.

COMMENT LETTER #31: CYPRESS LAND COMPANY

Comment Letter #31

CYPRESS
LAND COMPANY

October 17th, 2024

Mr. Peter Campbell
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Email: pcampbell@aqmd.gov

Re: Comments on PAR 1111 and PAR 1121

Dear Mr. Campbell:

Cypress Land Company appreciates the opportunity to provide comments on the South Coast Air Quality Management District proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces (PAR 1111) and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural Gas-Fired Water Heaters (PAR 1121).

Our company owns and manages 37 industrial buildings throughout Southern California. We are committed to reducing our carbon footprint while meeting the needs of our tenants. Installation of energy efficient lighting controls, compliance with outdoor water conservation requirements, and other energy-reducing measures can be found throughout our properties.

We are concerned that the proposed rules do not take into account issues facing commercial and industrial real estate property owners and our tenants. For example, replacing a natural gas HVAC system or water heater with an electric unit at one of our properties would add significant costs to run power infrastructure to the equipment. This would be a burden on us as a landlord and on our tenants. 31-1

We would respectfully request that the District revise PAR 1111 and PAR 1121 to provide commercial and industrial property owners with greater flexibility and time to deal with already existing leases set to renew by the end of 2026 or until such time that our local utility provider informs us that they can accommodate any new electrical hook-up which would be required due to the installation of a new system in order to avoid any additional delays for occupancy of our properties. 31-2

Thank you for taking into consideration our concerns. Please contact Mathew Doss, Chief Operations Officer at Cypress Land Company, with any questions.

Sincerely,

Matthew Doss
Chief Operations Officer
Cypress Land Company
310.208.8077 x 114
Matthew@cypressland.com

10940 Wilshire Blvd., Suite 1900 • Los Angeles, California 90024 • (310) 208-8077 • FAX (310) 208-8127

Response to Comment Letter #31

Response to Comment 31-1:

Staff appreciates the comment on PAR 1111 and PAR 1121. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The new rule concept also revised the proposed applicability and will not expand to larger size spacing heating units typically used at commercial facilities. The revised PAR 1111 and PAR 1121 are applicable to residential-sized units, minimizing any potential impact to commercial properties.

Please see Response to General Comment 2 for further discussion on cost.

Response to Comment 31-2:

Staff appreciates your comment. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

COMMENT LETTER #32: NAIOP SOCAL

NAIOP
COMMERCIAL REAL ESTATE DEVELOPMENT ASSOCIATION
SoCAL CHAPTER

Comment Letter #32

October 17, 2024

Mr. Peter Campbell
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Email: pcampbell@aqmd.gov

Re: Comments on PAR 1111 and PAR 1121

Dear Mr. Campbell,

NAIOP SoCal appreciates the opportunity to provide comments on Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired Furnaces (PAR 1111) and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural-Gas-Fired Water Heaters (PAR 1121).

With nearly 1,300 Members, NAIOP SoCal is the leading nonprofit organization for commercial property owners, developers, owners, investors, brokers, general contractors, architects, engineers and finance professionals in the industrial, office, retail, and mixed-use multifamily real estate sectors across the counties of Los Angeles and Orange.

Our Members are committed to reducing their carbon footprint while meeting the needs of our tenants. Installation of solar energy panels, energy efficient lighting controls, outdoor water conservation devices and other energy-reducing measures can be found throughout the region on commercial and industrial buildings. And, due to updates to California's building codes, commercial and industrial properties are much more energy efficient than similar properties built several decades ago.

32-1 NAIOP SoCal is concerned that the proposed rules do not consider issues facing commercial and industrial real estate property owners and our tenants. The fact that commercial property owners are not considered an affected industry by the District staff highlights this concern. The Preliminary Draft Staff Report for PAR 1111 and PAR 1121 states that the proposed regulations would affect "manufacturers, distributors, retailers, resellers, and installers" of natural gas-fired furnaces and water heaters. We believe that commercial and industrial property owners and their tenants should also be considered an affected industry since they will eventually shoulder the costs of complying with the regulations.

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Chapter Office: 918 E. Santa Ana Blvd., Santa Ana, CA 92701 Tel: (714) 550-0309

In addition, we are concerned that the socioeconomic analysis to be conducted by District staff will be flawed and will not represent an accurate picture of the costs to comply with the proposed regulations, since our industry is not considered an affected industry and impacts to our industry may not have been included in the analysis.

For example, office buildings built in the 1970s were built without central heating and air. Property owners would be faced with large expenses to retrofit such buildings in order to comply with PAR 1111 and PAR 1121. 32-1

Another example will be the expenses required to retrofit more commonly installed "split systems." These types of systems usually have one portion of its unit outside and the other mounted on the inside. An increase in capital expenses on buildings with existing AC will be the replacement of these split systems, since the building owner will not be allowed to replace just the heater if the heater fails. They will be required to replace both sides of the "split system" – the piece mounted indoors and the piece mounted outdoors.

Who is expected to pay for the new furnaces and water heaters? Who is expected to work with the utilities to make sure new electrical hook-ups can be made in a timely manner for new tenants to occupy a property? The likely answer: Commercial property owners. We urge the District to incorporate the costs and potential delays in occupancy for new tenants as part of the accompanying socioeconomic analysis.

Finally, NAIOP SoCal is concerned that the proposed rules assume that electrical utility providers will be able to meet the increased demand for electricity, which will be created by this shift from natural gas equipment to electrical equipment. NAIOP SoCal is concerned that the current electrical infrastructure system does not have the capacity to meet the additional demand that will be created on the system due to the proposed rule. 32-2

We urge the District to revise PAR 1111 and PAR 1121 to provide commercial property owners greater flexibility and time to deal with already existing leases set to renew by the end of 2026, or until such time that our local utility provider informs property owners concerned about occupancy delays that the utilities can accommodate new electrical hook-ups, which would be required due to the installation of a new system. 32-3

We welcome the opportunity to meet with the District to further discuss our concerns with PAR 1111 and PAR 1121 and provide examples as to how the proposed rules would impact our Members. For further information, please contact Mihran Toumajan, mtoumajan@naiopsocal.org or 818-817-1714.

Sincerely,

Timothy Jemal
CEO
NAIOP SoCal

Response to Comment Letter #32

Response to Comment 32-1

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. The new rule concept also revised the proposed applicability; the revised PAR 1111 and PAR 1121 are applicable to residential-sized units, minimizing any potential impact to commercial or industrial facilities.

PAR 1111 and PAR 1121 are applicable to manufacturers, distributors, retailers, resellers, and installers, which means they are subject to enforcement for any violation of the rules. The Socioeconomic Impact Assessment specifically considers how costs or savings will be passed on from these affected parties to commercial tenants and households. Specifically, the Socioeconomic Impact Assessment includes the incremental costs to purchase zero-emission HVAC and water heating units, retrofit existing buildings to accommodate these units, make necessary electric panel upgrades, and the energy costs related to the transition to electric heating. These costs are used to evaluate the potential socioeconomic impacts of both directly and indirectly impacted entities including consumers. Please also refer to Response to General Comment 6.

Staff's BARCT analysis consists of technologies and the cost-effective calculation is based on the costs of installing zero-emission technologies. The Socioeconomic Impact Assessment identifies and evaluates the potential socioeconomic impacts of a proposed development on the lives and circumstances of people, their families and their communities. Specifically, the analysis has considered the range of probable costs or savings, impacts to small businesses, and impact on employment and the regional economy Staff also conducted a sensitivity analysis, the base case that included fuel-switching savings and an analysis that assumed no fuel-switching savings

Chapter 2 provides discussion on zero-emission technologies. There are many new and emerging technologies that are viable for multifamily buildings to suit various consumer needs, and some are less likely to require a panel upgrade and construction. For example, while a mini split is an ideal option for many, the property owner may choose a 120V portable heat pump for a small rental apartment to avoid the higher cost.

Response to Comment 32-2

Staff recognizes the challenge of grid reliability and is in contact with local utilities as well as state planning agencies like the CEC and CPUC. Please refer to Response to General Comment 3 for further discussion on the electric grid.

Response to Comment 32-3

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Please see Response to General Comment 1 and Response to General Comment 3 for further discussion.

COMMENT LETTER #33: RHEEM MANUFACTURING COMPANY

Comment Letter #33

October 17, 2024

Via Email: pcampbell@aqmd.gov, jvinh@aqmd.gov

Mr. Peter Campbell
Ms. Jennifer Vinh
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765

RE: Proposed Amended Rule 1111 Reduction of NOx Emissions From Natural Gas-Fired Furnaces Proposed and Amended Rule 1121 – Reduction of NOx Emissions From Small Natural Gas-Fired Water Heaters

Dear Mr. Campbell and Ms. Vinh,

Rheem Manufacturing Company (Rheem) appreciates the opportunity to submit the following comments in response to the South Coast Air Quality Management District's (SCAQMD) Proposed Amended Rule 1111 Reduction of NOx Emissions from Natural Gas-Fired Furnaces Proposed and Amended Rule 1121 – Reduction of NOx Emissions from Small Natural Gas-Fired Water Heaters (Proposed Rules).

Rheem is an industry leader in total heating, cooling, refrigeration and water heating solutions and one of the few global brands with product offerings covering residential and commercial heating, cooling, conventional and hybrid storage water heaters (HPWH), tankless water heaters, solar water heating systems, pool and spa heaters, commercial boilers, residential hydronic and geothermal systems, commercial refrigeration products, indoor air quality accessories, and replacement parts for all categories. Rheem is headquartered in Atlanta, Georgia, and has U.S. based manufacturing facilities in Alabama, Arkansas, California, Connecticut, and North Carolina. The company also operates distribution facilities throughout the US, Canada, and many other countries around the world. Rheem manufactures commercial boilers and pool heating equipment at the Raypak facility in Oxnard, CA, which are affected by SCAQMD rules.

Rheem appreciates SCAQMD staff's efforts to update the subject Rules and specifically to include and consider stakeholder input. Rheem would like to express, and reiterate our concerns around the compliance dates, the expanded scope for commercial furnaces, and the new labeling and reporting requirements.

INTEGRATED HOME COMFORT

RHEEM MANUFACTURING COMPANY • 1100 ABERNATHY STE. 1400 • ATLANTA, GA 30328 • RHE

Purpose and Applicability

Under the current and proposed rules 1111 and 1121, propane gas-fired furnaces and water heaters are not covered. Rheem understands that a field-convertible natural/propane gas-fired product would be covered, tested, and certified under the natural gas-fired configuration.

Rheem notes that mobile (manufactured) home furnaces and water heaters are typically field-convertible natural/propane gas-fired products, with unique design features[1] specifically required for mobile installation, and are not approved for non-mobile home applications. Given this practice, Rheem is not concerned about circumvention of the rule for non-mobile home product propane to natural gas conversions.

Definitions

Rheem recommends the "mobile home" definitions align with the California Energy Commission's (CEC) definition[2] of "mobile home" and Federal Department of Housing and Uban Development's (HUD) definition[3] of "manufactured home" as much as possible. However, it should be recognized that ANSI Z21.10.1, the safety standard required for the water heaters covered by Rule 1121, has a slightly different definition and uses the term "manufactured home (mobile home)" to capture the different types of structures while excluding recreational vehicles. This standard prescriptively requires the term "manufactured home (mobile home)" to be used for certain markings. For consistency, Rheem recommends this term be used interchangeably with "Mobile Home" in this rule for product labeling. 33-1

Rheem recommends the following definition:
MOBILE HOME means a structure, transportable in one or more sections, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air-conditioning, and electrical systems contained in the structure.

Rheem recommends the following minor modification to the "new building" definition as the 2025 Title 24 will publish around the same time as the Governing Board meeting currently scheduled for December.

"NEW BUILDING means a building that is newly constructed, or a building with a major alteration which changes the occupancy classification of a building, which means a change in the formal designation of the primary purpose of the building pursuant to 2022 Title 24

[1] Direct inlet air venting through the floor and exhaust venting through the ceiling.
[2] CEC definition of "mobile home": https://govt.westlaw.com/calregs/Document/I1F4EF800995D11EC8315E3DE9BEF651C?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)
[3] HUD definition of "manufactured home": https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280/subpart-A/section-3280.2.

California Building Code Part 2 Chapter 3 for occupancy classification and use, or any subsequent version of the Building Code." 33-1

Scope

Rheem is concerned about the broad scope of Rule 1111 and the inclusion of commercial furnaces 175,000 to 2 million Btu/h. Rheem recognizes that a very small subset of products included already have zero-NOx replacement solutions and that with sufficient development time and incentives this offering will grow. However, there is also a significant portion of the products and applications covered by the regulation that cannot easily or cost-effectively be transitioned within the proposed timeframe, especially in emergency replacement situations. Large space heating installations, which have not historically been subject to ultra-low NOx rules, will require a broad portfolio of heat pumps with cold climate capability that may not be ready to meet the proposed effective dates and could result in significant cost impacts to consumers and businesses where replacements or retrofit products are not available. 33-2

Requirements

The 2025 version of California's Title 24 essentially requires electric heat pump space and water heating in new construction. This is done through "electric ready" construction requirements[4] and energy modelling with an electric heat pump space and water heater baseline. For water heating, all new construction will have to have all the building components for effective electric heat pump water heater installation and operation, which removes installation advantages for gas-fired and electric resistance water heaters. By the proposed new construction compliance date, any installation using an electric resistance or gas-fired water heater will need to make other efficiency improvements to comply with Title 24. Given the number of constraints the builder must navigate to install a non-electric heat pump water heater, Rheem expects very few new constructions to use a gas-fired water heater. Within rule 1121, Rheem recommends that the new construction non-mobile home water heater date be removed and that the rule only retain the January 1, 2027, date for new construction and existing buildings. This change would simplify the requirements for most residential structures within South Coast's jurisdiction, minimize distribution complications, and ease labeling confusion. Further, this change would align with the Bay Area AQMD's zero NOx date for all installations (*i.e.,* January 1, 2027). 33-3

Rheem recommends that products required for the alternate compliance options be explicitly referred to within section (d)(2) of rule 1121. These products will need to be sold into distribution to serve the needs of the rental market. Rheem recommends the following language, "On and after the applicable Table 2 compliance dates, no person or entity shall install a Water Heater for use in the South Coast AQMD that exceeds the Table 2 NOx emission limits, unless intended for use in an alternate compliance option as described in (f) or meeting exemptions in (h)." Also, it should be recognized that certain retailers and wholesalers within

[4] For water heating, 240V/30A wiring, drain, and minimum room volume to install a large storage water heater.

the South Coast jurisdiction could offer for sale water heaters specifically for installation outside the jurisdiction not subject to this rule.

Rheem strongly encourages Staff to implement a compliance regime for rules 1111 and 1121 based on date of equipment manufacture, rather than installation, to make planning and inventory management straightforward for manufacturers, distributors, and contractors. 33-3

Certification

The proposed 1121 only requires certification to section (d)(1), which includes the Table 1 emission limits (*e.g.,* ultra-low NOx) and not the Table 2 emission limits (*e.g.,* zero NOx). Therefore, natural gas-fired water heaters that are compliant with the Table 2 emission limits do not need to be certified. Rheem supports this as the current test method cannot be used to confirm a water heater has zero emissions due to measurement accuracy, equipment tolerances and no correction for emissions that are already present in the ambient air. 33-4

Exemptions

Rheem recommends that Staff reconsider its exclusion of dual-fuel systems as a compliance pathway for the requirements in rule 1111. Dual-fuel systems provide an ideal pathway to lower NOx emissions and a way to reach an average NOx emissions of less than 14ng/J. Not only would a dual-fuel pathway limit NOx emissions but it also would help bridge the cost and availability gaps that exist in switching to heat pumps with cold climate capability.

SCAQMD should include a definition of dual-fuel systems in the proposed rule with control requirements to ensure the weighted average NOx emissions are below the requirements. Dual-fuel systems also should be considered as an option in the environmental analysis, especially given the impact to low- and medium-income consumers. 33-5

Alternate Compliance Options

Rheem recommends a minor clarification to section (f)(1) of rule 1121, "If ~~a Water Heater~~ an Existing Building requires a short-term replacement due to sudden Water Heater failure [...]." The building or consumer needs a replacement water heater, not the existing water heater.

The proposed section (f) does not require rental units to be certified. Rheem understands this is intended as South Coast may not maintain their existing database.

Rheem recommends that the section (f)(1) alternate compliance option extend the rental period to 24 months. The "construction" option in (f)(2) could arguably be applied for most "electrical upgrade" installations due to broad provisions and uncertain enforcement around expanding the space or relocating equipment. Further, Rheem is concerned that there are several issues the consumer or installer will need to handle for each of these installations, including but not limited to, permitting and performing at least 2 installations, and applying for 33-6

rebates/incentives. Finally, as up to 5 million homes will need to be upgraded, Rheem is concerned about the availability of electricians to perform the electrical upgrades. 33-6

Emergency Replacements

Staff should consider and recognize that there are multiple applications and installation challenges that need to be overcome and addressed prior to the Rule 1111 compliance dates. A key installation challenge is emergency replacement where the electric service, equipment footprint, or product availability prevents immediate compliance and affordability. The proposed alternate compliance option to obtain a rental furnace for no more than six months is an expensive and impractical option, particularly for commercial applications where equipment is removed and installed by crane and where footprint modifications are costly and require advanced planning. Staff should consider a mitigation fee or other exemption pathway to prevent dire outcomes for businesses. 33-7

Labeling

Consistent with the prior recommendation to align the new construction and existing building compliance date for non-mobile home water heaters, Rheem recommends that South Coast remove or revise the labeling requirements in rules 1111 and 1121. With natural gas-fired water heaters and furnaces still expected to be distributed to other air districts after January 1, 2027, and for rental purposes, having label language that identifies specific prohibitions in South Coast and Bay Area could be helpful, but should not be prescribed in this rule. For example, manufacturers may choose to denote "Not for installation in the South Coast and Bay Area AQMD(s) after January 1, 2027" for products distributed in California.

Rheem recommends a mobile home specific label be applied to mobile home products and recommends the following: "Not for installation in South Coast AQMD after January 1, 2026, for newly constructed manufactured (mobile) homes or after January 1, 2030, for existing manufactured (mobile) homes. Excludes master-metered mobile home parks." 33-8

Finally, Rheem requests South Coast clarify that the rental label is to be applied by the rental company and, when applied, should not cover any other label on the product.

Reporting

Rheem does not support the reporting requirements at section (g)(4). Manufacturers of furnaces and water heaters, who primarily serve the market through wholesalers and distributors, have limited knowledge and data on the exact location where their products are installed. Products shipped to distributors or retailers within South Coast may not be installed in the South Coast jurisdiction, while products shipped outside, but near, South Coast could easily be brought in without the manufacturer's knowledge. Further, rental units, for use when the alternate compliance options of section (f) are needed, will need to be available within the South Coast jurisdiction for installers to purchase. Reporting requirements are better left to

point-of-sale entities, therefore, Rheem recommends this section be removed or amended to address point-of-sale entities. 33-8

Conclusion

Rheem remains committed to bringing sustainable water heating and HVAC solutions to the market to achieve decarbonization goals and to provide cost-effective heating and cooling solutions for new construction and replacement applications serving a broad cross-section of residents, homeowners, and businesses.

Thank you for the opportunity to provide these comments. If there are questions, please contact me directly.

Sincerely,

James Phillips
Senior Regulatory Affairs Manager
Rheem Manufacturing Company

cc: Karen Meyers, Allison Skidd, Joe Boros

Response to Comment Letter #33

Response to Comment 33-1

Staff appreciates the comments. Rule 1111 already contains language requiring labels for furnaces intended to be used for propane only. Staff has aligned the definitions for mobile home and new building for the most part as recommended.

Response to Comment 33-2

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The new rule concept also revised the proposed applicability for PAR 1111 and will not expand to larger size spacing heating units typically used in commercial facilities. Furnaces with rated heat input capacity in the range of 175,000 to 2,000,000 Btu/hr will be addressed in the future rulemaking.

Response to Comment 33-3

Staff understands that while the prescriptive compliance option for Title 24 would require heat pumps, the performance compliance option would still allow non-zero NOx equipment to be installed. In addition to the new rule concept for manufacturer alternative compliance option, staff has revised new building compliance date from 2026 to 2027 under paragraph (d)(2), which aligns with commenter's suggestion. Labeling requirement is a common compliance tool used in area sources rules such as PAR 1111 and PAR 1121. Please see Response to Appendix C Comment 27-4 for more on labeling requirement. With the proposed new rule concept, consumers may opt to gas units if installing zero-NOx emission units would be challenging for emergency replacements. Short-term replacement with rental equipment is no longer needed and thus removed from the proposed amended rules.

PAR 1111 and PAR 1121 apply to the manufacturers, distributors, retailers, resellers, and installers for installations in the South Coat AQMD jurisdiction. Any installation outside of the region by retailers and wholesalers will not be subject to those rules. Staff held discussions on this concern with stakeholders in previous rulemakings and believes there are viable ways to identify the units for shipment to other regions at the distribution level.

Response to Comment 33-4

Staff agrees with Rheem's understanding that only gas units complying with Table 1 NOx standards need to be certified.

Response to Comment 33-5

For a discussion on dual fuel systems, please see Response to Appendix C Comment 27-3.

Response to Comment 33-6

With the proposed new rule concept, consumers may opt to gas units if installing zero-NOx emission units would be challenging for emergency replacements. Short-term replacement

with rental equipment is no longer needed and thus removed from the proposed amended rules.

Response to Comment 33-7

With the proposed new rule concept, consumers may opt to install NOx-emitting natural gas units if the choice to install zero-NOx emission units is too costly or challenging. Short-term replacement with rental equipment is no longer needed and thus removed from the proposed amended rules.

Please refer to Response to General Comment 7 for discussion on emergency replacements.

Response to Comment 33-8

For a discussion on labeling, please see Response to Comment 27-4. For a discussion on reporting requirements, see Response to Comment 27-8.

COMMENT LETTER #34: KIM HORNBURG

Comment Letter #34

Peter Campbell

From: Kim Hornburg <kjhornburg@gmail.com>
Sent: Thursday, October 17, 2024 2:54 PM
To: Peter Campbell
Subject: [EXTERNAL] Proposal to Amend Rules 1111 and 1121

Dear Mr. Campbell,
My name is Kim Hornburg, residing in Crestline, Ca. As one of the approximately 44,000 residents living year round in the San Bernardino Mountains who relies on gas for day-to-day living - heating, cooking, bathing, laundry, etc. - I am extremely concerned about these issues.
Although we live in temperate Southern California, our climate here is more akin to that of the eastern states during the colder months. This fact does not seem to have been taken into consideration in the studies conducted to support these initiatives.
The conversion of our predominately gas system to an all-electric grid would be prohibitive on numerous levels, and therefore life-threatening for many of us when the temperatures dip to freezing and below.
It is my hope that these actions will be reevaluated and adjusted to take our unique circumstances into consideration. 34-1

Yours truly,
K Hornburg

Response to Comment Letter #34

Response to Comment 34-1

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff understands the importance of heating in mountain communities. Please see Response to General Comment 8 for discussion on cold climate heap pumps and Response to General Comment 2 for discussion on cost.

COMMENT LETTER #35: BRADFORD WHITE CORPORATION

Comment Letter #35

BRADFORD WHITE CORPORATION

October 17, 2024

Heather Farr
Planning and Rules Manger
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: Proposed Rule 1121

Dear Ms. Farr:

On behalf of Bradford White Corporation (BWC), we would like to thank you for the opportunity to comment on South Coast Air Quality Management District's (SCAQMD) proposed Rule 1121 and working groups.

We have compiled our comments and questions to the proposed rule 1121 (PAR 1121), supporting documents and analysis.

General

BWC has reviewed PAR 1121 and participated in all the working groups lead by SCAQMD staff. We appreciate staff's consideration of our comments and those of other stakeholders being addressed in the working groups, as well as staff's due diligence conducting site visits. We have compiled comments specific to PAR 1121 language below. In addition to these comments, after completing site visits with staff members and participating in the most recent working group meeting on August 15, 2024, BWC has significant concerns with staff's feasibility assessment of replacing water heaters under PAR 1121 and have provided those comments as well.

Rental Equipment

We have concerns regarding the two exceptions outlined in PAR 1121 Section(f), subsection 1&2. We appreciate the creativity by allowing rental units, however we believe this solution may prove to be incredibly complicated and costly for homeowners and renters. TECH Clean California ran a quick start grant for this same idea and, importantly, covered the cost of the temporary water heater and labor through the program. If the District believes rental equipment will enable an affordable transition, then BWC recommends the District develop, administer and fund a program, as opposed to relying on the market to

35-1

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create such an offering. We strongly encourage the District to read the quick start grant report[1] and discuss with project stakeholders.

Product Labeling

Similar to rule 1146.2, the District proposes to require that manufacturers affix labels to equipment to inform purchasers and installers. As stated in our letter dated January 19, 2024 and repeated below, we strongly believe the proposed labeling requirement, as written, is unnecessary to enforce the rule and will add significant burdens to compliance for manufacturers of regulated products:

> *"SCAQMD currently maintains a qualified products list[2] for all manufacturer water heating and boiler models certified under Rule 1146.2. To enforce the proposed Zero NOx implementation dates, SCAQMD could simply modify their table to show models that are allowed in new construction and models that are only allowed in existing buildings. Secondly, new construction requires plans to be submitted to building jurisdictions to review, as well as Title 24 energy modeling. SCAQMD can work with building jurisdictions within their territory that review and approve project plans to enforce the use of Zero NOx water heating and boiler equipment. Lastly, new construction projects are permitted and require building inspectors to approve the construction. If a non-compliant product were to be installed, it could ultimately be flagged for removal by the building inspector."*[3]

35-2

Unlike products in scope of Rule 1146.2, the regulated product class of water heaters and boilers under 75,000 Btu/hr input, are rarely if at all used in new construction in California. In 2016, California adopted instantaneous gas water heaters as the standard design for newly constructed homes, and multifamily apartments.[4] We challenge the district's assumption that a label is necessary to enforce installations in new construction versus existing buildings for this product class, and respectfully request that the district validate this through developer interviews, permit records and the Energy Commission through Title 24 project submissions.

If the District must continue to use labels as an enforcement mechanism, we suggest that the label language in PAR 1121 be the same as the language adopted in Rule 1146.2 "If Installed in South Coast AQMD: For Installation and Use in Existing Buildings Only". The suggested language in PAR 1121 "If Installed in South Coast AQMD: 1) After January 1, 2026, shall not be sold for installation in new buildings 2) After January 1, 2027, only for installation in mobile homes; and 3) After January 1, 2030, not compliant for use and installation in South Coast AQMD." is lengthy. Moreover, the proposed language also implies all labeled equipment is suitable for use in mobile homes. Manufacturers produce water heating products that are specifically designed for and certified to be used safely in a mobile home. The proposed language for the label will create confusion among installers and may result in equipment not certified for use in mobile homes being installed in a mobile home. Despite rule 1146.2 being finalized, the same concern exists for the required label on instantaneous water heater products, for use in mobile homes.

Product Reporting

[1] Barnett_Plumbing_-_Final_Report_230810.pdf (apppack-app-tpr-prod-privates3bucket-tvt5lpzx0gqm.s3.amazonaws.com)
[2] Rule 1146.2 - Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters (aqmd.gov)
[3] bradford-white-corporation-comment-letter---01-19-2024.pdf (aqmd.gov)
[4] Building Energy Efficiency Standards for Residential and Nonresidential Buildings for the 2016 Building Efficiency Standards | California Energy Commission

BWC does not agree with the newly proposed annual reporting requirements for manufacturers. As a manufacturer, we have limited influence or knowledge as to where a product will ultimately be installed after it is manufactured. Manufacturers have limited capability to control a product's final installation location.

Regarding Section (g), Subsection (4), Paragraph (E) of PAR 1121, we wish to emphasize that the data that District staff is requiring to be provided is information that product manufacturers keep very closely guarded. To that end it is unclear to BWC as to why District staff believes this information is necessary to fulfill their enforcement obligations related to this rule since the current rule has been effectively enforced without it.

35-2

We believe District staff should clarify that manufacturers are permitted to work through representative trade associations to provide this information in an aggregated format. Additionally, we strongly urge District staff to add language to this paragraph of PAR 1121 that clarifies that the District will treat such data as Confidential Business Information (CBI) that will not be shared by the District with any third parties. Apart from clarifying the allowance of this common practice, such language would also provide assurances to manufacturers that they are not being compelled to directly or indirectly disclose CBI, specific to their organization, that other parties would not otherwise have access.

If reporting is to be required, we ask that the District use the manufacture date of equipment, consistent with how other regulatory bodies implement such requirements, including the Bay Area Air Quality Management District[5], and not the date of sale or installation.

Feasibility Analysis

On August 15, 2024, staff presented their findings from conducting site visits and analyzing different installation scenarios. The presentation focused on 120-volt Heat Pump Water Heaters and suggested that these products were a feasible alternative to natural gas in every scenario evaluated. We disagree with staff's conclusion that a 120-volt product is comparable in hot water utility to a commonly seen ultra-low NOx 40-gallon atmospheric vent storage water heater. We have provided a product comparison showing that end users access to hot water would be reduced by over 50%.

35-3

	URG140T6N[6]	RE2H50S10-CON[7]	PROPH65 T0 RH120-M[8]	HPTV-66[9]
Fuel	Natural Gas	Heat Pump Electric 240v	Heat Pump Electric 120v	Heat Pump Electric 120v
Rated Storage Volume (US Gal)	38	45	59	68
First Hour Rating	64	65	63	76
Usage Pattern	Medium	Medium	Medium	High
Recovery @ 90°F Rise (US Gal)	37	24	Not Listed	Not Listed

[5] 20230315_rg0906-pdf.pdf (baaqmd.gov)
[6] residential_gas_ultra_low_nox_atmospheric_vent_naeca_compliant_specsheet_1113.pdf
[7] residential_heat_pump_aerotherm_re_series_con_specsheet_1901.pdf
[8] RH-PIHP-SC-REV5_Plus-without-Leakguard-0627B.pdf (rheem.com)
[9] ARXSS00123.pdf (hotwater.com)

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	URG140T6N[6]	RE2H50S10-CON[7]	PROPH65 T0 RH120-M[8]	HPTV-66[9]
Recovery @ 60°F Rise (US Gal)	Not Listed	Not Listed	12	Not Listed

While it is seemingly feasible to select a HPWH product, either 240-volt or 120-volt, based on a comparable first hour rating, this selection overlooks an important factor, which is the ability for the heater to recover hot water. The table shows a comparison of four products, a 40-gallon ultra-low NOx natural gas atmospheric vent heater, a 50 gallon 240-volt HPWH, a 65 gallon 120-volt HPWH and a 66 gallon 120-volt HPWH.

- A 240-volt HPWH has a gallon per hour (GPH) recovery that is 35% lower than the baseline natural gas unit.
- A 120-volt HPWH has a has a GPH recovery that is 68% lower than the baseline natural gas unit.

35-3

Recovery is important as it determines how long an end user might have to wait for hot water if their tank has been depleted. A 40-gallon ultra-low NOx natural gas atmospheric vent heater can recover almost an entire tank of hot water in an hour. A 240-volt HPWH, assuming ideal conditions and use of a common 4,000 watt heating element working in concert with a compressor, would take nearly two hours or twice as long. A 120-volt HPWH, assuming ideal conditions and no heating element, would take nearly five hours: five times as long to recover. While a 120-volt HPWH may serve a purpose for niche applications where hot water demand is low, it cannot be considered a feasible solution in all cases as emphasized by the District in their analysis as it is far more likely leave many homeowners and renters in the District without adequate hot water for a substantial part of the day.

As the District prepares to adopt PAR 1121, it is essential that the District also prepare to inform the public of the benefits and drawbacks of transitioning to zero NOx water heating products. Consumers must be made aware of all potential installation challenges that will allow them to make an informed decision on the products they choose to have installed in their home, often at a substantial cost. As a manufacturer of these products, BWC recognizes there is no "one-size-fits all" solution to the obstacles that homeowners and renters may encounter. For that reason, we offer many unique products that are designed to meet homeowners and renter needs in a variety of installations. We additionally provide tools for installers, such as RightSpec®10 to ensure the homeowner's and renters hot water utility can be met.

35-4

In closing, we appreciate the opportunity to provide public comment on PAR 1121 and encourage the District to take our suggestions and feedback into consideration as they finalize PAR 1121. We welcome continued dialogue on these matters and would be pleased to have further, direct, conversations with District staff.

Please let me know if you have any questions or would like to schedule a meeting to discuss our comments further.

Respectfully Submitted,

Bradford White Corporation

[10] RightSpec® Sizing Software | Bradford White Water Heaters. Built to be the best. (bradfordwhiterightspec.com)

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Response to Comment Letter #35

Response to Comment 35-1

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

With the proposed new rule concept, consumers may opt to purchase NOx-emitting natural gas units if the choice to install a zero-NOx emission unit is too costly or challenging for emergency replacements. Short-term replacement with rental equipment is no longer needed and thus removed from the proposed amended rules. Please see Response to General Comment 7 for discussion about emergency replacement.

Response to Comment 35-2

Labeling requirements are a common enforcement tool for area sources rules and have also been required for certified natural gas units. For example, when mitigation fee options were implemented for a furnace certified at 40 ng/J to meet the 14 ng/J standard, a specified labeling language was required. Please see Response to Appendix C Comments PW-14 and 27-4 for more on the labeling requirement.

The 2025 Building Code encourages inherently efficient electric heat pump technology for space and water heating in newly constructed single-family, multifamily, and select nonresidential building types. PAR 1111 and PAR 1121 align with the Building Code for the new building compliance date. Staff believes that a label for natural gas that can only be installed in existing buildings is necessary to enforce zero-emission installations in new constructions.

Staff has revised the labeling provision to allow manufacturers to propose simplified labeling language for approval.

With the new rule concept, the revised PAR 1111 and PAR 1121 have removed previously proposed alternative compliance options and the associated reporting requirements.

Response to Comment 35-3

While staff acknowledges the recovery rate should be considered when sizing and installing 120V heat pump water heaters, staff believes the 120V option is still feasible in many cases where consumers elect to install zero-NOx emission units. Manufacturers designed the 120V heat pump water heaters specifically with retrofits in mind, particularly targeting the water use of a small household. The New Buildings Institute 120V HPWH study[(25)] found hot water runouts in only 5 of 32 sites, and all 5 sites ceased having hot water runouts after changes to set points and simple modifications to behavior. The comparison also does not take into account 120V heat pump water heaters designed for a dedicated circuit and which can be installed in many homes and have similar recovery rates as the 240V heat pump water heaters.

[(25)]https://newbuildings.org/resource/plug-in-heat-pump-water-heater-field-study-findings-market-commercialization-recommendations/

Response to Comment 35-4

Staff agrees that outreach and public education is essential for training on zero-emission technologies. Please refer to Response to General Comment 5 for further information regarding outreach.

Staff also recognizes that consumers often rely on installers for suggestions on the types of installations. There are many training opportunities offered to contractors through manufacturers, various incentive programs (e.g., TECH Clean California), utility companies, and local agencies. They could be in-person and virtual trainings. The Go Zero inventive program has also allocated funds for installer training. The training sessions will present contractors with the intricacies of installations and also provide training on permit processes and improve their ability to secure permits to complete electrical and mechanical connections. The anticipated launch of the Go Zero incentive program is 2025.

Staff appreciates that Bradford and White Corporation ,as a manufacturer of these products, provides tools for installers. Staff will ensure the Go Zero installer training program enhances installer awareness of those tools.

COMMENT LETTER #36: CLIFF HAMLOW

Comment Letter #36

Peter Campbell

From: Cliff Hamlow <chamlow@apu.edu>
Sent: Thursday, October 17, 2024 4:21 PM
To: Peter Campbell
Cc: Michael Allawos
Subject: [EXTERNAL] NOx emissions limits

AQMD Stationary Source Committee:

Regarding scheduled vote on proposed amendments to **two rules** that would **set NOx emissions limits at zero** for **residential and commercial space heating and residential water heating**. Amended rules will apply to the manufacturing, sales, and installation of these appliances – essentially eliminating natural gas appliances for these uses.

I am totally opposed to this nonsense proposed rule. There is not enough electricity or other sources of energy in California to sustain such a rule.

Please reign in this proposal and maintain the rules we currently have. Prices of construction and replacement of current appliances is too high for the regular citizen to afford.

36-1

Cliff Hamlow,
Former Mayor, City of Glendora

Response to Comment Letter #36

Response to Comment 36-1

Staff appreciates the comments. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For a discussion on electrical production and grid reliability, please see Chapter 2 of this Staff Report and Response to General Comment 3. In order to meet National Ambient Air Quality Standards, the 2022 AQMP required staff to seek out zero-emission standards wherever feasible. While staff acknowledges there may be increased cost of zero-emission technologies, staff believes the increased market adoption, incentive programs, and operational cost savings will result in overall affordability of zero-emission units.

COMMENT LETTER #37: SOCALGAS

Comment Letter #37

Kevin Barker
Senior Manager
Energy and Environmental Policy
555 West 5th Street
Los Angeles, CA 90013
Tel: (916) 492-4252
KBarker@socalgas.com

October 17, 2024

Senator Vanessa Delgado, Chair and
Honorable Governing Board Members
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Subject: Comments on Proposed Amendments to Rule 1111 and Rule 1121

Dear Senator Delgado and Honorable Members of the Governing Board:

Southern California Gas Company (SoCalGas) appreciates the opportunity to provide public comments on the South Coast Air Quality Management District (South Coast AQMD) Proposed Amendments to Rule (PAR) 1111 and Rule (PAR) 1121. If adopted, the proposed amendments will require millions of residents within the South Coast Air Basin to replace approximately 10 million affected units once the existing appliance requires replacement and will require all new buildings to install fully electric space and water heating appliances. These rules create significant burdens for consumers and will cost billions of dollars to reduce overall nitrogen oxide (NOx) emissions within the South Coast Air Basin by just 2.8% or 10 tons per day out of the total 351 tons per day of NOx emitted by all sources within the territory[1]. Even if all sources regulated by the California Air Resources Board (CARB) and South Coast AQMD were zero emission, federal sources alone would emit substantially more than the 60 tons per day NOx limit the District must achieve to comply with federal ozone standards.[2] SoCalGas supports policies to achieve NOx reductions, provided such policies are feasible, permitted by federal law, cost-effective, and commercially available. However, SoCalGas has numerous concerns with the proposed rule, including a concern that it is preempted by federal law.

[1] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 5-1, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18*.
[2] South Coast AQMD, "2022 Air Quality Management Plan Executive Summary," December 2022, Page ES-6, *https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/03-es.pdf?sfvrsn=6*.

SoCalGas's comments highlight the following concerns: 1) The proposed rules effectively ban certain appliances covered by the federal Energy Policy and Conservation Act (EPCA); 2) It is imperative that South Coast AQMD inform residents and business owners of the impacts of PAR 1111 and 1121 prior to Board consideration, as it appears that the majority of residents and business owners in the South Coast AQMD jurisdiction are wholly unaware of these significant changes; 3) South Coast AQMD staff need to provide the datasets and assumptions used to perform cost-effectiveness calculations to allow stakeholders to better assess the impacts of the proposed amendments; 4) Several assumptions within the cost-effectiveness analysis are inconsistent and should be revaluated by staff; 5) Among other issues, the Draft Subsequent Environmental Assessment does not sufficiently explain why energy impacts from PAR 1111 and 1121 are less than significant; 6) Staff should clarify why they plan to perform a technology check-in after rule implementation; and 7) The financial impact of the proposed amendments has not been adequately evaluated and will be burdensome to the everyday customer.

1. The proposed rules effectively ban certain appliances covered by EPCA

Under a recent ruling by the Ninth Circuit Court of Appeals, *California Restaurant Association v. City of Berkeley*, 89 F.4th 1094 (9th Cir. 2024), the Court held that EPCA preempts all regulations "that relate to 'the quantity of [natural gas] directly consumed by' certain consumer appliances at the place where those products are used." *Id.* at 1101. "[A] regulation on 'energy use' fairly encompasses an ordinance that effectively eliminates the 'use' of an energy source." *Id.* at 1102. Here, similar to the Berkeley ordinance, the effect of the proposed rules is to reduce the quantity of gas consumed by EPCA-covered appliances to zero. Under *Berkeley*, States and localities cannot avoid EPCA's preemption provisions "by doing *indirectly* what Congress says they can't do *directly*." *Id.* at 1107 (emphasis in original). 37-1

2. It is imperative that South Coast AQMD inform residents and business owners of the impacts of PAR 1111 and 1121 prior to Board consideration, as it appears that the majority of residents and business owners in the South Coast AQMD jurisdiction are wholly unaware of these significant changes

It is incumbent upon regulatory agencies to ensure affected parties of any rulemaking process know and have an opportunity to understand the proposed changes to rules before the rule amendments are adopted. While staff held six (6) working group meetings and one public workshop, most attendees were manufacturers, contractors, and environmental justice leaders. Given this, it is our impression that the majority of residents and business owners in the South Coast AQMD territory are wholly unaware of the significant changes being proposed.[3] 37-2

[3] This was evident at the California Air Resources Board's (CARB) August 22, 2024, Virtual Listening Session on CARBs similar Zero-Emission Space and Water Heating Standard. This listening session intended to engage residents of Southern California. While the meeting was co-hosted by Climate Action Campaign (CAC) with CARB and attended by South Coast AQMD staff, unfortunately the public was not informed about this opportunity to learn about these proposed regulations. As such, the meeting was attended by fewer than 45 people in a region of 17 million and the majority of attendees were government agency staff, members of CAC, and SoCalGas staff.

It is essential that the public is made aware of these proposed amendments, since the requirements and impacts are far reaching. When the Board adopted its most recent amendments to Rule 1146.2 in June 2024, which regulates NOx emissions from large water heaters, small boilers and process heaters, two members emphasized the need for an immediate outreach campaign to inform those affected by that regulation.[4] While it's crucial to notify impacted parties about rule changes and implementation timelines, it's even more vital for the regulatory body to engage in public awareness efforts before adoption. PAR 1111 and 1121 will directly impact residential customers, who will bear the majority of compliance costs.[5] Therefore, it is essential that communities understand how the proposed amendments will influence their choices and future costs.

Previous updates to Rules 1111 and 1121 required that manufacturers develop equipment to meet stricter emissions standards by setting a feasible NOx reduction target. These updates did not require residents to invest in costly modifications to their homes when their space and water heating equipment required replacement. The present proposed amendments, while presented as an emissions reduction regulation, will require property owners – residential and commercial – and tenants to switch out their gas appliances for electric appliances. If approved, the financial burden of these changes will be placed on residents and consumers in the South Coast AQMD territory. 37-2

During the October 3, 2024 South Coast AQMD Public Workshop, an owner of a heating, ventilation, and air conditioning (HVAC) company in the San Bernadino mountains similarly expressed concerns that the public is unaware of the amendments' implications on their future budgets and the costs of major upgrades to their homes. His comments highlighted that staff did not take his region into account when evaluating feasibility and costs. In the analysis, AQMD staff averaged installation costs for climate zones 6, 9, and 10[6]. However, the customers he serves are in climate zone 16 and the majority of these homes do not have preexisting air conditioning (AC). If these amendments are passed and these residents are required to replace their heating system with a heat pump, they will face an additional expense compared to other customers in the District because they will need to install low ambient heat pump equipment which, on average, costs 30 - 50% more than standard heat pump equipment.[7] It appears that these additional incremental costs were not accounted for in staff's cost-effectiveness analysis. Needless to say, PARs 1111 and 1121 will affect millions of residents and businesses in the South Coast AQMD region and it is imperative that there be public outreach campaigns to garner participation from those this will

[4] "Governing Board Meeting Live Webcast," South Coast AQMD, June 7, 2024, *https://www.aqmd.gov/home/news-events/webcast/live-webcast?ms=UeHieemQEZc*.
[5] Rule 1146.2 regulates small commercial boilers and large water heaters as well as tankless water heaters and pool heaters.
[6] South Coast AQMD, "Proposed Amended Rules 1111 and 1121 Working Group Meeting #2," November 28, 2023, Slide 11, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm2-november-2023.pdf?sfvrsn=14*.
[7] *Diane Oestreich, "Kory Griggs Addresses Air Quality Management Board," Mountain News, published on October 9, 2024, https://www.mountain-news.com/news/kory-griggs-addresses-air-quality-management-board/article_73c973dc-867d-11ef-8fc9-4ff63eba5178.html.*

impact the most. SoCalGas requests that South Coast AQMD delay the adoption of these rules to allow adequate time for public outreach. Additionally, SoCalGas requests that South Coast AQMD make all comment letters submitted by stakeholders publicly available on the South Coast AQMD's website within 72 hours of comment submittal. 37-2

3. **South Coast AMQD staff need to provide the datasets and assumptions used to perform cost-effectiveness calculations to allow stakeholders to better assess the impacts of the proposed amendments**

The data sources used, and assumptions made by South Coast AQMD staff in the cost-effectiveness analysis are unclear. Staff provided general citations to public data sources used to estimate costs during the rulemaking process, but citations should point stakeholders to the specific datasets that were relied upon in the cost-effectiveness evaluation.

For example, capital and operating costs were presented in Working Group Meeting #2 on slides 9 – 13. While staff generally references the source of data used to obtain cost information, the presentation lacks citations for specific reports and datasets used in the evaluation. The link provided on slide 13 of the Working Group Meeting #2 presentation, for example, takes users to the landing webpage for Energy Star Certified Heat Pump Water Heaters, which makes it difficult to understand exactly where staff obtained the annual energy use data for certified water heaters. Similarly, in Working Group Meeting #4, staff updated the cost-effectiveness for residential heat pump water heaters to $246,000 per ton without providing any explanation. This value was again updated in the staff report to $327,000 per ton, yet staff never provided an update on this in subsequent Working Group Meetings, and it is unclear how staff determined this value. These are just a few of the many instances where staff failed to provide transparency with the data used to conduct the cost-effectiveness analysis. 37-3

Furthermore, in an effort to gain a better understanding of the costs associated with the transition to electric space and residential water heaters for our customers, SoCalGas asked an independent consulting firm, Ramboll, to use the information presented in the PAR 1111 and PAR 1121 Working Group Meetings and apply the South Coast AQMD's cost-effectiveness analysis technique to estimate costs. Using the methodology and data provided in the Working Group Meetings and the staff report, Ramboll's calculated values are significantly different than those presented by staff for all the replacement scenarios. Table 1 below illustrates this difference for single-family water heaters. It is important to reiterate that Ramboll's analysis is using the same assumptions and values presented by staff, and yet the results were unable to be duplicated and independently verified (see Appendix A for complete analysis).

Table 1: Comparison of Cost-Effectiveness Values for Single-Family Water Heater

Category	Cost-Effectiveness ($/Ton)		
	AQMD Analysis	Ramboll Analysis	Percent Change
Single-Family Water Heater with Panel Upgrade	$601,000	$750,345	25%
Single-Family Water Heater	$299,000	$524,016	75%
Overall Weighted Average*	$327,000	$544,385	66%

*Based on South Coast AQMD assumption that 9% of homes require a panel upgrade

The lack of clarity as to how staff arrived at these cost-effectiveness values is very concerning. It appears that staff did not update the average annual electricity usage values as indicated in the staff report to arrive at $601,000[8] for the cost of a water heater replacement with a panel upgrade (Ramboll's analysis using South Coast AQMD's assumptions is 25% higher for water heaters with panel upgrades, 75% higher for water heaters without upgrades, and 66% higher for water heaters when using South Coast's weighted average calculation). Unfortunately, SoCalGas is unable to determine how staff arrived at $299,000 for the cost of a water heater replacement without a panel upgrade. Without visibility into the datasets used, assumptions, and calculations made by staff, stakeholders are unable to get a full picture of how the potential costs associated with compliance with these rules were evaluated. Data transparency is crucial in any rulemaking process but is particularly important for PAR 1111 and PAR 1121, as the potential financial implications of this rulemaking will impact millions of residents and businesses in South Coast AQMD jurisdiction. SoCalGas requests that staff provide details on the assumptions, datasets, and calculations used within the cost-effectiveness analysis to derive the cost-effectiveness values presented. It is critical that staff provide this information to help the public better understand what costs customers may encounter in the not-too-distant future. SoCalGas recommends that staff make their calculation spreadsheet available to the public for review and comment as was done for Proposed Rule 2304.[9] 37-3

Given the difficulty of unpacking the cost-effectiveness assumptions and lack of public awareness, stakeholders should be given more time to understand the specific assumptions to ensure the calculations are sound. As such, SoCalGas requests that the Board delay adoption of these proposed rules to allow for an additional public workshop to review the cost-effectiveness calculations that were used to determine the cost-effectiveness values.

[8] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 2-20, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18*.

[9] South Coast AQMD, "Proposed Rule 2304," see Potential Port Emission Reduction Strategies excel files from Working Group Meetings, *https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-2304*.

4. Several assumptions within the cost-effectiveness analysis are inconsistent and should be revaluated by staff

The cost-effectiveness analysis contains several assumptions that are inconsistent, which undermines the overall reliability of the findings. To enhance the accuracy and credibility of the evaluation, it is crucial to address these inconsistencies. SoCalGas's analysis of staff's calculations found several areas that should be addressed. Enhancements should focus on ensuring that assumptions are clearly defined, logically sound, and consistently applied throughout the process. We hope that these insights will help to produce more robust and dependable results, ultimately leading to better-informed decisions.

a. *Inconsistent data used to estimate equipment replacement costs*

The South Coast AQMD's analysis uses two different data sets to estimate replacement costs for gas and electrical equipment. Gas replacement estimates are based on the E3 Residential Building Electrification analysis[10], while the electric equipment replacement costs are based on the Technology and Equipment for Clean Heating (TECH) data set[11]. Per the staff report, staff utilized the November 2023 public data set from TECH for Los Angeles, Orange, San Bernardino and Riverside counties and the entire data set from E3 for climate zones 6, 9 and 10[12]. According to staff, TECH Clean California Program data includes only 1,400 Multi-Family (MF) buildings and 18,000 Single-Family (SF) buildings that participated in the state incentive program[13]. 37-3

It is unclear why staff chose to use two separate sources of data, from where values were pulled, and why staff limited the scope of the data sets. It is important to have data integrity to avoid the appearance of bias in such an analysis. In order to eliminate these data inconsistencies, the same data source can be used for both gas and electric equipment costs. Since the E3 analysis includes estimates for both gas and electric equipment costs, utilizing this data as the basis for the cost-effectiveness calculations would provide consistency.

[10] Amber Mahone et al., "Residential Building Electrification in California," Energy and Environmental Economics, Inc. ("E3"), April 2019, https://www.ethree.com/wp-content/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf.
[11] Technology and Equipment for Clean Heating (TECH) Clean California. "Heat Pump Data," last modified on September 13, 2024, *https://techcleanca.com/heat-pump-data/download-data/*.
[12] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 2-15, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18*.
[13] South Coast AQMD, "Proposed Amended Rules 1111 and 1121Working Group Meeting#3," January 31, 2024, Slide 17, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12*.

b. *Space heating cost-effectiveness analysis assumes simultaneous replacement of AC units, which are not regulated under Rule 1111*

South Coast AQMD's analysis should not rely upon a baseline of replacing AC units, an appliance which is not regulated by Rule 1111, in order to achieve cost-effectiveness. South Coast AQMD's analysis asserts that it is not cost-effective to replace a furnace with a heat pump in single-family homes without including the costs of replacing an AC system. In fact, in homes that do not currently have AC, the cost-effectiveness for a heat pump replacement is $827,000 per ton without a panel upgrade or $921,000 per ton with a panel upgrade. This exceeds the $349,000 cost-effectiveness threshold.[14] Furnace replacement with a heat pump only appears cost-effective when costs associated with simultaneous replacement of the furnace and AC are included.

Furthermore, to account for the fact that homes without AC are above the cost-effectiveness threshold, the South Coast AQMD's analysis relies on weighted averages. It is unclear how staff is performing these weighted average calculations, but the analysis relies on two percentages; according to staff, 87% of homes in South Coast AQMD already have AC and only 4% of homes will require a panel upgrade.[15] To estimate the percentage of homes with AC and without AC, staff relied on the U.S. Census American Housing Survey (AHS). Staff did not provide details as to how this data was utilized, but it appears that the 87% estimate includes a significant number of room AC units.[16] While the cost-effective analysis should not include AC units at all, it would be more accurate to exclude room units. Per the AHS data, when excluding room air conditioners only 66% of homes in the South Coast have AC (for the Los Angeles-Orange-San Bernardino-Riverside area).[17] Similarly, per the staff report the TECH data was used to determine that only 4% of homes need electrical panel upgrades for space heating, however it is unclear how staff arrived at this percentage and why such a small dataset was utilized.[18] 37-3

Overall, this approach assumes a 1:2 appliance replacement and should not be used to conclude that this is cost-effective. Rather than just evaluating the cost to replace a furnace, staff is assuming that customers will replace the furnace and a functioning AC unit at the same time, regardless of cost. It is not realistic to assume that homeowners are going to replace AC units that are in good condition if they only need to buy a new furnace. It is also a divergence from common practice to

[14] South Coast AQMD, "Proposed Amended Rules 1111 and 1121 Working Group Meeting #6," August 15, 2024, Slide 27, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm6-august-2024.pdf?sfvrsn=18*.
[15] South Coast AQMD, "Proposed Amended Rules 1111 and 1121 Working Group Meeting #6," Slide 27.
[16] South Coast AQMD, "Proposed Amended Rules 1111 and 1121 Working Group Meeting #2," November 28, 2023, Slide 7, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm2-november-2023.pdf?sfvrsn=14*.
[17] U.S. Census Bureau, "American Housing Survey (AHS) Table Creator," American Housing Survey, AHS housing unit Characteristics spreadsheet, *https://www.census.gov/programs-surveys/ahs/data/interactive/ahstablecreator.html?s_areas=00000&s_year=2023&s_tablename=TABLE1&s_bygroup1=1&s_bygroup2=1&s_filtergroup1=1&s_filtergroup2=1*.
[18] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 2-17, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18*.

put forth a regulation that is not cost-effective simply because staff believes that residents will benefit from having AC. As indicated in the staff report "although heat pump replacement for furnace without AC has a high cost-effectiveness, the replacement would have an additional benefit of space cooling, which is becoming more of a necessity due to climate change."[19] Consumers should not be forced to bear the cost of an appliance that they may not need or be able to afford. As such, staff should update the cost-effective analysis excluding the costs of AC replacement; doing so will show that these proposed amendments to Rule 1111 are not cost-effective.

c. South Coast AQMD should consider revising electrical panel upgrade costs to more accurately reflect upfront costs to customers

During the rulemaking process, staff acknowledged that the transition to zero-emission units may require electrical panel upgrades, which will be an added cost to customers who are already paying to replace their appliance. Although staff noted that panel upgrades typically cost approximately $3,000 based on available data,[20] the cost-effectiveness analysis ultimately relied upon a panel upgrade cost of $750[21]. This value was derived by dividing the $3,000 estimate in half to account for the longer useful life of the electrical panel (assumed to be 30 years) versus the useful life of the replacement unit (assumed to be 15 years for heat pump water heaters, but staff did not update this value to use the 25-year useful life of heat pump space heaters). Staff also assumed that costs would be shared between both space and water heating appliances even though one appliance replacement could trigger the need to upgrade the whole cost of the panel, resulting in a realized cost of $3,000 to the customer to replace one appliance. 37-3

To accurately estimate upfront costs and effectively communicate expected costs to the public, the cost-effectiveness analysis should be updated to include the total cost of an electrical panel upgrade. The financial investment in panel upgrades is made at the time of purchase, not at the end of the equipment life; therefore, electric panel upgrade costs should not be prorated based on the useful life of the appliance. Furthermore, based on available data, the cost of a panel upgrade can be up to $18,000[22] if customers are responsible for utility infrastructure costs such as pole changeouts or conduit replacements, or other costs such as sub-panels, new breakers, trenching, etc. Additionally, space and water heaters have varying life expectancies, thus it is inaccurate to apply a single 15-year panel lifetime cost to both types of equipment. If staff chooses to stick with this approach, however, then appliances with a 25-year expected life should be identified with the prorated panel upgrade cost.

[19] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," Page 2-18.
[20] NV5, "Service Upgrades for Electrification Retrofits Study Final Report," May 27, 2022, Page 32, *https://pda.energydataweb.com/api/view/2635/Service%20Upgrades%20for%20Electrification%20Retrofits%20Study%20FINAL.pdf.*
[21] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 2-17, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18.*
[22] NV5, "Service Upgrades for Electrification Retrofits Study Final Report," Page 32.

Also, as previously noted, staff is performing weighted averages utilizing the assumptions that only "4 percent of homes for space heating and 9 percent of homes for water heating" will require a panel upgrade.[23] Since the transition to zero-emission technology will require California families to ultimately bear this added cost, it is important to ensure that such assumptions used to derive this value are appropriate and provide a realistic cost to customers. For these reasons, we request that South Coast AQMD delay the adoption of these rules to allow for a public workshop to review the assumptions that were used to arrive at these values. In lieu of a public workshop staff could make their calculation spreadsheet available to the public for review and comment.

d. *Energy Prices used in South Coast AQMD's analysis are point sources and representative of prices before the proposed rule implementation date*

In its cost-effectiveness analysis for residential and commercial appliances, South Coast AQMD used projected electricity and natural gas rates for 2024-2050 from the 2023 Integrated Energy Policy Report (IEPR) Energy Demand Forecast.[24] The 2023 IEPR electricity forecast only goes to 2040, but natural gas rates extend to 2050. Since the compliance dates do not begin until 2026 and these types of equipment have long lifetimes (ex. 15 and 25 years), energy prices are expected to change during that period.[25] Hence, SoCalGas proposes that the cost-effectiveness analysis should use an average of projected rates during the equipment's expected 15- or 25-year lifetime to better reflect the actual cost of O&M for the equipment's lifetime. We also believe that the approaches for electric and gas appliances should be consistent; however, we were unable to verify the source and timeframe of the electricity and gas rates used for the cost-effectiveness analysis. Therefore, SoCalGas requests clarification from staff how electricity rates are averaged through 2050 if the data was not available from the forecast. Without this clarification, it is not possible to validate the staff report's analysis.

37-3

e. *Inflated coefficient of performance assumptions for heat pumps*

South Coast AQMD staff presented energy consumption data during Working Group Meeting #2 on slides 13 and 14. Table 2 below provides a summary of energy usage assumptions provided, gaps in energy usage assumptions, as well as calculated Coefficients of Performance (COP).

[23] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 2-15, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18.*

[24] California Energy Commission, "2023 Integrated Energy Policy Report Energy Demand Forecast California Energy Demand," *https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2023-integrated-energy-policy-report/2023-1.*

[25] U.S. Energy Information Administration, "Annual projections to 2050," retrieved on October 8, 2024, *https://www.eia.gov/analysis/projection-data.php.*

Table 2: Summary of Energy Usage Assumptions Used in South Coast AQMD Analysis

	SF/MF Residential Space Heating		Commercial Space Heating		Residential Water Heating[26]		Coefficient of Performance[27]	
	HP	Gas	HP	Gas	HP	Gas	HPSH	HPWH
Energy Consumption (kWh)[28]	565	3,822	No data provided	No data provided	1,036	5,567	6.76	5.37

Based on the residential energy data South Coast AQMD staff provided, the residential heat pump space and water heating COPs are 6.76 and 5.37, respectively. These levels of efficiencies are not consistent with performance of existing heat pump technologies. Heat pump technologies typically range from 3.5-4.4.[29]

SoCalGas staff attempted to unpack the rationale for the high COP values used by South Coast AQMD staff for both space and water heat pump technologies. The staff report indicates that heat pump technology "can be over three times more efficient than conventional appliances" but does not provide any reference.[30] Additionally, the source of the energy consumption data for water heater usage was unclear as the only reference for data source is the ENERGY STAR product finder link.[31] South Coast AQMD staff should provide the specific appliances or data used to develop these calculations, so stakeholders can understand how the values are derived. 37-3

In the South Coast AQMD Space Heating consumption analysis, as presented on slide 12 of Working Group Meeting #2, the current values used in the analysis appear to come from the RASS 2019 executive summary, Tables ES-1 and ES-3.[32] The Southern California Edison (SCE) values in Table ES-1 represent the average consumption of all electric HVAC heat pump installations (single-family, multi-family, and mobile homes) in the SCE service territory, while the SoCalGas values in Table ES-3 represent the average consumption of all gas space heating installations (single-family, multi-family, and mobile homes) in SoCalGas territory. These values, however, do not account for the types of buildings (single-family vs. multi-family vs. mobile homes) in which

[26] Used lowest range energy usage assumption for both heat pumps and conventional gas water heaters.
[27] SoCalGas calculated the coefficient of performance based on energy consumption of gas appliances and heat pump appliances.
[28] Gas energy usage converted from therms to kWh using 29.3 kWh/therm conversion factor including electricity load for furnace fan.
[29] Nate Jutras, "What is Uniform Energy Factor and Why Does it Matter?," ENERGY STAR, accessed October 16, 2024, *https://www.energystar.gov/products/ask-the-experts/what-uniform-energy-factor-and-why-does-it-matter.*
[30] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 2-10, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18.*
[31] ENERGY STAR Certified Heat Pump Water Heaters, *https://www.energystar.gov/productfinder/product/certified-heat-pump-water-heaters/results.*
[32] California Energy Commission, "2019 California Residential Appliance Saturation Study (RASS) Executive Summary," July 2021, Pages 5 and 11, https://www.energy.ca.gov/sites/default/files/2021-08/CEC-200-2021-005-ES.pdf.

the equipment is installed. For example, if there are more HVAC heat pumps in multi-family homes, which have a lower space heating load than single-family buildings, it could show that the heat pump space heater is saving more energy simply by heating smaller building sizes. By comparing the SCE numbers from Table ES-1 to the building specific values in Table ES-2, one can see that the average space heating load in SCE territory is most similar to multi-family energy consumption. Moreover, comparing SoCalGas numbers from Table ES-3 to the building specific values in Table ES-4 shows the space heating load in SoCalGas territory is most similar to mobile home energy consumption. This suggests that there are more heat pump installations in multi-family buildings, which skews the unit energy consumption values lower within SCE territory.

The more appropriate numbers for the analysis would be from Tables ES-2 and ES-4, which control for building size and therefore compare equal building loads. These tables show that multi-family space heating uses about 40% of the single-family energy usage and mobile home space heating uses about 75% of the single-family energy usage. The following table summarizes ES-2 and ES-4 for energy consumption data by technology and residential building types.

Table 3: Summary of ES-2 and ES-4 Energy Consumption Data

37-3

	Unit Energy Consumption (UEC)		
	Single-Family	Multi-Family	Mobile Home
Primary Conventional Space Heating (kWh)	1,509	622	1,193
Primary Heat Pump Space Heating (kWh)	1,221	493	980
Primary Heat (therm)	191	67	136
Furnace Fan (kWh)	159	55	116

While these numbers are statewide and include climate zones outside of the South Coast AQMD territory, they provide for a more like-for-like comparison of building usage. The statewide values for different building types in Tables ES-2 and ES-4 would be more appropriate for this analysis.

Further, to get the most accurate consumption values and account for the regionality of energy consumption as well as the different building load usage, the RASS database could be utilized.[33] Although currently unavailable on the CEC website, the RASS 2019 database contains all of the raw data from the RASS study (see footnote 33) to enable a user to search and filter the data usage as needed. The RASS 2019 UEC tables, which calculate energy consumption values of weather sensitive end uses by climate zones and building types, can be utilized to get regional values for different space heating loads depending on the building type.[34] This would allow for a more

[33] California Energy Commission, California Residential Appliance Saturation Study Database, *https://rass.dnv.com/sign/in*.
[34] California Energy Commission, "2019 California Residential Appliance Saturation Study (RASS) Volume 2: Results," July 2021, *https://rass.dnv.com/envodig/api/site/media/CEC-200-2021-005-RSLTS.pdf*.

accurate like-for-like comparison of the different consumption values between building and space heating types within certain regions.

Due to the relatively smaller sample sizes of the UEC values by climate zone, there is more variation in the results of the data. To have statistically significant data, it is best to use the statewide figures from the RASS 2019 database below, similar to the executive summary tables ES-2 and ES-4:

Table 4: RASS 2019 Statewide Energy Consumption Data

Building Type	Primary Heat (therm)	Conv. Heat (kWh)	Heat Pump (kWh)
Single-Family	189	1,509	1,221
Townhome	83	951	593
2-4 Unit Apartment	69	592	559
5+ Unit Apartment	53	582	461
Mobile Home	144	1,193	980

37-3

SoCalGas requested that Ramboll use the statewide data per residential building type in their cost-effectiveness analysis.

f. Cost-effectiveness calculations should include costs of alternative compliance pathways

During the October 3, 2024 South Coast AQMD Public Workshop, several stakeholders raised concerns about the alternative compliance pathways laid out within both rules. Stakeholders voiced concern regarding rental appliance feasibility, noting that this would be incredibly complicated and costly to owners. One commenter acknowledged that for his manufacturing company, ultra-low NOx products are only shipped to and sold in areas in California that have low NOx requirements. Another manufacturer commented that the District should not rely on the market to create a rental program and suggested that the District fund a program similar to what was done to support the TECH program.[35] Without such an established program, inventory in the next few years will decline as manufacturers stop producing natural gas units for sale in California. The lack of availability of rental units will impose additional costs on households and could potentially offset emissions reductions if consumers need to utilize higher emitting units because manufacturers stop developing units that meet California's strict emissions standards.

Furthermore, the cost-effectiveness analysis does not include consideration of the additional costs incurred by customers under the alternative compliance options. Staff noted that the alternative compliance options were included as part of the PAR 1111 amendments to address the high upfront cost associated with furnace replacement, since furnace replacement without simultaneous

[35] South Coast AQMD October 3, 2024 Public Workshop, stakeholder comments; recording available by request to AQMD staff.

replacement of an AC systems is not cost-effective[36]. Given 34 percent of homes in the South Coast AQMD region do not have AC, the additional costs of the alternative compliance option will be a reality for many households.[37] To account for these costs, the cost-effectiveness analysis should assume that these homeowners will have to pay double the installation, labor, and permitting costs, in addition to rental costs, since rented natural gas-fired furnaces and water heaters will need to be installed and subsequently uninstalled once a heat pump replacement unit has been procured and any necessary upgrades are completed for the heat pump. It is in the public interest to be made aware of these potential additional upfront costs, as it will impose additional financial burden on anyone who will need to utilize these alternative compliance options.

g. Ramboll's cost-effectiveness analysis

37-3

Given these findings, SoCalGas asked Ramboll to apply the South Coast AQMD's cost-effectiveness analysis technique as presented by staff for the proposed zero emission standards for PAR 1111 and 1121 (Appendix A). Ramboll calculated the cost-effectiveness in dollars per ton of NO_X reduced for the replacement of residential natural gas appliances with electric heat pump alternatives using the updated data and assumptions as discussed in the comments above. The results are summarized below in **Table 4.** The analysis indicates that the replacement of a single-family home natural gas water heater, single-family home natural gas furnace (only), and multi-family home natural gas furnace (only) with heat pump equipment are not cost-effective, i.e., cost-effectiveness is greater than the threshold of $349,000. Details of these calculations are presented in Tables B-1, B-2, and B-3 in **Attachment B** for single-family home water heaters, single-family home HVACs, and multi-family home HVACs, respectively.

[36] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rule 1111 and 1121," September 2024, Page 2-19, https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18.

[37] U.S. Census Bureau, "American Housing Survey (AHS) Table Creator," American Housing Survey, *https://www.census.gov/programs-surveys/ahs/data/interactive/ahstablecreator.html?s_areas=00000&s_year=2023&s_tablename=TABLE1&s_bygroup1=1&s_bygroup2=1&s_filtergroup1=1&s_filtergroup2=1.*

Table 4: Updated Cost-Effectiveness Comparisons			
	Cost-Effectiveness for Conversion of Residential Natural Gas Equipment to Electric Heat Pump Equipment (2022$/ton NOx)		
Data Source	Single-Family Home Water Heater	Single-Family Home HVAC	Multi-Family Home HVAC
PAR 1111/1121 Preliminary Draft Staff Report[1]	601,000	921,000	(135,000)
Cost-effectiveness values calculated based on updated data presented in this comment letter[2]	**879,258**	**972,443**	**1,351,118**
Cost-effectiveness threshold ($/ton of NO_X)	349,000		
Notes:			
[1]South Coast AQMD. Preliminary Draft Staff Report for: Proposed Amended Rule 1111 – Reduction of NO_X Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NO_X emissions from Small Natural Gas-Fired Water Heaters. Available at: *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18*. Accessed: October 2024.			
[2]See Attachment B. Analysis includes panel upgrade costs of $3,000			
Abbreviations:			
$ - dollar, HVAC – heating ventilation and air conditions, NO_X – oxides of nitrogen			

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Given this, SoCalGas requests that South Coast AQMD staff revisit and refine the assumptions made within the cost-effectiveness analysis. Delay of rule adoption would allow for further investigation and deep-dive discussions between staff and engaged stakeholders to ensure all aspects of this rulemaking have been analyzed and vetted.

4. The Draft Subsequent Environmental Assessment does not sufficiently explain why energy impacts from PAR 1111 and 1121 are less than significant

SoCalGas has had the opportunity to review South Coast AQMD's September 2024 Draft Subsequent Environmental Assessment for PAR 1111 and PAR 1121 (State Clearinghouse No. 2022050287; South Coast AQMMD No. 20240924JA/05122022KN) ("Draft SEA"). SoCalGas offers several comments on the Draft SEA's analysis concerning the proposed project, including comments concerning the Draft SEA's air quality and energy impacts analyses, some of these analyses' underlying data and assumptions, and the Draft SEA's discussion of project alternatives. SoCalGas's comments are detailed in Appendix B. However, SoCalGas would like to highlight the following comment:

The Draft SEA's energy impacts analysis, in its concluding section, states that "[t]he cumulative energy impacts from increased electricity and natural gas demand remain significant and unavoidable." (Draft SEA, p. 4-23.) It then continues: "However, the Final Program Environmental Impact Report (EIR) for the 2022 AQMP also concluded that the use of energy to comply with ambient air quality standards and climate change goals, while contributing to overall electricity and natural gas demand, [] does not result in the wasteful, unnecessary, or inefficient use of energy. Therefore, the cumulative energy impacts are less than significant." (*Id.*) 37-4

The Draft SEA leaves unclear how to reconcile these two propositions. The mere passing reference to the 2022 Final (FEIR does not explain how the significant and unavoidable energy demand impacts discussed at length in the preceding pages of the Draft SEA are negated or made less significant by the absence of waste or inefficiency in how this energy is used. In the end, the Draft SEA goes from finding significant and unavoidable impacts to less than significant impacts in the space of just a few sentences, without sufficient explanation.

5. Staff should clarify why they plan to perform a technology check-in after rule implementation

During the October 3, 2024 Public Workshop, South Coast AQMD staff stated that they plan to conduct a technology check-in of the rule amendments by June 2027, ahead of implementation of the rules to consider any issues with the rules as proposed. However, PAR 1121's implementation date is January 1, 2027, for existing buildings. During the comment period, SoCalGas requested clarification as to why the feasibility study would occur after the first implementation date, but South Coast AQMD did not respond to the question. SoCalGas would appreciate if staff could address this inconsistency as it does not benefit customers to have their concerns addressed *after* implementation. 37-5

6. The financial impact of the proposed amendments has not been adequately evaluated and will be burdensome to the everyday customer

California is currently one of the most expensive places to live in the country[38] and has experienced one of the highest inflation rates recently.[39] According to the Public Policy Institute of California, nearly a third of Californians are living in or near poverty.[40] Needless to say, affordability is first and foremost on many policymakers' and stakeholders' minds when it comes to living in California.[41]

In the long run, SoCalGas believes that the clean energy transition is a great opportunity to raise the living standards for all Californians in an affordable and equitable fashion. To do so, we believe that we need to understand the immediate and direct impact to consumers in advance of any new policy being enacted. Oftentimes, communities and households who are least able to afford certain costs are most burdened with them and receive little recourse from policies and incentives. According to the LA100 Equity Strategies Report, "low-income families, renters, and people of color—face higher energy and transportation burdens, unsafe temperatures, higher impact from extreme heat events, and other negative impacts of historical legacies that are still present in current policies and practices." Specifically, the report found that "between 1999 and 2022, Los Angeles Department of Water and Power invested $340 million in residential solar installation, $14 million in residential energy efficiency, and $5 million in residential electric vehicle incentive programs, but disadvantaged communities only received 38%, 46%, and 23% of those allocations, respectively."[42] 37-6

While we understand that there will be rebates and incentives to help with some costs of compliance, it is concerning that costs can vary significantly. Table 5 below highlights actual costs that consumers will face to comply with PAR 1111 and cost for PAR 1121.[43] Similarly, TECH data, which staff utilized for single-family homes, shows that costs to replace a furnace with a heat pump in communities identified as disadvantaged can range from $3,800 to $56,000.[44] Given that there may be additional upfront costs when replacing with electric instead of gas appliances (e.g., $5,200 vs. $3,000 for water heaters, $18,550 vs. $10,000 for space heating, based on South

[38] Missouri Economic Research and Information Center, "Cost of Living Data Series", retrieved on Oct. 8, 2024, *https://meric.mo.gov/data/cost-living-data-series.*
[39] Paul Davidson, "The 5 states with the highest inflation and the 5 with the lowest," *USA Today*, April 9, 2024, *https://www.usatoday.com/story/money/2024/04/09/states-highest-lowest-inflation/73184932007/.*
[40] Public Policy Institute of California, "Poverty in California (October 2023 Factsheet)," last modified in 2023, *https://www.ppic.org/publication/poverty-in-california/.*
[41] California Public Utilities Commission (CPUC), "Affordability Rulemaking," last modified in 2023, *https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/affordability.*
[42] National Renewable Energy Laboratory, "LA100: The Los Angeles 100% Renewable Energy Study and Equity Strategies," *https://maps.nrel.gov/la100/equity-strategies/recognizing-inequities#key-findings.*
[43] Costs for PAR 1111 provided by regional HVAC contractor; costs for PAR 1121 from LA BizFed analysis available at: *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/los-angeles-county-business-federation.pdf?sfvrsn=6.*
[44] *September 2024 TECH Working Dataset_Multifamily & TECH Working Dataset_Single-Family Spreadsheets.*

Coast AQMD estimates and both excluding the cost of panel upgrades and other potential costs[45]), we urge South Coast AQMD to be judicious in its cost-effectiveness analysis, to be up-front and clear about how much this will cost the individual consumer, and to provide additional clarification in a cost-effectiveness workshop to help the public understand the assumptions used and the potential impact of these rules on our communities -- households and businesses. Additionally, SoCalGas looks forward to reviewing the Socioeconomic Impact Assessment once it is released later this year.

Table 5: Appliance Replacement Costs

Natural Gas Space Heater	Replacement Cost
Floor Heater	$4,910
Wall Heater	$3,200
Central Furnace	$6,750

Heat Pump Space Heater	Replacement Cost
Floor/Wall Heater Replacement with Panel Upgrade	$32,099
Floor/Wall Heater Replacement without Panel Upgrade	$27,099
Central Heating Without AC	$23,750

Water Heaters	Replacement Cost
Natural Gas Water Heater	$1,700
120V Heat Pump Water Heater	$4,000 - $15,000
240V Heat Pump Water Heater	$30,000 - $80,000

37-6

Conclusion

SoCalGas has been an active participant in the South Coast AQMD rulemaking on PAR 1111 and 1121 and appreciates staff's efforts in updating this regulation; however, SoCalGas and other stakeholders continue to have serious concerns.[46] While SoCalGas supports emission reduction efforts, PAR 1111 and 1121 effectively ban gas-fired space and water heaters, disregarding the potential emissions reductions that can be achieved through technological advancements in ultra-low-NOx gas technologies, hydrogen-enriched natural gas systems, and hybrid solutions. These alternatives have the potential to achieve meaningful emissions reductions while maintaining reliable, affordable, and efficient options for residents and consumers. Allowing for ultra-low-NOx alternatives will be far more effective than a zero-NOx mandate that requires residents to spend thousands of dollars modifying their homes to install electric heat pumps.

[45] South Coast AQMD, "Proposed Amended Rules 1111 and 1121 Working Group Meeting #2," November 28, 2023, Slide 11, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm2-november-2023.pdf?sfvrsn=14*.

[46] South Coast AQMD October 3, 2024 Public Workshop, stakeholder comments; recording available by request to AQMD staff.

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We urge South Coast AQMD to delay adoption of these rules and take the time to wholistically and appropriately evaluate their impacts. Given the earliest compliance deadline for existing buildings is not until January 1, 2027, we feel there is an opportunity for the South Coast AQMD to conduct public outreach to inform property owners and tenants within its jurisdiction of this rulemaking. It is crucial to recognize that homeowners and renters, rather than industry, will be the ones forced to reach deep into their pockets to comply with these rules. Historically, the South Coast AQMD granted extensions to manufacturers under Rule 1121 to meet lower NOx emission limits, acknowledging the challenges they faced with compliance costs. Similarly, we believe it is reasonable to allow more time in this rulemaking process, considering the significant financial impact to homeowners and businesses and the challenges they will likely face with rule implementation. We urge the South Coast AQMD to schedule an additional public workshop to ensure all considerations have been included in the cost-effectiveness values presented to the public. This will also help homeowners and businesses within your jurisdiction to plan their future finances accordingly. SoCalGas, looks forward to collaborating on California's shared goal of advancing air quality objectives. 37-7

Respectfully,

/s/ Kevin Barker

Kevin Barker
Senior Manager
Energy and Environmental Policy

Appendix A

RAMBOLL

ENVIRONMENT & HEALTH

MEMORANDUM

To: Kevin Barker
Southern California Gas Company

From: Varalakshmi Jayaram & Tony Wang
Ramboll Americas Engineering Solutions, Inc.

Subject: **COMMENTS ON SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S (SOUTH COAST AQMD'S) COST-EFFECTIVENESS CALCULATIONS FOR PROPOSED AMENDED RULES (PAR) 1111 AND 1121**

Date: October 16, 2024

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1. It is unclear how South Coast AQMD arrived at the cost-effectiveness values that they presented in the Preliminary Draft Staff Report for PAR 1111/1121.

Ramboll calculated the cost-effectiveness (CE) in dollars per ton of NO_X (oxides of nitrogen) reduced for the replacement of residential natural gas (NG) appliances with electric heat pump alternatives using the data and assumptions presented by South Coast AQMD in the preliminary draft staff report[1] and Working Group Meetings (WGMs)[2] for PAR 1111/1121. Details of these calculation are presented in Tables A-1, A-2, and A-3 in **Attachment A** for single-family home water heaters, single-family home heating ventilation and air conditioning (HVAC) systems, and multi-family home HVAC systems respectively. As summarized in **Table 1** below, Ramboll's calculated CE values are substantially different from those presented by South Coast AQMD for most of the replacement scenarios.

We understand that staff has made multiple updates to their CE calculations after their initial presentation of assumptions in WGMs #2 and #3. Ramboll has accounted for these updates in our calculations presented in **Attachment A** by incorporating the information provided in the presentation materials for subsequent WGMs and the preliminary draft staff report. However, our results still do not align with those presented in the preliminary draft staff report. We therefore request staff to provide a summary of their current assumptions and methodology for the CE calculations that were used to arrive at these

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[1] South Coast AQMD. Preliminary Draft Staff Report for: Proposed Amended Rule 1111 – Reduction of NO_X Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NO_X emissions from Small Natural Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[2] South Coast AQMD Presentation Materials for Working Group Meetings for PAR 1111/1121. Available at: https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1111-and-rule-1121. Accessed: October 2024.

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cost-effectiveness values. We are happy to provide a Microsoft Excel version of our detailed calculations that are presented in **Attachment A**, as needed.

Table 1. Comparison of Cost-Effectiveness

Data Source	Cost-Effectiveness for Conversion of Residential Natural Gas Equipment to Electric Heat Pump Equipment (2022$/ton NOx)				
	Single-Family Home Water Heater	Single-Family Home HVAC		Multi-Family Home HVAC	
		Furnace + AC	Furnace Only	Furnace + AC	Furnace Only
PAR 1111/1121 Preliminary Draft Staff Report[1]	601,000	(183,000)	921,000	(2,633,000)	(135,000)
Cost-Effectiveness Values calculated based on South Coast AQMD Data[2]	750,345	(174,683)	1,483,017	(1,455,633)	(363,058)

Notes:

[1] South Coast AQMD. Preliminary Draft Staff Report for: Proposed Amended Rule 1111 – Reduction of NO_X Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NO_X emissions from Small Natural Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[2] See Attachment A.

Abbreviations:

$ - dollar, AC – air conditioner, HVAC – heating ventilation and air conditions, NO_X – oxides of nitrogen

37-8

2. South Coast AQMD's assumptions for electric heat pump efficiencies are substantially higher than those reported for residential heat pumps that are available in the market.

The energy consumption data for heat pumps and the natural gas appliances presented by South Coast AQMD staff in WGM#2[3] indicates that the heat pumps are approximately 5-7 times more efficient than the natural gas appliances they replace. Specifically, the electric heat pump space heater is assumed to be 6.8 times[4] more efficient than a conventional natural gas furnace and the

[3] South Coast AQMD Working Group Meetings for Proposed Amended Rules 1111 - Reduction of NO_X Emissions from Natural-Gas-Fired Furnaces and 1121 - Reduction of NOX Emissions from Residential Type, Natural-Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1111-and-rule-1121. Accessed: October 2024.

[4] South Coast AQMD assumed an annual energy use of 3,822 kWh (127 therm NG for furnace + 101 kWh electricity for furnace fan) from a conventional gas furnace and 565 kWh for a HVAC heat pump to be 565 kWh, in WGM#2, Slide 12, and did not distinguish single family-and multi-family use. This indicates that the heat pump HVAC is 6.8 (3,822÷565) times more efficient than the conventional natural gas furnace.

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electric heat pump water heater is assumed to be at least 5.3 times[5] more efficient than a conventional natural gas water heater.

While South Coast AQMD staff claimed the energy consumption data of the natural gas furnace and HVAC heat pumps were obtained from the 2019 California Residential Appliance Saturation Study (2019 RASS)[6], staff used incorrect values from the RASS by mixing the single- and multi-family space heating energy consumptions. **Table 2** below summarizes the space heating Unit Energy Consumption (UEC) for natural gas furnaces (i.e., Primary Heat + Furnace Fan) and heat pump space heaters (i.e., Primary Heat Pump Space Heating) that are listed in the 2019 RASS. We recommend staff uses these UEC values to revise their CE analysis.

Table 2. UEC from the 2019 RASS

Equipment	Single-Family	Multi-Family	Unit
Primary Heat[1]	191	67	therms/year
Furnace Fan[2]	159	55	kWh/year
Primary Heat Pump Space Heating[2]	1,221	493	kWh/year

[1] Data obtained from Table 33 in Volume 2 of the 2019 California RASS. Available at: https://www.energy.ca.gov/sites/default/files/2021-08/CEC-200-2021-005-RSLTS.pdf. Accessed: October 2024. Multi-family UEC data are the average the UECs for townhomes, 2-4 unit apartments, and 5+ unit apartments.

[2] Data obtained from Table 11 in Volume 2 of the 2019 California RASS. Available at: https://www.energy.ca.gov/sites/default/files/2021-08/CEC-200-2021-005-RSLTS.pdf. Accessed: October 2024. Multi-family UEC data are the average the UECs for townhomes, 2-4 unit apartments, and 5+ unit apartments.

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Additionally, we would like to point out that the energy efficiency values South Coast AQMD staff used are also significantly higher than the efficiencies of residential heat pumps appliances that are available in the market. For instance, the Coefficient of Performance (COP) of certified Air-Source Heat Pumps (ASHP, or heat pump space heaters) in the ENERGY STAR program's database range from 1.8 to 2.9 (average 2.0).[7] This indicates that residential heat pump space heaters in the market are approximately 2 time more efficient than a conventional NG furnace.

The ENERGY STAR website[8] also indicates that certified heat pump water heaters are 3.5 to 4.4 times more efficient than a traditional NG water heater. Additionally, South Coast AQMD staff

[5] South Coast AQMD assumed an annual energy use of 190 therms NG (5,567 kWh) for a conventional gas water heater and 1,036 kWh for an equivalent heat pump water heater, in the Preliminary Draft Staff Report. This indicates that the heat pump water heater would be at least 5.3 times (5,567÷1,036) more efficient than the conventional gas water heater.

[6] South Coast AQMD assumed an annual energy use of 3,822 kWh (127 therm NG for furnace + 101 kWh electricity for furnace fan) from a conventional gas furnace and 565 kWh for a HVAC heat pump to be 565 kWh, in WGM#2, Slide 12.

[7] ENERGY STAR Certified Air-Source Heat Pumps. Available at: https://data.energystar.gov/Active-Specifications/ENERGY-STAR-Certified-Air-Source-Heat-Pumps/w7cv-9xjt/about_data. Accessed: October 2024.

[8] ENERGY STAR- What is Uniform Energy Factor and Why Does it Matter?. Available at: https://www.energystar.gov/products/ask-the-experts/what-uniform-energy-factor-and-why-does-it-matter. Accessed: October 2024. Note this article reported that the UEF (i.e., Uniform Energy Factor) for a traditional gas water heater is 0.93, while ENERGY STAR certified heat pump water heaters typically have UEF ratings in the range of 3.3 to 4.1. Ramboll calculated the ratio and summarized the efficiency improvement to be 3.5-4.4 times.

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have also stated that the heat pump water heater is 4.6 more efficient than a Type 1 NG water heater in the in WGM#3 for PAR 1146.2.[9] While the water heaters subject to Rule 1146.2 are larger than the residential water heaters that would be subject to PAR 1111/1121, the relative efficiency of heat pump water heater to a natural gas water heater should still be similar for both small and large water heaters.

Therefore, we request staff review and update the energy consumption assumptions for the natural gas and residential heat pump appliances that are used in their cost-effectiveness evaluations for PAR 1111/1121.

3. **South Coast AQMD should consider changing the panel upgrade cost for each equipment from $750 to $3,000 to reflect an accurate estimation of infrastructure costs.**

South Coast AQMD proposes reducing the panel upgrade cost from $3,000 to $1,500, assuming a longer useful panel life compared to the equipment's 15-year lifespan. Staff also assumed that this cost would be shared by both the space heaters and water heaters, resulting in an infrastructure cost of $750 each, as noted in WGM #2, slide 16. However, it is not valid to implement a lower infrastructure cost from an assumed longer panel lifespan because the investment for the panel upgrade must be fully made at the time of purchase, and not at the end of the equipment life. Additionally, space heaters and water heaters have varying lifetimes; therefore, it is invalid to assume all homes will install electric water heaters and space heaters simultaneously to share the panel upgrade cost. Hence, we recommend that staff use a panel upgrade cost to be $3,000 for each equipment replacement project.

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4. **South Coast AQMD used inconsistent data sources for the capital costs of natural gas appliances and heat pump appliances, leading to uncertainty in the CE analysis.**

South Coast AQMD staff utilized capital cost data for NG equipment from the 2019 E3 Residential Building Study (E3 Study) [10], while the capital costs for heat pump equipment were obtained from the TECH Clean California program (TECH)[11]. We are concerned about the discrepancies between these two data sources and the resulting uncertainty in the CE analysis.

For instance, the E3 Study models costs for three types of homes: pre-1978 homes, which typically require electric panel upgrades, 1990s homes, and new construction that complies with California's 2019 Title 24 building code. In contrast, the TECH data only covers electrification projects for existing homes, excluding new construction entirely.

Additionally, the sample size in the TECH dataset varies greatly by home type. Specifically, it includes over 10,000 single-family project records in the South Coast (i.e., water heating and space heating projects in Los Angeles, Riverside, Orange, and San Bernardino counties) but only about 1,000 multi-family projects. This suggests that the TECH data is dominated by single-family projects and may not adequately represent multi-family projects.

[9] South Coast AQMD Working Group Meeting #3: Proposed Amended Rule 1146.2 – Controls of Oxides of Nitrogen from Large Water Heaters, Small Boilers, and Process Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1146-1146.1-and-1146.2/par-1146-2-wgm3-august-2023.pdf?sfvrsn=14. Accessed: October 2024.

[10] Energy+Environmental Economics (E3). Residential Building Electrification in California. Available at: https://www.ethree.com/e3-quantifies-the-consumer-and-emissions-impacts-of-electrifying-california-homes/. Accessed: October 2024.

[11] TECH Clean California. Heat Pump Data. Available at: https://techcleanca.com/heat-pump-data/. Accessed: October 2024.

Given these discrepancies, we recommend that South Coast AQMD staff revise their CE analysis by using E3 Study data for both natural gas and heat pump equipment costs to ensure consistency and accuracy.

5. **The CE analysis should use the average electricity and natural gas prices over the equipment lifetime instead of the current-year electricity and natural gas prices.**

The preliminary draft staff report[12] states that the CE analysis relied on the fuel price estimates which are based on a combination of the 2023 Integrated Energy Policy Report (2023 IEPR) and Energy Information Administration national level forecasts. While the staff report does not provide the values of the fuel price estimates that were actually used in the analysis, slide 25 in WGM #4 presentation indicated that these values are 0.0566 $/kWh and 0.2639 $/ kWh for natural gas and electricity, respectively. However, it is not clear how AQMD staff arrived at these values.

The proposed initial implementation year for PAR 1111/1121 starts from 2026, and the expected equipment lifespan for water heater and space heater are 15 years and 25 years, respectively. Additionally, we note that the 2023 IEPR provides electricity price forecasts only till 2040. Hence, we suggest that Staff use the average of the fuel price forecasts from 2026 to 2040 (a 15-year period) in their CE analysis. Ramboll has estimated these fuel price forecasts as described below:

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- Ramboll used the price forecasts in the 2023 IEPR[13] to calculate the following 2026 to 2040 average electricity prices for Southern California Edison (SCE) and Los Angeles Department of Water and Power (LADWP): 0.2959 2022$/kWh for SCE and 0.2919 2022$/kWh for LADWP. We then estimated a population weighted average electricity price of 0.2950 2022$/kWh (0.77 x SCE price + 0.23 x LADWP price) for the South Coast Air Basin following the methodology described in the preliminary draft staff report.
- Ramboll received a copy of the California Energy Commission's (CEC's) projected residential rates for Southern California Gas Company (SCG) from SCG. While this data included natural gas base rate projections till 2050, in order to maintain consistency with the approach for estimating the electricity prices, we propose using the 2026 to 2040 average natural gas price of 2.2372 2023$/therm, i.e., 0.07314 2022$/kWh[14].

We recommend that staff review our estimates for fuel prices and use these in the CE analysis.

6. **Once all suggested revisions related to CE analysis are incorporated, the CE analysis of PAR 1111 and 1121 to mandate the switch toward electric water heaters and space heaters will no longer be cost-effective for most scenarios.**

Ramboll calculated the CE in dollars per ton of NO_x reduced for the replacement of residential NG appliances with electric heat pump alternatives using the updated data and assumptions as discussed in the comments above. These are summarized below in **Table 3**. Our analysis indicates that the replacement of a single-family home natural gas water heater, single-family home natural gas furnace (only), and multi-family home natural gas furnace (only) with heat pump equipment are

[12] South Coast AQMD. Preliminary Draft Staff Report for: Proposed Amended Rule 1111 – Reduction of NO_x Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NO_x emissions from Small Natural Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[13] California Energy Demand Forecast, 2023-2040. Electricity Rate Forecast and Supporting Data. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253591. Accessed: October 2024.

[14] 2023$ were converted to 2022$ using a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2023. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

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not cost-effective, i.e., CE is greater than the threshold of $349,000. Details of these calculation are presented in Tables B-1, B-2, and B-3 in **Attachment B** for single-family home water heaters, single-family home HVACs, and multi-family home HVACs respectively.

Table 3: Updated Cost-Effectiveness Comparisons

Data Source	Cost-Effectiveness for Conversion of Residential Natural Gas Equipment to Electric Heat Pump Equipment (2022$/ton NO_X)				
	Single-Family Home Water Heater	Single-family Home HVAC		Multi-family Home HVAC	
		Furnace + AC	Furnace Only	Furnace + AC	Furnace Only
PAR 1111/1121 Preliminary Draft Staff Report[1]	601,000	(183,000)	921,000	(2,633,000)	(135,000)
Cost-Effectiveness Values Calculated based on Updated Data presented in this Comment Letter[2]	879,258	(220,761)	972,443	91,831	1,351,118
Cost-effectiveness Threshold ($/ton of NO_X)	349,000				

Notes:

[1] South Coast AQMD. Preliminary Draft Staff Report for: Proposed Amended Rule 1111 – Reduction of NO_X Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NO_X emissions from Small Natural Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[2] See Attachment B.

Abbreviations:

$ - dollar, AC – air conditioner, HVAC – heating ventilation and air conditions, NO_X – oxides of nitrogen

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ATTACHMENT A
COST-EFFECTIVENESS CALCULATIONS
BASED ON SOUTH COAST AQMD DATA

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Table A1. Cost-Effectiveness Calculations for the Replacement of a Residential Single-Family Home Natural Gas Water Heater based on Data presented by South Coast AQMD

	Natural Gas Water Heater	Electric Heat Pump Water Heater	Units
NOx Emissions			
NOx Emission Factor	10.0	0.0	ng/J
Annual Energy Use by Technology Type[1]	5,567	1,036	kWh
Equipment Useful Life	15	15	years
Total Lifetime NOx Emissions[2]	3.3E-03	0.0E+00	tons
Capital Costs			
Capital Costs[3]	3,000	5,200	2022$
Infrastructure	--	750	2022$
Total Capital Costs	3,000	5,950	2022$
Operation and Maintenance (O&M) Costs			
Electricity/Fuel Prices[4]	0.0566	0.2639	2022$/kWh
Annual Electricity/Fuel Costs[5]	315	273	2022$/yr
Total Lifetime O&M Costs[6]	3,503	3,040	2022$
Cost-Effectiveness			
Lifetime NOx Emission Reductions[7]	--	3.3E-03	tons
Incremental Capital Costs[8]	--	2,950	2022$
Incremental Lifetime Operation and Maintenance Costs[8]	--	(464)	2022$
Incremental Lifetime Equipment Costs[8]	--	2,486	2022$
NOx Cost-Effectiveness[9]	--	**750,345**	2022$/ton
South Coast AQMD Reported Cost-Effectiveness[10]		**601,000**	2022$/ton
South Coast AQMD NOx Cost-Effectiveness Threshold	349,000	349,000	2022$/ton

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Abbreviations:
AQMD - Air Quality Management District
COP - coefficient of performance
hr - hour
kg - kilogram
kW - kilowatt
kWh - kilowatt hour
J - joule
MMBtu - million British thermal units
NOx - oxides of nitrogen
ng - nanogram
yr - year

Constants:

Present Value Factor[11]	11.118
Real Interest Rate	4%

Conversion Factors:

8,760	hr/yr
29.3	kWh/therm
2,000	lbs/ton
2.78E-07	kWh/J
1.0.E+09	ng/g

Notes:

[1] Annual Energy Use obtained from Page 2-20 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[2] Total Lifetime NOx emissions are estimated as the Annual Energy Use multiplied by the Equipment Useful Life, and the NOx Emission Factor.

[3] Capital Costs obtained from Page 2-20 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[4] Electricity/fuel prices ($/kWh) data obtained from South Coast AQMD Working Group Meeting #4: Proposed Amended Rule 1111 - Reduction of NOx Emissions from Natural-Gas-Fired Furnaces and PAR 1121 - Reduction of NOx Emissions from Residential Type, Natural-Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm4-april-2024.pdf?sfvrsn=14. Accessed: October 2024. It appears that updates were made to the methodology used to estimate these prices in the Preliminary Draft Staff Report, however, the exact values that were used for the calculations in the staff report are not presented in the report.

[5] Annual Electricity/Fuel Costs is estimated at the product of the Annual Energy Use and the Electricity/Fuel Prices.

[6] Lifetime O&M Costs are estimated as the Annual Electricity/Fuel Costs multiplied by the Present Value Factor.

[7] Lifetime NOx Emission Reductions are calculated as the difference in Lifetime NOx emissions for the natural gas unit and the electric unit.

[8] Incremental Costs are calculated as the difference in cost compared to the natural gas unit.

[9] NOx Cost-Effectiveness is calculated as the Incremental Lifetime Equipment Costs divided by the Lifetime NOx Emission Reductions

[10] Data obtained from Page 2-20 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[11] The Present Value Factor is part of the Discounted Cash Flow Method that uses expected future cash flows in conjunction with a discount rate to estimate present fair value. Based on South Coast AQMD Working Group Meeting #3 presentation slides. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12. Accessed: October 2024.

Table A2. Cost-Effectiveness Calculations for the Replacement of a Residential Single-Family Home Natural Gas Furnace based on Data Presented by South Coast AQMD

Parameters for Cost-Effectiveness Analysis	Space Heating and Cooling		Space Heating Only		Units
	Natural Gas Furnace + Air Conditioner	Electric Heat Pump HVAC	Natural Gas Furnace	Electric Heat Pump HVAC	
NOx Emissions					
NOx Emission Factor	14.0	0.0	14.0	0.0	ng/J
Annual Energy Use by Technology Type[1]	3,822	565	3,822	565	kWh
Equipment Useful Life	25	25	25	25	years
Total Lifetime NOx Emissions[2]	5.3E-03	0.0E+00	5.3E-03	0.0E+00	tons
Capital Costs					
Capital Costs[3]	18,800	18,500	10,000	18,500	2022$
Infrastructure	--	750	--	750	2022$
Total Capital Costs	18,800	19,250	10,000	19,250	2022$
Operation and Maintenance (O&M) Costs					
Electricity Prices[4]	0.2639	0.2639	0.2639	0.2639	2022$/kWh
Natural Gas Prices[4]	0.0566		0.0566		2022$/kWh
Annual Electricity/Fuel Costs[5]	237	149	237	149	2022$/yr
Total Lifetime O&M Costs[6]	3,707	2,329	3,707	2,329	2022$
Cost-Effectiveness					
Lifetime NOx Emission Reductions[7]	--	5.3E-03	--	5.3E-03	tons
Incremental Capital Costs[8]	--	450	--	9,250	2022$
Incremental Lifetime Operation and Maintenance Costs[8]	--	(1,377)	--	(1,377)	2022$
Incremental Lifetime Equipment Costs[8]	--	(927)	--	7,873	2022$
NOx Cost-Effectiveness[9]	--	**(174,683)**	--	**1,483,017**	2022$/ton
South Coast AQMD Reported Cost-Effectiveness[10]		**(183,000)**		**921,000**	2022$/ton
South Coast AQMD NOx Cost-Effectiveness Threshold	349,000	349,000	349,000	349,000	2022$/ton

Abbreviations:
AQMD - Air Quality Management District
COP - coefficient of performance
hr - hour
kg - kilogram
kW - kilowatt
kWh - kilowatt hour
J - joule
MMBtu - million British thermal units
NOx - oxides of nitrogen
ng - nanogram
yr - year

Constants:
Present Value Factor[11] 15.622
Real Interest Rate 4%

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Conversion Factors:
8,760 hr/yr
29.3 kWh/therm
2,000 lbs/ton
2.78E-07 kWh/J
1.0.E+09 ng/g

Notes:

[1] Annual Energy Use obtained from South Coast AQMD Working Group Meetings #2: Proposed Amended Rule 1111 - Reduction of NOx Emissions from Natural-Gas-Fired Furnaces and PAR 1121 - Reduction of NOx Emissions from Residential Type, Natural-Gas-Fired Water Heaters, Slide 12. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm2-november-2023.pdf. Accessed: October 2024.

[2] Total Lifetime NOx emissions are estimated as the Annual Energy Use multiplied by the Equipment Useful Life, and the NOx Emission Factor.

[3] Capital Costs obtained from Page 2-18 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[4] Electricity/natural gas prices ($/kWh) data obtained from South Coast AQMD Working Group Meeting #4: Proposed Amended Rule 1111 - Reduction of NOx Emissions from Natural-Gas-Fired Furnaces and PAR 1121 - Reduction of NOx Emissions from Residential Type, Natural-Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm4-april-2024.pdf?sfvrsn=14. Accessed: October 2024. It appears that updates were made to the methodology used to estimate these prices in the Preliminary Draft Staff Report, however, the exact values that were used for the calculations in the staff report are not presented in the report.

[5] Annual Electricity/Fuel Costs is estimated at the product of the Annual Energy Use and the Electricity/Fuel Prices.

[6] Lifetime O&M Costs are estimated as the Annual Electricity/Fuel Costs multiplied by the Present Value Factor.

[7] Lifetime NOx Emission Reductions are calculated as the difference in Lifetime NOx emissions for the natural gas unit and the electric unit.

[8] Incremental Costs are calculated as the difference in cost compared to the natural gas unit.

[9] NOx Cost-Effectiveness is calculated as the Incremental Lifetime Equipment Costs divided by the Lifetime NOx Emission Reductions

[10] Data obtained from Page 2-18 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[11] The Present Value Factor is part of the Discounted Cash Flow Method that uses expected future cash flows in conjunction with a discount rate to estimate present fair value. Based on South Coast AQMD Working Group Meeting #3 presentation slides. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12. Accessed: October 2024.

Table A3. Cost-Effectiveness Calculations for the Replacement of a Multi-Family Home Residential Natural Gas Furnace based on Data Presented by South Coast AQMD

Parameters for Cost-Effectiveness Analysis	Space Heating and Cooling		Space Heating Only		Units
	Natural Gas Furnace + Air Conditioner	Electric Heat Pump HVAC	Natural Gas Furnace	Electric Heat Pump HVAC	
NOx Emissions					
NOx Emission Factor	14.0	0.0	14.0	0.0	ng/J
Annual Energy Use by Technology Type[1]	3,822	565	3,822	565	kWh
Equipment Useful Life	25	25	25	25	years
Total Lifetime NOx Emissions[2]	5.3E-03	0.0E+00	5.3E-03	0.0E+00	kg
Capital Costs					
Capital Costs[3]	12,400	5,300	6,600	5,300	2022$
Infrastructure	--	750	--	750	2022$
Total Capital Costs	12,400	6,050	6,600	6,050	2022$
Operation and Maintenance (O&M) Costs					
Electricity Prices[4]	0.2639	0.2639	0.2639	0.2639	2022$/kWh
Natural Gas Prices[4]	0.0566		0.0566		2022$/kWh
Annual Electricity/Fuel Costs[5]	237	149	237	149	2022$/yr
Total Lifetime O&M Costs[6]	3,707	2,329	3,707	2,329	2022$
Cost-Effectiveness					
Lifetime NOx Emission Reductions[7]	--	5.3E-03	--	5.3E-03	tons
Incremental Capital Costs[8]	--	(6,350)	--	(550)	2022$
Incremental Lifetime Operation and Maintenance Costs[8]	--	(1,377)	--	(1,377)	2022$
Incremental Lifetime Equipment Costs[8]	--	(7,727)	--	(1,927)	2022$
NOx Cost-Effectiveness[9]	--	**(1,455,633)**	--	**(363,058)**	2022$/ton
South Coast AQMD Reported Cost-Effectiveness[10]		**(2,633,000)**		**(135,000)**	2022$/ton
South Coast AQMD NOx Cost-Effectiveness Threshold	349,000	349,000	349,000	349,000	2022$/ton

Abbreviations:

AQMD - Air Quality Management District
COP - coefficient of performance
hr - hour
kg - kilogram
kW - kilowatt
kWh - kilowatt hour
J - joule
MMBtu - million British thermal units
NOx - oxides of nitrogen
ng - nanogram
yr - year

Constants:

Present Value Factor[11]	15.622
Real Interest Rate	4%

Conversion Factors:

8,760	hr/yr
29.3	kWh/therm
2,000	lbs/ton
2.78E-07	kWh/J
1.0.E+09	ng/g

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Notes:

[1] Annual Energy Use obtained from South Coast AQMD Working Group Meetings #2: Proposed Amended Rule 1111 - Reduction of NOx Emissions from Natural-Gas-Fired Furnaces and PAR 1121 - Reduction of NOx Emissions from Residential Type, Natural-Gas-Fired Water Heaters, Slide 12. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm2-november-2023.pdf. Accessed: October 2024.

[2] Total Lifetime NOx emissions are estimated as the Annual Energy Use multiplied by the Equipment Useful Life, and the NOx Emission Factor.

[3] Capital Costs obtained from Page 2-19 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[4] Electricity/natural gas prices ($/kWh) data obtained from South Coast AQMD Working Group Meeting #4: Proposed Amended Rule 1111 - Reduction of NOx Emissions from Natural-Gas-Fired Furnaces and PAR 1121 - Reduction of NOx Emissions from Residential Type, Natural-Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm4-april-2024.pdf?sfvrsn=14. Accessed: October 2024. It appears that updates were made to the methodology used to estimate these prices in the Preliminary Draft Staff Report, however, the exact values that were used for the calculations in the staff report are not presented in the report.

[5] Annual Electricity/Fuel Costs is estimated at the product of the Annual Energy Use and the Electricity/Fuel Prices.

[6] Lifetime O&M Costs are estimated as the Annual Electricity/Fuel Costs multiplied by the Present Value Factor.

[7] Lifetime NOx Emission Reductions are calculated as the difference in Lifetime NOx emissions for the natural gas unit and the electric unit.

[8] Incremental Costs are calculated as the difference in cost compared to the natural gas unit.

[9] NOx Cost-Effectiveness is calculated as the Incremental Lifetime Equipment Costs divided by the Lifetime NOx Emission Reductions

[10] Data obtained from Page 2-19 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[11] The Present Value Factor is part of the Discounted Cash Flow Method that uses expected future cash flows in conjunction with a discount rate to estimate present fair value. Based on South Coast AQMD Working Group Meeting #3 presentation slides. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12. Accessed: October 2024.

RAMBOLL

ATTACHMENT B
COST-EFFECTIVENESS CALCULATIONS
BASED ON UPDATED DATA PRESENTED IN
THIS COMMENT LETTER

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Table B1. Cost-Effectiveness Calculations for the Replacement of a Residential Single-Family Home Natural Gas Water Heater

Parameters for Cost-Effectiveness Analysis	Natural Gas Water Heater	Electric Heat Pump Water Heater	Units
NOx Emissions			
NOx Emission Factor	10.0	0.0	ng/J
Annual Energy Use by Technology Type[1]	7,618	1,905	kWh
Equipment Useful Life	15	15	years
Total Lifetime NOx Emissions[2]	4.5E-03	0.0E+00	tons
Capital Costs			
Capital Costs[3]	3,676	4,611	2022$
Infrastructure	--	3,000	2022$
Total Capital Costs	3,676	7,611	2022$
Operation and Maintenance (O&M) Costs			
Electricity/Fuel Prices[4,5]	0.0731	0.2950	2022$/kWh
Annual Electricity/Fuel Costs[6]	557	562	2022$/yr
Total Lifetime O&M Costs[7]	6,195	6,247	$
Cost-Effectiveness			
Lifetime NOx Emission Reductions[8]	--	4.5E-03	tons
Incremental Capital Costs[9]	--	3,935	2022$
Incremental Lifetime Operation and Maintenance Costs[9]	--	52	2022$
Incremental Lifetime Equipment Costs[9]	--	3,987	2022$
NOx Cost-Effectiveness[10]	--	**879,258**	2022$/ton
South Coast AQMD Reported Cost-Effectiveness[11]		**601,000**	2022$/ton
South Coast AQMD NOx Cost-Effectiveness Threshold	349,000	349,000	2022$/ton

Abbreviations:

AQMD - Air Quality Management District
COP - coefficient of performance
hr - hour
kg - kilogram
kW - kilowatt
kWh - kilowatt hour
J - joule
MMBtu - million British thermal units
NOx - oxides of nitrogen
ng - nanogram
yr - year

Constants:

Present Value Factor[12]	11.118
Real Interest Rate	4%

Conversion Factors:

	8,760 hr/yr
	29.3 kWh/therm
	2,000 lbs/ton
	2.78E-07 kWh/J
	1.0.E+09 ng/g

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Notes:

[1] Energy consumption of the natural gas water heater was obtained from Table 33 of the 2019 California Residential Appliance Saturation Study (RASS). Available at: https://www.energy.ca.gov/publications/2021/2019-california-residential-appliance-saturation-study-rass. Accessed: October 2024.
For the electric heat pump water heater energy consumption, Ramboll assumed it to be 4 times more efficient than the natural gas water heater based on this article: https://www.energystar.gov/products/ask-the-experts/what-uniform-energy-factor-and-why-does-it-matter. Accessed: October 2024.

[2] Total Lifetime NOx Emissions are estimated as the Annual Energy Use multiplied by the Equipment Useful Life, and the NOx Emission Factor.

[3] Capital Costs were derived based on Capital Cost Data of Zones 6, 9 and 10 from the E3 study, "Residential Building Electrification in in California." Available at: https://www.ethree.com/e3-quantifies-the-consumer-and-emissions-impacts-of-electrifying-california-homes/. Accessed: October 2024.
The costs were also converted from 2018$ to 2022$ based on a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2018. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

[4] As noted in the preliminary draft staff report (Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024), the electricity price is calculated as a population weighted average of 2026 to 2040 projected price averages for SCE and LADWP, i.e., 0.77 x SCE price + 0.23 x LADWP price. The 2026 to 2040 projected average price averages for SCE and LADWP were obtained from the 2023 IEPR. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253591. Accessed: October 2024.

[5] Natural gas price was estimated as the average of the 2026 to 2040 residential baseline rates from CEC. Note, these rates were provided in 2023$ and converted to 2022$ using a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2023. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

[6] Annual Electricity/Fuel Costs are estimated as the product of the Annual Energy Use and the Electricity/Fuel Prices.

[7] Total Lifetime O&M Costs are estimated as the Annual Electricity/Fuel Costs multiplied by the Present Value Factor.

[8] Lifetime NOx Emission Reductions are calculated as the difference in Lifetime NOx Emissions for the natural gas unit and the electric unit.

[9] Incremental Costs are calculated as the difference in cost compared to the natural gas unit.

[10] NOx Cost-Effectiveness is calculated as the Incremental Lifetime Equipment Costs divided by the Lifetime NOx Emission Reductions.

[11] Data obtained from Page 2-20 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[12] The Present Value Factor is part of the Discounted Cash Flow Method that uses expected future cash flows in conjunction with a discount rate to estimate present fair value. Based on South Coast AQMD Working Group Meeting #3 presentation slides. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12. Accessed: October 2024.

Table B2. Cost-Effectiveness Calculations for the Replacement of a Residential Single-Family Home Natural Gas Furnace

Parameters for Cost-Effectiveness Analysis	Space Heating and Cooling		Space Heating Only		Units
	Natural Gas Furnace + Air Conditioner	Electric Heat Pump HVAC	Natural Gas Furnace	Electric Heat Pump HVAC	
NOx Emissions					
NOx Emission Factor	14.0	0.0	14.0	0.0	ng/J
Annual Energy Use by Technology Type[1]	5,755	1,221	5,755	1,221	kWh
Equipment Useful Life	25	25	25	25	years
Total Lifetime NOx Emissions[2]	8.0E-03	0.0E+00	8.0E-03	0.0E+00	tons
Capital Costs					
Capital Costs[3]	19,495	16,230	9,957	16,230	2022$
Infrastructure	--	3000	--	3,000	2022$
Total Capital Costs	19,495	19,230	9,957	19,230	2022$
Operation and Maintenance (O&M) Costs					
Electricity Prices[4]	0.2950	0.2950	0.2950	0.2950	2022$/kWh
Natural Gas Prices[5]	0.0731	--	0.0731	--	2022$/kWh
Annual Electricity/Fuel Costs[6]	456	360	456	360	2022$/yr
Total Lifetime O&M Costs[7]	7,127	5,627	7,127	5,627	2022$
Cost-Effectiveness					
Lifetime NOx Emission Reductions[8]	--	8.0E-03	--	8.0E-03	tons
Incremental Capital Costs[9]	--	(265)	--	9,273	2022$
Incremental Lifetime Operation and Maintenance Costs[9]	--	(1,500)	--	(1,500)	2022$
Incremental Lifetime Equipment Costs[9]	--	(1,765)	--	7,773	2022$
NOx Cost-Effectiveness[10]	--	**(220,761)**	--	**972,443**	2022$/ton
South Coast AQMD Reported Cost-Effectiveness[11]		**(183,000)**		**921,000**	2022$/ton
South Coast AQMD NOx Cost-Effectiveness Threshold	349,000	349,000	349,000	349,000	2022$/ton

Abbreviations:
AQMD - Air Quality Management District
COP - coefficient of performance
hr - hour
kg - kilogram
kW - kilowatt
kWh - kilowatt hour
J - joule
MMBtu - million British thermal units
NOx - oxides of nitrogen
ng - nanogram
yr - year

Constants:
Present Value Factor[12] 15.622
Real Interest Rate 4%

Conversion Factors:
8,760 hr/yr
29.3 kWh/therm
2,000 lbs/ton
2.78E-07 kWh/J
1.0.E+09 ng/g

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Notes:

[1] Energy consumptions of the natural gas and heat pump space heaters were obtained from the 2019 California Residential Appliance Saturation Study (RASS), Table 11 and Table 33. Natural gas furnace energy consumption includes 191 therms of natural gas per year and 159 kWh of electricity per year for the furnace fan. Available at: https://www.energy.ca.gov/publications/2021/2019-california-residential-appliance-saturation-study-rass. Accessed: October 2024.

[2] Total Lifetime NOx Emissions are estimated as the Annual Energy Use multiplied by the Equipment Useful Life, and the NOx Emission Factor.

[3] Capital Costs were derived based on Capital Cost Data of Zones 6, 9 and 10 from the E3 study, "Residential Building Electrification in in California." Available at: https://www.ethree.com/e3-quantifies-the-consumer-and-emissions-impacts-of-electrifying-california-homes/. Accessed: October 2024.
The costs were also converted from 2018$ to 2022$ based on a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2018. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

[4] As noted in the preliminary draft staff report (Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024), the electricity price is calculated as a population weighted average of 2026 to 2040 projected price averages for SCE and LADWP, i.e., 0.77 x SCE price + 0.23 x LADWP price. The 2026 to 2040 projected average price averages for SCE and LADWP were obtained from the 2023 IEPR. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253591. Accessed: October 2024.

[5] Natural gas price was estimated as the average of the 2026 to 2040 residential baseline rates from CEC. Note, these rates were provided in 2023$ and converted to 2022$ using a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2023. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

[6] Annual Electricity/Fuel Costs are estimated as the product of the Annual Energy Use and the Electricity/Fuel Prices.

[7] Total Lifetime O&M Costs are estimated as the Annual Electricity/Fuel Costs multiplied by the Present Value Factor.

[8] Lifetime NOx Emission Reductions are calculated as the difference in Lifetime NOx Emissions for the natural gas unit and the electric unit.

[9] Incremental Costs are calculated as the difference in cost compared to the natural gas unit.

[10] NOx Cost-Effectiveness is calculated as the Incremental Lifetime Equipment Costs divided by the Lifetime NOx Emission Reductions.

[11] Data obtained from Page 2-18 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[12] The Present Value Factor is part of the Discounted Cash Flow Method that uses expected future cash flows in conjunction with a discount rate to estimate present fair value. Based on South Coast AQMD Working Group Meeting #3 presentation slides. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12. Accessed: October 2024.

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Table B3. Cost-Effectiveness Calculations for the Replacement of a Residential Multi-Family Home Natural Gas Furnace

Parameters for Cost-Effectiveness Analysis	Space Heating and Cooling		Space Heating Only		Units
	Natural Gas Furnace + Air Conditioner	Electric Heat Pump HVAC	Natural Gas Furnace	Electric Heat Pump HVAC	
NOx Emissions					
NOx Emission Factor	14.0	0.0	14.0	0.0	ng/J
Annual Energy Use by Technology Type[1]	2,039	537.67	2,039	537.67	kWh
Equipment Useful Life	25	25	25	25	years
Total Lifetime NOx Emissions[2]	2.8E-03	0.0E+00	2.8E-03	0.0E+00	kg
Capital Costs					
Capital Costs[3]	13,542	11,078	6,857	11,078	2022$
Infrastructure	--	3,000	--	3,000	2022$
Total Capital Costs	13,542	14,078	6,857	14,078	2022$
Operation and Maintenance (O&M) Costs					
Electricity Prices[4]	0.2950	0.2950	0.2950	0.2950	2022$/kWh
Natural Gas Prices[5]	0.0731	--	0.0731	--	2022$/kWh
Annual Electricity/Fuel Costs[6]	162	159	162	159	2022$/yr
Total Lifetime O&M Costs[7]	2,526	2,478	2,526	2,478	2022$
Cost-Effectiveness					
Lifetime NOx Emission Reductions[8]	--	5.3E-03	--	5.3E-03	tons
Incremental Capital Costs[9]	--	536	--	7,221	2022$
Incremental Lifetime Operation and Maintenance Costs[9]	--	(49)	--	(49)	2022$
Incremental Lifetime Equipment Costs[9]	--	487	--	7,172	2022$
NOx Cost-Effectiveness[10]	--	**91,831**	--	**1,351,118**	2022$/ton
South Coast AQMD Reported Cost-Effectiveness[11]		**(2,633,000)**		**(135,000)**	2022$/ton
South Coast AQMD NOx Cost-Effectiveness Threshold	349,000	349,000	349,000	349,000	2022$/ton

Abbreviations:
AQMD - Air Quality Management District
COP - coefficient of performance
hr - hour
kg - kilogram
kW - kilowatt
kWh - kilowatt hour
J - joule
MMBtu - million British thermal units
NOx - oxides of nitrogen
ng - nanogram
yr - year

Constants:
Present Value Factor[12] 15.622
Real Interest Rate 4%

Conversion Factors:
8,760 hr/yr
29.3 kWh/therm
2,000 lbs/ton
2.78E-07 kWh/J
1.0.E+09 ng/g

37-8

Notes:

[1] Energy consumptions of the natural gas and heat pump space heaters were obtained from the 2019 California Residential Appliance Saturation Study (RASS), Table 11 and Table 33. Averages of townhomes, 2-4 unit apartment, and 5-unit apartment energy consumptions were used. Natural Gas furnace energy consumption includes 67.7 therms of natural gas per year and 56.7 kWh electricity per year for the furnace fan. Available at: https://www.energy.ca.gov/publications/2021/2019-california-residential-appliance-saturation-study-rass. Accessed: October 2024.

[2] Total Lifetime NOx emissions are estimated as the Annual Energy Use multiplied by the Equipment Useful Life, and the NOx Emission Factor.

[3] Capital Costs were derived based on Capital Cost Data of Zones 6, 9 and 10 from the E3 study, "Residential Building Electrification in in California." Available at: https://www.ethree.com/e3-quantifies-the-consumer-and-emissions-impacts-of-electrifying-california-homes/. Accessed: October 2024.
The costs were also converted from 2018$ to 2022$ based on a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2018. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

[4] As noted in the preliminary draft staff report (Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024), the electricity price is calculated as a population weighted average of 2026 to 2040 projected price averages for SCE and LADWP, i.e., 0.77 x SCE price + 0.23 x LADWP price. The 2026 to 2040 projected average price averages for SCE and LADWP were obtained from the 2023 IEPR. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253591. Accessed: October 2024.

[5] Natural gas price was estimated as the average of the 2026 to 2040 residential baseline rates from CEC. Note, these rates were provided in 2023$ and converted to 2022$ using a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2023. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

[6] Annual Electricity/Fuel Costs are estimated as the product of the Annual Energy Use and the Electricity/Fuel Prices.

[7] Total Lifetime O&M Costs are estimated as the Annual Electricity/Fuel Costs multiplied by the Present Value Factor.

[8] Lifetime NOx Emission Reductions are calculated as the difference in Lifetime NOx Emissions for the natural gas unit and the electric unit.

[9] Incremental Costs are calculated as the difference in cost compared to the natural gas unit.

[10] NOx Cost-Effectiveness is calculated as the Incremental Lifetime Equipment Costs divided by the Lifetime NOx Emission Reductions.

[11] Data obtained from Page 2-19 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[12] The Present Value Factor is part of the Discounted Cash Flow Method that uses expected future cash flows in conjunction with a discount rate to estimate present fair value. Based on South Coast AQMD Working Group Meeting #3 presentation slides. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12. Accessed: January 2024.

Page 1 of 1 Ramboll

Appendix B

Comments on Draft Subsequent Environmental Assessment

1. The Draft SEA's air quality impacts analysis compares potential increases in electricity use under South Coast AQMD's 2022 Air Quality Management Plan with those under the proposed project. In doing so, the Draft SEA assumes that space heaters will operate 4 hours per day on 100 days per year when the temperature is below 70°F. (Draft SEA, Table 4-3, fn. 3.) However, the Draft SEA does not identify the source of this data, making it difficult for a reader to verify the reasonableness of the assumption. Additionally, Table 4-3 cites to the website of Silicon Valley Power of the City of Santa Clara for its estimates of zero-emission water heaters' and low-NOx space heaters' electricity use. (Draft SEA, Table 4-3, fn. 1.) However, the Draft SEA leaves unclear why it relies on data from Northern California in its analysis of anticipated electricity use for such appliances within South Coast AQMD's Southern California jurisdictional area, and whether electricity use in the two areas might differ. South Coast AQMD could rely on the Residential Appliance Saturation Survey (RASS) for energy consumption by appliance in various utility territories.[1] 37-9

2. The Draft SEA's energy impacts analysis, in its concluding section, states that "[t]he cumulative energy impacts from increased electricity and natural gas demand remain significant and unavoidable." (Draft SEA, p. 4-23.) It then continues: "However, the Final Program EIR for the 2022 AQMP also concluded that the use of energy to comply with ambient air quality standards and climate change goals, while contributing to overall electricity and natural gas demand, [] does not result in the wasteful, unnecessary, or inefficient use of energy. Therefore, the cumulative energy impacts are less than significant." (*Id.*) 37-10

The Draft SEA leaves unclear how to reconcile these two propositions. The mere passing reference to the 2022 FEIR does not explain how the significant and unavoidable energy demand impacts discussed at length in the preceding pages of the Draft SEA are negated or made less significant by the absence of waste or inefficiency in how this energy is used. In the end, the Draft SEA goes from finding significant and unavoidable impacts to less than significant impacts in the space of just a few sentences, without sufficient explanation.

3. The Draft SEA's energy impacts analysis incorporates the same assumption that that space heaters will operate 4 hours per day on 100 days per year when the temperature is below 70°F as the Draft SEA's air quality impacts analysis. (Draft SEA, Table 4-6, fn. 3.) And this energy impacts analysis relies on the same source for comparing potential increases in electricity use under South Coast AQMD's 2022 Air Quality Management Plan and under the proposed project as does the Draft SEA's air quality impacts analysis (Silicon Valley Power). (Draft SEA, Table 4-6, fn. 1.) As discussed in Paragraph 1 above, this analysis leaves unclear the source of data for the former proposition and the applicability of electricity use in Northern California for the latter comparison; SoCalGas recommends use of the RASS energy consumption datasets instead. 37-11

4. The Draft SEA's discussion of those potential impacts found not to be significant appears to contain an inconsistency. The Draft SEA's analysis of some of these impact areas assumes that installation of new furnaces and water heaters will not require construction activities. (See, e.g., 37-12

[1] California Energy Commission, California Residential Appliance Saturation Study, *https://rass.dnv.com/sign/in*

pp. 4-25 [Aesthetics, Agriculture and Forestry Resources], 4-26 [Geology and Soils].) Yet the Draft SEA's discussion of other impact areas appears to assume at least the possibility of new construction. (See Draft SEA, p. 4-26 [Cultural and Tribal Resources: "In addition, if any new residential buildings are to be constructed, the project would be subject to project-level review, …."].) To the extent the Draft SEA relies on inconsistent assumptions about whether and how much new construction the proposed project might entail, it does not explain this inconsistency. 37-12

5. The Draft SEA's discussion of potential Population and Housing impacts (Draft SEA, p. 4-31) does not address whether owners of rental properties might pass the costs of new furnaces or space heaters on to tenants, thus potentially driving up rental rates. CEQA requires lead agencies, in analyzing Population and Housing impacts, to examine whether the proposed project will "displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere." (See CEQA Guidelines, Appendix G, § XIV(b).) The Draft SEA should address whether implementation of the project might result in renters within the South Coast Basin experiencing rent increases and moving to more affordable rental properties elsewhere as a result. Or, if South Coast AQMD views such a housing impact as insignificant, the Draft SEA should explain why. 37-13

6. The Draft SEA's project alternatives analysis includes a purportedly "Less Stringent Alternative ("Alternative C"). Under Alternative C, the suggested reduction in stringency comes from allowing the replacement of equipment in existing buildings with low NOx heaters in situations where alternative compliance options would be necessary under the proposed project. (Draft SEA, p. 5-2.) SoCalGas questions why South Coast AQMD's analysis of alternatives to the proposed project does not also incorporate into this "Less Stringent Proposed Project" delayed dates for implementation of the proposed project's required compliance dates. "Alternative B – More Stringent Proposed Project" sets compliance dates 12 months earlier than the proposed project. (See Draft SEA, p. 5-2.) Including a proposed project alternative that would instead defer these dates across the board would allow for a more like-to-like comparison with Alternative B.

Moreover, including an alternative with delayed compliance dates would be particularly helpful given some of the near-term environmental impacts that the Draft SEA identifies. For example, the Draft SEA's analysis of Alternative B explains that this alternative could cause more significant air quality impacts due to its compressed timeframe for implementation, based on the likelihood of more equipment replacement projects occurring on a peak day. (Draft SEA, p. 5-4.) Similarly, in analyzing Alternative B's potential energy impacts, the Draft SEA explains that "Alternative B would result in an earlier increase in electricity demand which is driven by the earlier deployment of zero-emission technologies." (Draft SEA, p. 5-6.) An alternative that incorporates deferred rather than accelerated compliance dates would allow a better comparison between its potential air quality and energy impacts and those of both the proposed project and alternatives like Alternative B. 37-14

SoCalGas acknowledges the proposition that a lead agency "need not consider every conceivable alternative to a project" (Cal. Code Regs., tit. 16, § 15126.6), as the Draft SEA states. But analyzing

a project alternative that includes delayed compliance dates would make the Draft SEA a more informative document for the public and for decision makers. 37-14

Response to Comment Letter #37 and Its Appendices A&B

Response to Comment 37-1:

Staff appreciates SoCalGas' comments on PAR 1111 and PAR 1121. PAR 1111 and PAR 1121 are not preempted by the EPCA.

Furthermore, the new concept for PAR 1111 and PAR 1121, released on February 7, 2025, and discussed at Working Group Meeting on February 13, 2025, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Please see Response to General Comment 9 for more details on EPCA preemption.

Response to Comment 37-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff appreciates the comment on public outreach, cost to residents, and publishing comment letters on the website. Staff recognizes the importance of publishing comment letters so that all parties can view them in a timely manner and makes an effort to publish each letter upon receipt. To view comment letters, please find the PAR 1111 and PAR 1121 webpage linked here: https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1111-and-rule-1121/comment-letters

Staff understands the need for engagement with members of the public including residents and small businesses and has been reaching out to various stakeholders through a number of channels, including but not limited to: eNewsletter distribution list, which reaches individual residents and small businesses as well as various associations who distribute information to their members; physical newspapers and mailouts; articles and rule updates in the South Coast AQMD Advisor; reaching out to various associations for meetings to explain the rule process and proposed amended rules; reaching out to Community Choice Aggregators; outreach through participation in CARB listening sessions and BAAD Implementation Working Group meetings. Please refer to Response to General Comment 5 for further discussion on outreach. If the proposed amended rules are adopted by our Governing Board, staff will continue to conduct outreach using the options listed above and other channels including emails, social media, and services supported by the Legislative, Public Affairs, and Media (LPAM) department. However, staff recognizes SoCalGas' concern that the level of outreach may not cover the large population of 17 million people in the region, given that the proposed amended rules may impact up to 10 million units. Staff has been developing further public-friendly outreach materials including flyers and brochures which provide links to relevant webpages for more information and believes with the outreach channels available to the LPAM department, these materials will provide another method of communication with members of the public. The Go Zero incentive program outreach will also provide an opportunity to conduct further outreach on PAR 1111 and PAR 1121, with $1 million funding dedicated to this

outreach effort. Staff also recognizes that the public outreach for building appliances rules, including PAR 1111 and PAR 1121, began prior to the December 2022 adoption of the 2022 AQMP when the control measures for commercial and residential furnaces and residential water heaters were presented and discussed. Extensive public outreach and feedback followed, with comments and letters from residents and businesses embedded in the public process. That plan was approved by the Governing Board, which provided staff the directive to amend and propose zero-emissions standards in PARs 1111 and 1121.

Staff worked closely with manufacturers, distributors, retailers, resellers, and installers as PAR 1111 and 1121 are enforced through the supply chain, which means they are subject to enforcement for any violation of the rules. However, the cost-effectiveness analysis discussed in Chapter 2 was based on the cost of unit installations that would be the responsibility of the property owner or resident to bear if they elect to install zero-NOx emission units. Further, the Socioeconomic Impact Assessment specifically considers how costs or savings will be passed on from the applicable supply chain to households. Please see Response to General Comment 6 for more on the assessment.

Staff conducted an analysis on cold climate applications and reached out to stakeholders in mountain communities for the rule development and implementation. Cold climate heat pump technology is currently utilized in cold climates successfully. More specific information regarding cold climate heat pump installations has been included in Chapter 2 of this report and Response to General Comment 8. Through previous rulemakings, staff gathered a list of installers for mountain communities. Those installers have been notified for all public meetings or documents released for this rulemaking. Further, staff reached out to certain individual high-altitude installers to ensure their participation. Finally, staff has and will continue to conduct site visits to mountain communities and work with high-altitude installers for implementation.

Response to Comment 37-3:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff appreciates the review of the cost-effectiveness analysis for installations of zero-NOx emission units. The date sources used in the staff analysis was discussed in working group meetings and explained in Chapter 2 of this report. The details of the cost-effectiveness assessment was discussed during working group meetings two, three, four, and six held between November 28, 2023 and August 15, 2024, prior to the submittal of this comment letter. At that time staff invited engagement and discussion on the assumptions used in the assessment and offered to have individual meetings with stakeholders to have more detailed conversations.

For any update to the cost-effectiveness, staff provided explanations in the working group meetings. For example, staff described the residential cost-effectiveness update by presentation slide #27 at the working group meeting held on April 4, 2024. The change of heat pump water heater cost-effectiveness to $246,000 was due to the use of newest IEPR rates released on January 1, 2024, and the change from average costs to median costs from TECH data. Staff estimated panel upgrade cost as discussed in Chapter 2. This cost-effectiveness was further updated to $299,000 due to the change of efficiency from 95 to

75 percent as a conservative approach. The cost-effectiveness of $327,000 per ton is the weighted average based on 9 percent of homes requiring a panel upgrade, which was explained in the preliminary draft staff report released on September 19, 2024. More update to cost-effectiveness was most recently provided in the Public Consultation meeting on March 6, 2025.

Staff reviewed the attached Ramboll analysis and have identified areas where Ramboll's calculations differ from staff's calculations. Ramboll does not use the gas and electricity costs listed in the staff report, but instead attempted to base their rates on a slide in Working Group Meeting #4 that listed the difference in 2024 rates between the 2021 and 2023 IEPR. Staff will move the discussion of the IEPR rates from the discussion on grid reliability in Chapter 2 to the cost-effectiveness analysis in Chapter 2 to clarify the costs staff relied on for the cost-effectiveness assessment. Staff notes Ramboll appears to have later developed their own rates based on the IEPR which nearly match those developed by staff, but Ramboll did not use it in their initial cost-effectiveness calculations. The second difference is not considering input versus output efficiency, which affects the lifetime NOx emissions from the units. The fuel use will match the input of the furnace or water heater, but both Rule 1111 and Rule 1121 regulate the NOx emissions based on the *output*, not the input. Staff used an efficiency rating of 75 percent, which was used in previous rulemaking, to estimate the overall emissions from the unit (staff considered using an efficiency of 95 percent in line with modern condensing furnaces and water heaters, however this change would tend to make the cost per ton lower, so staff kept the 75 percent efficiency as a conservative assumption).

For data sources, staff preferred to use data from actual installations in the South Coast AQMD region wherever possible. This resulted in favoring the use of the TECH Clean California installation database, which based on statements made by the TECH team tends to overinflate the cost of heat pumps due to efficiency requirements of the program, and RASS, which gives higher fuel savings than expected given a simple efficiency comparison. This efficiency boost holds true even when considering single family homes in the different climate zones in the South Coast AQMD region, rather than focusing on the SCE/SoCalGas region. This increased energy savings is present in other field studies as well, such as the New Buildings Institute's 120V Heat Pump Water Heater field study, which reported heat pump water heater energy usage as 49 kWh per month, compared to 325 kWh for gas units, a 6.6-fold improvement. Staff believes this is due to factors that are not typically accounted for in a standard COP, such as the mild climate in Southern California.

SoCalGas requested the panel upgrade cost applied to the cost-effectiveness analysis be increased from $750 to $3,000 to reflect it being an upfront cost. However, the cost-effectiveness analysis is intended to account for upfront costs and costs incurred over the lifetime of the unit. In the South Coast AQMD, approximately 87 percent of residents already have and operate AC units. If a residence has the electrical capacity to operate an AC, it will not require a panel upgrade to operate a heat pump and therefore staff did not include panel upgrade costs for every household. Based on the TECH dataset, this was 4 percent of homes for space heating and 9 percent of homes for water heating. Additionally, because of the similar timelines of PAR 1111 and PAR 1121, it is unlikely that a house that requires a panel upgrade to replace one of the two appliances will subsequently need it for

the next one. In the recent update to cost-effectiveness, staff explained that the TECH data set for project costs have included electrical upgrade cost which are real-world costs reflected in the updated cost-effectiveness. Staff also believes that Ramboll's approach of assuming that a $3,000 panel upgrade is necessary for every home for each appliance is flawed, as it will tend to vastly overinflate the cost per ton. This is clearly shown in the analysis for single family home water heating, where Ramboll's reported cost-effectiveness is $879,258 per ton, but removing the $3,000 panel upgrade cost would reduce this to approximately $219,000 per ton. While SoCalGas does not approve of the use of the TECH Clean California database, they do not provide any data to support their analysis that 100 percent of homes in the South Coast AQMD would require two panel upgrades due to these proposed amendments.

Response to Comment 37-4:

This comment contains remarks regarding the Draft Subsequent Environmental Assessment *(SEA)* and the analysis of the environmental impacts associated with implementing PAR 1111 and PAR 1121. This comment also refers to Appendix B of Comment Letter 37 which provides more detailed comments on the Draft SEA. Upon its release, please see Appendix D of the Final SEA which contains this comment letter relabeled as Comment Letter #2, and the Response to Comment 37-4 relabeled as Response to Comment 2-4.

Response to Comment 37-5:

During the Stationary Source Committee meeting on October 18, 2024, it was announced that the status update/technology check-in for PAR 1111 and PAR 1121 would occur in December 2026 instead of June 2027. Staff anticipates regular updates to the Stationary Source Committee prior to major milestones in the rules and will continue to monitor the market and technology development.

Response to Comment 37-6:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Regarding consumers who install zero-emission units, staff acknowledges the impact of the increased upfront cost, although actual installation costs from the TECH database indicates the costs provided in Table 5 of the comment letter are the exception rather than the norm. Staff also recognizes that increased market adoption of these technologies and increased familiarity both from consumers and installers will drive the costs down over time.

State and local incentives could also offset a large portion of the upfront costs, including the Go Zero incentive program which will be applicable to PAR 1111 and PAR 1121 units. Go Zero will be funded by $21 million for the pilot program, with 75 percent of funding for overburdened communities, and there is potential for a fivefold funding increase for future phases of the program. The new rule concept also includes a mitigation fee for NOx-emitting space and water heating appliances that will provide a revenue stream to fund Go Zero. Go Zero will provide rebates for single family, multifamily, and small businesses, along with installer training to support and expand the growing workforce, and application

assistance and outreach funding which will provide guidance on the rebate process for program applicants. The Go Zero outreach will also provide an opportunity to conduct further outreach on PAR 1111 and PAR 1121. Staff anticipates that Go Zero rebates may be layered with other available rebate and incentive programs, and the application assistance portion will provide further guidance to program applicants on the incentive stacking process.

The Socioeconomic Impact Assessment evaluates how costs or savings from transitioning to zero-emission technologies will affect residential households. This includes assessing incremental expenses related to purchasing zero-emission HVAC and water heating units, retrofitting buildings, upgrading electrical panels, and the energy costs associated with these changes. These costs are used to evaluate the potential socioeconomic impacts of both directly and indirectly impacted entities including households, multifamily property owners, and their tenants. The assessment specifically examines the impacts of PAR 1111 and PAR 1121 considering probable costs or savings, effects on small businesses, employment, and the overall regional economy.

Response to Comment 37-7:

Comment 37-7 seeks request to delay the adoption of PAR 1111 and PAR 1121. This request was granted by the South Coast AQMD Governing Board at the Public Hearing held on November 1, 2024. At the time, the Public Hearing was moved to February 7, 2025. Currently, the Public Hearing is scheduled on May 2, 2025 (subject to change).

Response to Comment 37-8:

Detailed analysis for the cost-effectiveness calculations can be found in Chapter 2 of the Draft Staff Report. Notably, staff does not use appliance efficiencies to calculate fuel switching costs, but rather fuel use data taken from the 2019 California Residential Appliance Saturation Study[(26)]. Project costs for both PAR 1111 and PAR 1121 are derived from the TECH Clean California Installation Data, where the cost of electrical service upgrades are included in the project costs.

Please refer to Response to Comment 37-3 that covers points made under this comment for cost-effectiveness calculation.

Response to Comment 37-9:

This comment contains remarks regarding the Draft SEA and the analysis of the environmental impacts associated with implementing PAR 1111 and PAR 1121. Upon its release, please see Appendix D of the Final SEA which contains this comment letter relabeled as Comment Letter #2, and the Response to Comment 37-9 relabeled as Response to Comment 2-9.

Response to Comment 37-10:

This comment contains remarks regarding the Draft SEA and the analysis of the environmental impacts associated with implementing PAR 1111 and PAR 1121. Upon the release of the Final SEA, see Appendix D, where this comment letter is relabeled as

[(26)]2019 California Residential Appliance Saturation Study (RASS), https://www.energy.ca.gov/publications/2021/2019-california-residential-appliance-saturation-study-rass

Comment Letter #2, and the response to Comment 37-10 is relabeled as Response to Comment 2-10.

Response to Comment 37-11:

This comment contains remarks regarding the Draft SEA and the analysis of the environmental impacts associated with implementing PAR 1111 and PAR 1121. Upon the release of the Final SEA, see Appendix D, where this comment letter is relabeled as Comment Letter #2, and the response to Comment 37-11is relabeled as Response to Comment 2-11.

Response to Comment 37-12:

This comment contains remarks regarding the Draft SEA and the analysis of the environmental impacts associated with implementing PAR 1111 and PAR 1121. Upon the release of the Final SEA, see Appendix D, where this comment letter is relabeled as Comment Letter #2, and the response to Comment 37-12is relabeled as Response to Comment 2-10.

Response to Comment 37-13:

This comment contains remarks regarding the Draft SEA and the analysis of the environmental impacts associated with implementing PAR 1111 and PAR 1121. Upon the release of the Final SEA, see Appendix D, where this comment letter is relabeled as Comment Letter #2, and the Response to Comment 37-13 is relabeled as Response to Comment 2-13.

Response to Comment 37-14:

This comment contains remarks regarding the Draft SEA and the analysis of the environmental impacts associated with implementing PAR 1111 and PAR 1121. Upon the release of the Final SEA, see Appendix D, where this comment letter is relabeled as Comment Letter #2, and the Response to Comment 37-14 is relabeled as Response to Comment 2-14.

COMMENT LETTER #38: NAI CAPITAL

Comment Letter #38

SCAQMD PAR 1111 and PAR 1121

October 29, 2024

Mr. Peter Campbell
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Email: pcampbell@aqmd.gov

Re: Comments on PAR 1111 and PAR 1121

Dear Mr. Campbell:

NAI Capital Commercial appreciates the opportunity to provide comments on the South Coast Air Quality Management District proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces (PAR 1111) and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural Gas-Fired Water Heaters (PAR 1121).

Our company manages and leases commercial rela estate. We are committed to reducing our carbon footprint while meeting the needs of our tenants. Installation of energy efficient lighting controls, compliance with outdoor water conservation requirements, and other energy-reducing measures can be found throughout our properties.

We are concerned that the proposed rules do not take into account issues facing industrial and commercial real estate property owners and our tenants. For example, some areas do not have the proper electrical to put an ELECTRIC FURNACE OR ELECTRIC WATER HEATER.

38-1

We would respectfully request that the District defer consideration of the proposed rules until February 2025 or later, in order to provide a sufficient amount of time to engage the industrial and commercial real estate industry and issues specific to our industry and tenants.

Thank you for taking into consideration our concerns. Please contact me if you have any questions.

Sincerely,

Chris Jackson
CEO
NAI Capital Commercial

Response to Comment Letter #38

Response to Comment 38-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The new rule concept also revised the proposed applicability and will not expand to larger size spacing heating units. PAR 1111 and PAR 1121 will be applicable to small size units, typically installed for residential use; however, the rules are based on unit size so would not preclude a consumers' individual choices to install small residential-size units in commercial properties.

Please see Response to General Comment 3 for further discussion on the electric grid and Response to General Comment 5 for further discussion on outreach. PAR 1111 and PAR 1121 will be presented to the South Coast AQMD Governing Board in 2025.

COMMENT LETTER #39: NEWCASTLE PARTNERS

Newcastle | PARTNERS

Comment Letter #39

SCAQMD PAR 1111 and PAR 1121

October 29, 2024

Mr. Peter Campbell
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Email: pcampbell@aqmd.gov

Re: Comments on PAR 1111 and PAR 1121

Dear Mr. Campbell:

Newcastle Partners appreciates the opportunity to provide comments on the South Coast Air Quality Management District proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces (PAR 1111) and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Small Natural Gas-Fired Water Heaters (PAR 1121).

Our company is a small, commercial developer based exclusively in southern california. We are committed to reducing our carbon footprint while meeting the needs of our tenants. Installation of energy efficient lighting controls, compliance with outdoor water conservation requirements, and other energy-reducing measures can be found throughout our properties.

We are concerned that the proposed rules do not take into account issues facing industrial and commercial real estate property owners and our tenants. For example, shifting from natural gas equipment to electrical equipment will place additional strain on our current electrical infrastructure. Many electrical utility providers may not be prepared to meet the increased demand created by these changes, which could result in delays for new electrical hook-ups. Such delays could have a substantial negative impact on the occupancy timelines for commercial and industrial properties. 39-1

We would respectfully request that the District defer consideration of the proposed rules until February 2025 or later, in order to provide a sufficient amount of time to engage the industrial and commercial real estate industry and issues specific to our industry and tenants.

Thank you for taking into consideration our concerns. Please contact Courtney Wing with any questions.

Sincerely,

Courtney Wing

Courtney Wing
Development Manager
Newcastle Partners
courtney@newcastlepartners.com

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Response to Comment Letter #39:

Response to Comment 39-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The new rule concept also revised the proposed applicability and will not expand to larger size spacing heating units. PAR 1111 and PAR 1121 will be applicable to small size units typical for installed for residential use; however, the rules do not preclude the consumers' individual choices to install small residential-sized units in industrial or commercial properties.

Please see Response to General Comment 3 for further discussion on the electric grid and Response to General Comment 5 for further discussion on outreach. PAR 1111 and PAR 1121 will be presented to the South Coast AQMD Governing Board in 2025.

COMMENT LETTER #40: DAIKIN COMFORT TECHNOLOGIES

DAIKIN COMFORT TECHNOLOGIES MANUFACTURING, L.P.
19001 Kermier Road
Waller, TX 77484
Tel: 713-861-2500
www.northamerica-daikin.com

SUBMITTED VIA EMAIL to yzhu1@aqmd.gov

October 31, 2024

Ms. Yanrong Zhu
Program Supervisor
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: Proposed Amended Rule 1111: Reduction of NOx Emissions from Natural Gas-Fired Furnaces

Dear Ms. Zhu,

Daikin Comfort Technologies Manufacturing, L.P. (formerly Goodman Manufacturing Company, L.P.) ("Daikin") submits the following comments to the South Coast Air Quality Management District ("SCAQMD") in response to the proposed amendments to Rule 1111: Reduction of NOx Emissions from Natural Gas-Fired Furnaces.

Daikin is a member of Daikin Group, the largest heating, ventilation, and air conditioning ("HVAC") manufacturer in the world. Daikin is headquartered in Waller, Texas, and employs thousands of workers across the United States. The company manufactures residential and light commercial heating and cooling equipment, and its products are sold and installed by contractors in every American state and territory, as well as in Canada.

Daikin acknowledges the need for SCAQMD to address air quality issues within the District, and the proposed amendments to Rule 1111 are one way to help the District attain the desired results. However, there are several potential flaws with the proposed amendments as were noted during the Public Meeting on October 3, 2024. These comments are to support the verbal comments made during that meeting.

Section (h)(3) notes specific wording that shall be used concerning the effective dates as the information is presented in quotation marks. Daikin does not make manufactured home furnaces and therefore the wording on this label is extraneous and provides no value to Daikin customers. Can the regulation wording be adjusted to delete the quotation marks and allow a manufacturer to create wording to meet the intent of the requirements that fits their products? Example, a Daikin label might state "If installed in South Coast AQMD: 1) After January 1, 2026, shall not be sold for installation in new buildings and 2) After January 1, 2028, not compliant for use and installation in South Coast AQMD." 40-1

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There is also another issue with this labeling requirement. Since these proposed amendments allow for an alternative compliance option for short-term rentals, this labeling requirement in Section (h)(3) is contradictory. Stating that the product is not compliant for use or installation in South Coast AQMD beyond a specific date, but then allowing it to be installed on a rental basis beyond this same specific date are conflicting statements. This needs to be addressed to avoid confusion. 40-2

Daikin has previously noted our concerns about the proposed amendments making the new compliance dates based on installation date. BAAQMD Reg 9 Rule 4, which has completed the implementation of similar 0.0 ng/J NOx regulations currently uses "manufactured date" for compliance. Daikin urges SCAQMD to also adopt "manufactured date" for compliance. Since ULN products are only sold in three AQMDs in CA, there is a greater likelihood of stranded inventory if an installed date is used for compliance. These products cannot simply be sent to other markets for sale. Daikin recommends SCAQMD Staff to reconsider this portion of the regulation and rewrite it based on "manufactured date" compliance. 40-3

Daikin is also concerned about the equations in Section (e)(2). Both of these equations use the value of "E" in the calculation, but E is defined as AFUE, percent. This is fine for the current definitions of central gas-fired furnaces, but with these proposed amendments, SCAQMD is adding commercial furnaces (>225,000 Btuh), wall furnaces and floor furnaces. None of these other products are included in the scope of ASHRAE 103 and therefore cannot be tested to this standard to measure AFUE. The equations must be revisited by staff to correct this error. 40-4

Daikin noted a concern over the requirements for annual reporting requirements in Section (h)(5) during the public meeting. If a manufacturer does not sell any furnaces into the district, why would there be any reporting requirements? This section does not provide any exceptions to the reporting requirements for no sales. 40-5

Daikin appreciates the opportunity to provide these comments. If you have any questions regarding this submission, please do not hesitate to contact me.

Sincerely,

Robert S. Glass

Robert S. Glass
Director Regulatory Affairs
Tel: 205/759-9638
Email: Robert.Glass@daikincomfort.com

Response to Comment Letter #40:

Response to Comment 40-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Staff has revised the labeling provision to address commenter's concern on manufactured homes and provide flexibility for manufacturers to create labeling wording. For more discussion on labeling, please refer to Response to Appendix C Comment 27-4.

Response to Comment 40-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

By this new rule concept, consumers may opt to purchase NOx emitting natural gas units if installing zero-NOx emission units is too costly or challenging for emergency replacements. Short-term replacement with rental equipment is no longer needed and thus removed from the proposed amended rules.

Response to Comment 40-3:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on installation date, please refer to Response to Appendix C Comment PW-14.

Response to Comment 40-4:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. The scope of the rule applicability for PAR 1111 has been changed in the new rule concept.

For discussion on AFUE, please refer to Response to Appendix C Comment PW-14

Response to Comment 40-5:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The revised PAR 1111 and PAR 1121 no longer include the report requirement mentioned in the comment.

COMMENT LETTER #41: BIZFED

Los Angeles County Business Federation
Strengthening the Voice of Business Since 2005

October 31, 2024

By Email: jafshar@aqmd.gov

Jivar Afshar
Air Quality Specialist
South Coast Air Quality Management District
21865 Copley Dr, Diamond Bar, CA 91765

Re: Comments on Draft Supplemental Environmental Assessment for Proposed Amended Regulations 1111 and 1121

Dear Ms. Afshar:

We write on behalf of BizFed, the Los Angeles County Business Federation, an alliance of more than 200 business organizations representing more than 400,000 employers in Los Angeles County, including large and small businesses in a wide range of industries throughout the South Coast Air Basin (SCAB). We are writing regarding Proposed Amended Rule (PAR) 1111 – Reduction of NOx Emissions From Natural Gas-Fired Furnaces and PAR 1121 – Reduction of NOx Emissions From Natural Gas-Fired Water Heaters (collectively, Rules), specifically in regards to the Draft Supplemental Environmental Assessment (a Supplemental Environmental Impact Report (EIR)-equivalent document prepared under the California Environmental Quality Act (CEQA) by the South Coast Air Quality Management District (SCAQMD) pursuant to its Certified Regulatory Program) (Draft SEA). The Draft SEA was released for public comment on September 26, 2024.

As we are sure you are aware, we have previously submitted comments and provided extensive information addressing the impacts on the business community as a whole, as well as the specific concerns of our diverse membership, regarding the Rules. We continue to be concerned about these impacts and, as outlined more fully below, we do not believe that the Draft SEA satisfies the requirements of CEQA. In particular the Draft SEA fails to contain the required analysis of socioeconomic impacts proximately caused by, or resulting from, adoption of the Rules. The Draft SEA also does not include a legally sufficient alternatives analysis. In addition, the Draft SEA fails to mitigate significant energy impacts.

Background and Prior CEQA Analysis

41-1

As you know, and as described in the Draft SEA, PAR 1121 is intended to implement 2022 Air Quality Management Plan (2022 AQMP) Control Measure R-CMB-01. PAR 1111 is intended to implement 2022 AQMP Control Measures R-CMB-02 and C-CMB-02. (These three 2022 AQMP Control Measures are referred to collectively as the Control Measures in the remainder of this letter). The Control Measures were evaluated in an Environmental

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Impact Report for the 2022 AQMP (2022 Final Program EIR).[1] The 2022 Final Program EIR describes the Control Measures as follows: 41

> "**R-CMB-01: Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Water Heating:** This control measure seeks to reduce NOx emissions from residential building water heating sources that are subject to Rule 1121 – Control of Oxides of Nitrogen (NOx) from Residential Type, Natural Gas-Fired Water Heaters. The measure proposes to 1) develop a rule to require zero emission water heating units for installations in both new and existing residences; and 2) allow low NOx technologies as a transitional alternative when installing a zero-emission unit is determined to be infeasible (e.g., colder climate zones, or architecture design obstacles). This control measure would include incentive funds to facilitate the transition to zero emission technologies and promote further emission reductions earlier than required. A primary zero emission residential water heating technology is currently available with the all-electric heat pump water heater.
>
> **R-CMB-02: Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Space Heating:** This control measure seeks to reduce NOx emissions from residential space heating sources regulated by Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces (Rule 1111). This control measure proposes to 1) develop a rule to require zero emission space heating units for installations in both new and existing residences; and 2) allowing low NOx technologies as a transitional alternative when installing a zero-emission unit is determined to be infeasible. This control measure would also provide incentive funds to facilitate adoption of zero emission technologies that would promote further emission reductions earlier than required.
>
> **C-CMB-02: Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Commercial Space Heating:** This control measure seeks to reduce NOx emissions from commercial building space heating sources. (i.e., forced air furnaces) with a rated heat input capacity between 175,000 and 2,000,000 British Thermal Units per hour (BTU/hr). Those sources are currently not subject to the South Coast AQMD NOx rules. The measure proposes to 1) develop rules to require zero emission commercial space heating units for installations in both new and existing buildings; and 2) allow low NOx technologies as a transitional alternative when installing a zero-emission unit is determined to be infeasible. This control measure would also provide incentive funds to facilitate adoption of zero emission technologies that would promote further emission reductions earlier than required. Heat pumps have been broadly applied in commercial applications as the primary zero emission technology." 2022 Final Program EIR, pgs. 2-16 – 2-17.

Control Measures R-CMB-01 and R-CMB-02 were expected to affect 2 million residential water and space heaters, respectively, and were evaluated with an implementation date of

[1] Final Program Environmental Impact Report for Proposed 2022 Air Quality Management Plan, November 2022, State Clearinghouse No, 2022050287.

2029 in the 2022 Final Program EIR. See, 2022 Final Program EIR, Table 4.2-6, pg. 4.2-32 and Table 2.7-1, pg. 2-14. Control Measure C-CMB-02 was expected to affect 200,000 commercial space heaters and was evaluated with an implementation date of 2031. See, 2022 Final Program EIR, Table 4.2-6, pg. 4.2-32 and Table 2.7-1, pg. 2-14. The 2022 Final Program EIR concluded that implementation of the Control Measures would have potentially significant adverse air quality impacts from construction necessary to install lower and zero emission units, and from operational energy impacts related to electricity demand and increased use of natural gas to generate electricity caused by electrifying space and water heating appliances that are currently natural gas-fired. 2022 Final Program EIR pgs. 4.3-10 – 4.3-11.

As described in the Draft SEA, which tiers off of the 2022 Final Program EIR, PAR 1111 is expected to affect 5,350,000 space heaters. Draft SEA, pg. 1-16. PAR 1111 requires zero-NOx space heaters in new construction starting on January 1, 2026, and zero-NOx replacement space heaters at the end of appliance life starting on January 1, 2028 for units in existing buildings. Par 1121 is expected to affect 5,128,000 water heaters. Draft SEA, pg. 1-16. PAR 1121 requires zero-NOx water heaters in new construction starting on January 1, 2026, and zero-NOx replacement water heaters at the end of appliance life starting on January 1, 2028 for units in existing buildings. Thus, together, the Rules are expected to affect nearly 10.5 million natural gas-fired appliances in the SCAB.

The Draft SEA analysis concludes that the potentially significant adverse air quality impacts from construction and from energy impacts due to electricity and natural gas demand found in the 2022 Final Program EIR "will be substantially made more severe if [the Rules] are implemented." Draft SEA, pg. 1-5. For the types of physical changes resulting from the implementing of the Rules, the Draft SEA attributes the increase in severity to the increased number of units affected. Draft SEA pg. 1-16. However, the Draft SEA fails to fully acknowledge that some of the increased severity of the environmental impacts is due to accelerating implementation of low- and zero-NOx appliance replacements compared to implementing the Control Measures as analyzed in the 2022 Final Program EIR. As set forth more fully below, this failure results in the Draft SEA failing to comport with the requirements of CEQA.

41-1

The Draft SEA Fails To Analyze Impacts Reasonably Foreseeable from Implementing the Rules

CEQA requires an analysis of socioeconomic impacts when proximately caused by, or resulting from, an agency action.[2] Urban decay, or blight, is required to be evaluated by SCAQMD and the absence of this analysis is a fatal flaw in the Draft SEA for the Rules. The proposed rules impose billions of dollars of unfunded mandates on owners of residential and commercial properties, as well as landlords – who are legally entitled to pass these costs on to renters. Owners of structures who are unable or unwilling to pay these costs will be operating illegal structures, which insurance policies and mortgage covenants prohibit –

41-2

[2] *Bakersfield Citizens for Local Control v City of Bakersfield* (2004) 124 Cal.App.4th 1184; *Anderson First Coalition v. City of Anderson* (2005) 130 Cal.App.4th 1173.

resulting in foreclosures, uninsured structures, and blight from vacant or underutilized properties. This blight outcome extends to both commercial and residential structures. 41-2

The commercial market is already staggering with vacancies from hybrid/remote work and job losses in critical industries such as entertainment; the retail market is similarly staggering with the ever-increasing volumes of e-commerce. Large commercial structures are already defaulting on loans, and other structures are selling at steep discounts with uncertain future utilization rates. Just a small fraction of the largest commercial property defaults is reported in this recently published article.[3]

Housing is even more challenging. The median price of a California home (not simply a home in a coastal county) now exceeds $900,000 – 10 times more than median income; a healthy housing market includes ample supplies of homes priced at 3-5 times median income.[4] Average monthly rents in Los Angeles County are already $2,452, and a chronic and growing shortage of less expensive housing, made worse by the continued growth of the homeless population, has caused about 59% of LA households to pay more than 30% of their income on rent[5] – a level considered unaffordable by federal government standards. There are about 650,000 apartments covered by rent control, and hundreds of thousands of newer apartments not covered by rent control. All of the older apartments, and most of the new apartments, will eventually need costly retrofits to comply with the ban on gas-fired appliances contained in the Rules. And the evidence is clear: landlords and lenders do not have the resources to make the extraordinarily costly modifications needed to comply with the Rules. In a 2024 article,[6] for example, it is reported that multi-family housing is already struggling to renew loans. Construction of new multi-family units have slowed significantly in markets like Los Angeles – data reflects that by the end of the first half of 2024, there was a decline of 34.6% in the completion of new apartments, and the sale volumes for multi-family apartment buildings worth more than $5 million have dropped by 40%.[7]

The Rules also assume massive increases in electric supplies, and electric transmission, distribution, and substation equipment – none of which is funded, and all of which will further burden ratepayers who already pay among the highest electricity costs in the nation. There continues to be a shortfall of electric supplies, and a shortage of critical infrastructure needed to bring supplies to where people live and work. Imposing a premature transition to all-electric appliances will foreseeably result in brownouts and blackouts that have caused catastrophic public safety and health consequences, especially to sensitive needs 41-3

[3] https://therealdeal.com/la/2024/01/02/brookfield-dtla-towers-lead-socals-top-defaults-in-2023/
[4] https://www.metroabundance.org/what-would-it-look-like-to-take-an-outcome-oriented-approach-to-housing-abundance/
[5] https://laist.com/news/housing-homelessness/los-angeles-housing-rent-control-increase-caps-rso-limits-economic-roundtable-report
[6] https://www.globest.com/2024/08/14/refinancing-hurdles-and-market-slowdown-in-la-multifamily-sector/?slreturn=20241030133840
[7] https://www2.naicapital.com/l-a-county-multifamily-market-shifts-as-vacancies-rise-and-rents-reach-new-highs-offering-opportunities-for-capital-ready-investors/#:~:text=Elevated%20interest%20rates%20have%20made,Recently%2C%20Blackstone%20Inc.

populations dependent on critical medical equipment.[8] The Draft SEA analysis ignores this immediate adverse health consequence while asserting via "models" purported health benefits of removing gas-fired appliances from people's homes. These appliances have been safely operated for a century or more. 41-3

The unfunded mandates represented by the Rules impose billions of dollars of cost burdens on a region already suffering from unaffordable cost burdens. Imposing these unfunded mandates will make the housing crisis worse, drive even more commercial and retail businesses out of the region (and eliminate associated jobs), and result in vacant and underutilized buildings, reduce the tax revenues needed for critical public services like fire, public safety and medical care, and cause disproportionate harms to already distressed disadvantaged communities. It is fiscally, socially and environmentally reckless to impose these costs to obtain the miniscule fraction of NOx reductions attributable to these widespread retrofits mandated by the Rules. 41-4

Our region has many pressing needs, but we are at the end of an era where each special interest agency can, within its own silo, unilaterally impose billions of dollars of unfunded mandates without considering the adverse consequences to health, safety, and critical crises like our housing, homeless and poverty crises. The CEQA analysis performed by SCAQMD for the Rules is fundamentally flawed, and must be revised to acknowledge, analyze, and mitigate for these consequences – and importantly must include a thorough alternatives analysis that includes achieving the purported health benefits of removing safe gas appliances from structures through other, far less damaging and costly, methods.

The Draft SEA Fails To Analyze Adequate Alternatives 41-5

The Draft SEA is further inadequate because it fails to properly analyze a reasonable range of alternatives. Under CEQA, a proper analysis of alternatives is essential to comply with CEQA's mandate that significant environmental impacts be avoided or substantially lessened where feasible.[9] The analysis of alternatives lies at the "core of an EIR," [10] and an EIR must "ensure that all reasonable alternatives to proposed projects are thoroughly assessed by the responsible official."[11]

The purpose of the requirement to contemplate alternatives is to identify ways to mitigate or avoid the significant effects of a project.[12] "[A]n agency may not approve a proposed project if feasible alternatives exist that would substantially lessen its significant

[8] https://pinkerton.com/our-insights/blog/the-impact-of-power-outages#:~:text=Power%20outages%20and%20impact%20on,heat%20stroke%2C%20and%20food%20insecurity.
[9] Pub. Resources Code, § 21002; CEQA Guidelines, §§ 15002(a)(3), 15021(a)(2), 15126(d); *Citizens for Quality Growth v. City of Mount Shasta* (1988) 198 Cal.App.3d 433, 443–45.
[10] *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564.
[11] *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 735; see also Pub. Resources Code, § 21002.1(a).
[12] Pub. Resources Code, § 21002.1.

environmental effects."[13] The alternatives discussion must be "meaningful" and must "contain analysis sufficient to allow informed decision making."[14] The alternatives analysis is critical to the integrity of an EIR.[15] An EIR must "ensure that all reasonable alternatives to proposed projects are thoroughly assessed by the responsible official."[16] An alternatives analysis under CEQA must focus on potentially feasible alternatives to the project, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly.[17]

41-5

As noted above, the 2022 Final Program EIR concluded that implementing the Control Measures would result in significant and unavoidable impacts in the environmental topic areas of air quality and energy. The Draft SEA concludes that implementing the Rules would make those impacts substantially more severe. As noted above, the Draft SEA attributes that increased severity to the greater number of units affected by the Rules.

In addition to the "No Project" alternative ("Alternative A") required to be analyzed under CEQA, the Draft SEA evaluates three other alternatives – "Alternative B" is described as the "more stringent" alternative (advances the compliance date for new construction to January 1, 2025 for PAR 1111 and mandates changeout of existing appliances by the compliance date at which end of life replacements would occur under the Rules as drafted); "Alternative C" is described as the "less stringent" alternative (keeps same compliance dates and structure as the Rules as drafted, but allows replacement of existing units with low-NOx (rather than zero-NOx) units where the Rules as drafted allow temporary alternative compliance options (estimated to be 50% of replacements)); and "Alternative D" (keeps the compliance dates and rule structure the same as the Rules as drafted, but provides additional incentive funding which is estimated to result in about 1% (rather than .5%) of existing units being changed out before the end of useful life).

Notably, none of the alternatives examines the effect of a compliance date later than January 1, 2028 for space heaters and January 1, 2030 for water heaters. This is the case despite the fact that The 2022 Final Program EIR analyzed 2029 and 2031 compliance dates for these appliances respectively. This is a fundamental failure to present an adequate and legally

[13] *Save Panoche Valley v. San Benito County* (2013) 217 Cal.App.4th 503, 52 (citations omitted); see also Pub. Resources Code, §21081(a); CEQA Guidelines, §15091(a)(3); *Cal. Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1002.
[14] *Laurel Heights Improvement Association of San Francisco, Inc. v. Regents of the University of California* (1988) 47 Cal.3d 376 at 403–04.
[15] *In re Bay-Delta Programmatic Envtl. Impact Report Coordinated Proceedings*, 43 Cal.4th 1143, 1162 (2008) ("The EIR is the heart of CEQA, and the mitigation and alternatives discussion forms the core of the EIR.").
[16] *San Joaquin Raptor/Wildlife Rescue Center, supra*, 27 Cal.App.4th at 735; see also Pub. Resources Code, § 21002.1(a).
[17] CEQA Guidelines, § 15126.6(b), (f); see also Pub. Resources Code, § 21102.1(a) ("The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided.").

sufficient alternatives analysis that examines all reasonable alternatives to inform the public and the responsible officials of feasible alternatives as required by CEQA.[18]

41-5

Moreover, although the Draft SEA acknowledges that the impacts on natural gas demand that the Draft SEA finds severe and unavoidable will diminish as renewable energy use grows and reliance on natural gas for heating appliances decreases (Draft SEA, pg. 5-6), no alternative is analyzed that takes this into account. Indeed, California Senate Bill 100 (2018) established a goal for grid power of 60% renewable and zero-carbon resources by 2030. In light of this fact, a legally sufficient alternatives analysis would include at least one alternative that examines whether extending the compliance date until more renewables are available on the grid would ameliorate some or all of the severe and unavoidable impacts found. For example, an alternative that tied the compliance date to the accomplishment of a defined level of renewable power on the grid would inform decision makers and the public about the important trade-offs inherent in the decision making around the Rules as required by CEQA. Whether these or other reasonable and feasible alternatives would decrease the impacts of the Rules cannot be known because the Draft SEA fails in its fundamental purpose to present them for consideration. The Draft SEA for the Rules is fundamentally flawed and must be revised to properly analyze all reasonable and feasible alternatives as outlined above. The Revised SEA must then be recirculated for public comment before it and the Rules can be further considered by SCAQMD.

The Draft SEA Fails to Mitigate Significant Energy Impacts

41-6

The discussion of a proposed project's environmental impacts is an essential component of an EIR.[19] The fundamental purpose of CEQA is to "inform the public and its responsible officials of the environmental consequences of their decisions before they are made."[20] To do so, an EIR must contain facts and analysis, not just an agency's bare conclusions.[21]

CEQA also requires an EIR to describe and adopt all feasible mitigation measures to address a project's significant environmental impacts.[22] Mitigation measures must be "fully enforceable through permit conditions, agreements, or other legally binding instruments."[23] Generally, the "[f]ormulation of mitigation measures should not be deferred until some future time."[24] As an exception, "measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way."[25] Crucially, there is a "distinction between stating a generalized goal and

[18] That these later compliance dates are reasonable and feasible alternatives is further demonstrated by the fact that the Bay Area Air Quality Management District (Bay Area AQMD) adopted amendments in March of 2023 to its Regulation 9, Rule 6 which sets forth a zero-NOx compliance date of January 1, 2031 for typical residential water heaters, and its Regulation 9, Rule 4 which contains a zero-NOx compliance date of January 1, 2029 for furnaces.
[19] See CEQA Guidelines, § 15126.2(a) ("An EIR *shall* identify and focus on the significant effects of the proposed project on the environment.") (emphasis added).
[20] *Laurel Heights, supra*, 6 Cal.4th at 1123.
[21] *Citizens of Goleta Valley, supra*, 52 Cal.3d at 568.
[22] Pub. Resources Code, § 21002; CEQA Guidelines, § 15126.4(a)(1).
[23] CEQA Guidelines, § 15126.4(a)(1)(B), (a)(2).
[24] CEQA Guidelines, § 15126.4(a)(1)(B).
[25] *King & Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814, 856.

41-6

adopting specific performance criteria," and "[s]imply stating a generalized goal for mitigating an impact does not allow the measure to qualify for the exception to the general rule against the deferred formulation of mitigation measures."[26] Further, even where the deferred formulation of mitigation might be allowable, there is a point beyond which delayed implementation is not allowed: "[o]nce the project reaches the point where activity will have a significant adverse effect on the environment, the mitigation measures must be in place."[27] "Where several measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified."[28]

All of the mitigation for energy impacts identified in the Draft SEA are lifted from the 2022 Final Program EIR. The Draft SEA states as follows:

> "The following mitigation measures have been identified for reducing potential electricity demand impacts:
>
> E-1 Project sponsors should pursue incentives to encourage the use of energy efficient equipment and vehicles and promote energy conservation during electricity generation.
>
> E-2 Utilities should increase capacity of existing transmission lines to meet forecast demand that supports sustainable growth where feasible and appropriate in coordination with local planning agencies.
>
> E-3 Project sponsors should submit projected electricity calculations to the local electricity provider for any project anticipated to require substantial electricity consumption. Any infrastructure improvements necessary should be completed according to the specifications of the electricity provider.
>
> E-4 Project sponsors should include energy analyses in environmental documentation with the goal of conserving energy through the wise and efficient use of energy.
>
> E-7 Project sponsors should evaluate the potential for reducing peak energy demand by encouraging the use of electrified stationary sources during off-peak hours."
>
> Draft SEA, pgs. 4-20 – 4-21.

None of these mitigation measures were adequate when they were included in the 2022 Final Program EIR and they remain inadequate in the context of the Draft SEA. Even a cursory examination of these "measures" reveals that they express aspirational goals at best. None of the measures are enforceable, as required by CEQA, through "permit conditions, agreements, or other binding instruments" by South Coast AQMD or anyone else. In addition, none of these measures specifies any sort of performance standard that could lead to formulation of appropriate mitigation in the future. Moreover, other than explaining that

[26] *Id.* at 856.
[27] *Id.* at 860, quoting *POET, LLC v. Cal. Air Resources Bd.* (2013) 218 Cal.App.4th 681, 738.
[28] CEQA Guidelines, § 15126.4(a)(1)(B).

some of the measures that were included in the 2022 Final Program EIR are inapplicable to mitigating energy impacts, the Draft SEA provides no explanation for the assertion that these specific measures will address the energy impacts that the Draft SEA describes as more severe than the impacts found in the 2022 Final Program EIR. See Draft SEA, pg. 4-20. In short, the mitigation measures identified in the Draft SEA that purport to reduce the potential electricity demand impacts that have been identified are wholly inadequate under CEQA. To address this inadequacy, the Draft SEA must be revised to identify and analyze appropriate mitigation measures for energy impact. The revised Draft SEA must then be recirculated for public comment before it and the Rules can be further considered by SCAQMD. 41-6

For the reasons set forth above, we urge SCAQMD to revise its analysis, prepare and circulate a revised Draft SEA, and, ultimately, to reject the Rules. We reserve the right to identify new issues, provide additional information, and propose additional mitigation measures during SCAQMD's ongoing decision-making process for the Rules.

Thank you for your thoughtful consideration of these critical issues.

Sincerely,

Fran Inman
BizFed 2024 Chair
Majestic Realty

David Fleming
BizFed Founding Chair

Tracy Hernandez
BizFed Founding CEO
IMPOWER, Inc.

David Englin
BizFed President

CC: Governing Board

BizFed Association Members

Action Apartment Association
Advanced Medical Technology Association
Alhambra Chamber
American Beverage Association
Antelope Valley Chamber formerly Lancaster Chamber of Commerce
Apartment Association of Greater Los Angeles
Apartment Association of Orange County
Apartment Association, CA Southern Cities, Inc .
Apartment Association of California
Arcadia Association of Realtors
AREAA North Los Angeles SFV SCV
Armenian American Business Association
Armenian Trade & Labor Association
Arts District Los Angeles
ASCM Inland Empire Chapter
Associated Builders & Contractors SoCal (ABC SoCal)
Associated General Contractors
Association of Independent Commercial Producers
AV Edge California
Azusa Chamber
Bell Chamber
Beverly Hills Chamber
BioCom
Black Business Association
Black Professional Network
Boyle Heights Chamber of Commerce
Bridge Compton Org
Building Industry Association - LA/Ventura Counties
Building Industry Association of Southern California
Building Industry Association- Baldyview
Building Owners & Managers Association of Greater Los Angeles
Burbank Association of Realtors
Burbank Chamber of Commerce
Business and Industry Council for Emergency Planning and Preparedness
Business Resource Group
CalAsian Chamber
CalChamber
California African American Chamber of Commerce
California Apartment Association- Los Angeles
California Asphalt Pavement Association
California Bankers Association
California Black Chamber of Commerce
California Business Properties
California Business Roundtable
California Cleaners Association
California Contract Cities Association
California Council for Environmental & Economic Balance (CCEEB)
California Fuels & Convenience Alliance- Formerly
California Independent Oil Marketers Association (CIOMA)
California Gaming Association
California Grocers Association
California Hispanic Chamber
California Hotel & Lodging Association
California Independent Petroleum Association
California Infrastructure Delivery Coalition
California Life Sciences Association
California Manufacturers & Technology Association
California Metals Coalition
California Natural Gas Producers Association
California Restaurant Association
California Retailers Association
California Self Storage Association
California Small Business Alliance
California Travel Association (CalTravel)
California Trucking Association
Californians For Smarter Sustainability
Carson Chamber of Commerce
Carson Dominguez Employers Alliance
Central City Association
Century City Chamber of Commerce
Chatsworth Porter Ranch Chamber of Commerce
Citrus Valley Association of Realtors
Civil Justice Association of California CJAC
Claremont Chamber of Commerce

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Commerce Business Council formerly Commercial Industrial Council/Chamber of Commerce
Compton Chamber of Commerce
Compton Community Development Corporation
Compton Entertainment Chamber of Commerce
Construction Industry Air Quality Coalition
Construction Industry Coalition on Water Quality
Council of Infill Builders
Crenshaw Chamber of Commerce
Culver City Chamber of Commerce
Downey Chamber of Commerce
Downtown Alliance
Downtown Long Beach Alliance
DTLA Chamber of Commerce
El Monte/South El Monte Chamber
El Salvador Corridor Association
El Segundo Chamber of Commerce
Employers Group
Energy Independence Now EIN
Engineering Contractor's Association
EXP The Opportunity Engine
FastLink DTLA
Filipino American Chamber of Commerce
Friends of Hollywood Central Park
FuturePorts
Gardena Valley Chamber
Gateway to LA
Glendale Association of Realtors
Glendale Chamber
Glendora Chamber
Greater Antelope Valley AOR
Greater Bakersfield Chamber of Commerce
Greater Coachella Valley Chamber of Commerce
Greater Downey Association of REALTORS
Greater Lakewood Chamber of Commerce
Greater Leimert Park Crenshaw Corridor BID
Greater Los Angeles African American Chamber
Greater Los Angeles Association of Realtors
Greater Los Angeles New Car Dealers Association
Greater San Fernando Valley Chamber
Harbor Association of Industry and Commerce
Harbor Trucking Association
Historic Core BID of Downtown Los Angeles
Hollywood Chamber
Hospital Association of Southern California
Hotel Association of Los Angeles
ICBWA- International Cannabis Women Business Association
Independent Cities Association
Independent Hospitality Coalition
Industrial Environmental Association
Industry Business Council
Inglewood Board of Realtors
Inland Empire Economic Partnership
Irwindale Chamber of Commerce
Kombucha Brewers International
La Cañada Flintridge Chamber
LA County Medical Association
LA Fashion District BID
LA South Chamber of Commerce
Larchmont Boulevard Association
Latin Business Association
Latino Food Industry Association
Latino Golfers Association
Latino Restaurant Association
LAX Coastal Area Chamber
Licensed Adult Residential Care Association-LARCA
Long Beach Area Chamber
Long Beach Economic Partnership
Long Beach Major Arts Consortium
Los Angeles Area Chamber
Los Angeles Economic Development Center
Los Angeles Gateway Chamber of Commerce
Los Angeles Latino Chamber
Los Angeles LGBTQ Chamber of Commerce
Los Angeles Parking Association
Los Angeles Regional Food Bank
MADIA Tech Launch
Malibu Chamber of Commerce
Manhattan Beach Chamber of Commerce
Manhattan Beach Downtown Business & Professional Association
Marina Del Rey Lessees Association
Marketplace Industry Association
Monrovia Chamber
Motion Picture Association of America, Inc.
MoveLA
MultiCultural Business Alliance
NAIOP Southern California Chapter
NAREIT
National Association of Minority Contractors
National Association of Theatre Owners CA/Nevada
National Association of Women Business Owners
National Association of Women Business Owners - LA
National Association of Women Business Owners-California
National Federation of Independent Business
Owners California
National Hookah
National Latina Business Women's Association
Norwegian American Chamber of Commerce
Ofiso Community Foundation
Orange County Business Council
Orange County Hispanic Chamber of Commerce
Pacific Merchant Shipping Association
Panorama City Chamber of Commerce
Paramount Chamber of Commerce
Pasadena Chamber
Pasadena Foothills Association of Realtors
PGA
Pharmaceutical Care Management Association
PhRMA
Pico Rivera Chamber of Commerce
Pomona Chamber
Rancho Southeast REALTORS
ReadyNation California
Recording Industry Association of America
Regional CAL Black Chamber, SVF
Regional Hispanic Chambers
San Gabriel Valley Economic Partnership
San Pedro Peninsula Chamber of Commerce
Santa Clarita Valley Chamber
Santa Clarita Valley Economic Development Corp.
Santa Monica Chamber of Commerce
Secure Water Alliance
Sherman Oaks Chamber
Signal Hill Chamber
South Bay Association of Chambers
South Bay Association of Realtors
South Gate Chamber of Commerce
Southern California Contractors Association
Southern California Golf Association
Southern California Grantmakers
Southern California KFC Franchise
Southern California Leadership Council
Southern California Minority Suppliers Development Council Inc.
Southern California Water Coalition
Southland Regional Association of Realtors
Specialty Equipment Market Association
Structural Engineers Association of Southern California
Sunland/Tujunga Chamber
Sunset Strip Business Improvement District
Swiss American Chamber of Commerce
Thai American Chamber of Commerce
The Bridge Network
The LA Coalition for the Economy & Jobs
The Los Angeles Taxpayers Association
The Two Hundred for Homeownership
Torrance Area Chamber
Tri-Counties Association of Realtors
United Chambers – San Fernando Valley & Region
United Contractors
United States-Mexico Chamber
Unmanned Autonomous Vehicle Systems Association
Urban Business Council
US Green Building Council
US Resiliency Council
Valley Economic Alliance, The
Valley Industry & Commerce Association
Venice Chamber of Commerce
Vermont Slauson Economic Development Corporation
Veterans in Business
Vietnamese American Chamber
Village of Sherman Oaks BID
Warner Center Association
West Covina Chamber
West Hollywood Chamber
West Hollywood Design District
West Los Angeles Chamber
West San Gabriel Valley Association of Realtors
West Valley/Warner Center Chamber
Westchester BID
Western Electrical Contractors Association
Western Manufactured Housing Association
Western Propane Gas Association
Western States Petroleum Association
Westside Council of Chambers
Westwood Community Council
Whittier Chamber of Commerce
Wilmington Chamber
World Trade Center
Yes in My Backyard
7-Eleven Franchise Owners Association of Southern California

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Response to Comment Letter #41:

Response to Comment 41-1 through 41-6:

This comment letter contains remarks regarding the Draft SEA and the analysis of the environmental impacts associated with implementing PAR 1111 and PAR 1121. Upon its release, please see Appendix D of the Final SEA which contains this comment letter relabeled as Comment Letter #3, and the responses relabeled as 3-1 through 3-6.

COMMENT LETTER #42: ASIAN PACIFIC ENVIRONMENTAL NETWORK

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

On behalf of the Asian Pacific Environmental Network, we write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February. 42-1

We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

Elle C. Chen
Legislative Director
Asian Pacific Environmental Network

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

Response to Comment Letter #42:

Response to Comment 42-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #43: CALIFORNIA SAFE SCHOOLS

December 6, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

On behalf of California Safe Schools, we write to support South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "the only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources." [1]

Given the serious pollution in this region, the health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

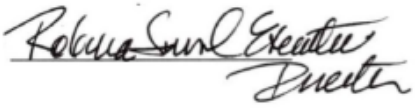
We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

43-1

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,



Robina Suwol
Executive Director, California Safe Schools
PO Box 2756
Toluca Lake, California 91610

Response to Comment Letter #43:

Response to Comment 43-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #44: CALIFORNIA COMMUNITIES AGAINST TOXICS

California Communities Against Toxics
PO Box 2050 *Rosamond, CA 93560

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

On behalf of California Communities Against Toxics, a coalition of environmental groups who have worked to reduce air pollution for over 30 years in California we are writing to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious air pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is being weakened by delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February. 44-1

Our members face the health consequences daily of poor air quality and need our regulatory agencies to take concrete action to reduce pollution. Especially in areas of the South Coast Basin that are most highly impacted from multiple sources of pollution, we need to create incentives for early adopters of new zero emission technologies like microgrids, heat pumps, and other zero emissions technologies.

This is why we are so pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be vital in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of transitioning away from combustion in our homes and our businesses.

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

Sincerely,

Jane Williams
Executive Director
California Communities Against Toxics

Response to Comment Letter #44:

Response to Comment 44-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #45: GENGHMUN ENG

Updated 12/10/2024 Public Comment:
Justification for Proposed Amendment to PAR-1121
Submitted by: (Dr.) Genghmun Eng ("Citizen")
5215 Lenore St., Torrance, CA 90503

45-1

According to Google(R), the percent of Los Angeles County Housing Units built before 1960 is only about 3.6% of all Housing Units. (see attached page at end). Many of these pre-1960 Units are Single-Family Residences (SFR), which contribute significantly to the overall character and desirability of many neighborhoods.

SFR Units built before 1960, with no Air Conditioning (A/C) is likely to be even a smaller percentage. To help preserve the historical nature of these residences and their surrounding neighborhoods, Citizen proposes that an exemption to the proposed NOx Zero-Emission Requirements for replacement Water Heaters be allowed, which still preserves the Table 2 requirements as a 96+% solution to the desired NOx reductions. This can be accomplished by modifying the PAR-1121 Table 2 note, to read:

** Excluding Mobile Home Water Heaters, and Water Heaters for Single-Family Residences without Air-Conditioning that were constructed before 1960, in order to preserve the character of many Los Angeles historical neighborhoods.*

Additionally, a typical residential gas water heater uses between 20-50 therms of gas per month, which translates to roughly 2,000-5,000 BTUs per hour depending on its size and usage frequency; a "therm" is a unit of measurement for natural gas equaling 100,000 BTUs.
Key points about residential gas water heater usage:

Average consumption: Most homes use between 20 and 50 therms of gas per month for hot water.
BTU rating: A typical residential gas water heater BTU rating is 30,000-40,000 BTUs per hour
Factors affecting usage: The amount of hot water used, water temperature settings, and the size of the water heater tank all influence gas consumption.

To convert a measurement in Joules to a measurement in british thermal units (BTU), multiply the energy by the following conversion ratio: **0.000948 british thermal units/Joule**. The energy in british thermal units is equal to the energy in joules multiplied by 0.000948. To convert BTUs to Joules, multiply by **1054.85232**. Therefore:

1 'NOx' ng/J = 1 ng/[1J (.000948 BTU/J)] = 1054.85 ng/BTU = 1.05485 ug/BTU.
10 'NOx' ng/J = 10548.5 ng/BTU = 10.5485 ug/BTU=1.05485 gms/(therm).
50 therms/month = 600 therms/year = 632.911 gms 'NOx' per year for an average household.
At 453.592 grams per pound, this is 1.39633 pounds of 'NOx' per year for an average household.

The Valero-Ultramar facility has an 'NOx' allocation of 472,716 pounds per year, which is equivalent to 338,785 average residences. Given 3,785,720 total housing units in Los Angeles County as of 2023, with a total of 132,193 built before 1960, exempting all housing units built before 1960 would still only be 39% of the 'NOx' allocation for this one large industrial polluting facility.

In unincorporated Los Angeles County, the most common household size is two people (25.5%), and the second most common is three people (18.3%). Assuming the remainder is a one-person household would then be 56.2%, for an average occupancy of at least 1.62 persons per household. Using 1.62 as representative of SFR occupancy for homes built before 1960 gives 214,417 affected human persons.

On this scale, the full Valero-Ultrmar 'NOx' allocation would be equivalent to the expected 'NOx' water heater load expected from 549,800 human persons, occupying the SFR units. Thus, having a pre-1960 SFR exception is well justified.

AI Overview

As of July 1, 2023, Los Angeles County had 3,675,720 housing units.

Los Angeles County has a significant shortage of affordable housing, with some estimates suggesting that the county is 270,000 units short. The county is also losing affordable housing units at an alarming rate, with some 3,500 units at risk of losing their affordability terms.

Some of the challenges facing the county's housing market include:

High housing costs

Renters in Los Angeles County need to earn $48.04 per hour to afford the average monthly asking rent of $2,498.

Low production rate

The production rate for affordable housing is at its lowest in over a decade.

Homelessness

In 2023, there were only 39,752 beds available for people experiencing homelessness.

AI Overview

The number of housing units built in Los Angeles County before 1960 was 132,193 units in the 1950s. In the 1960s, the number of houses built increased by 76% to 232,379.

Los Angeles's housing stock includes 1,373,864 units, with 506,115 owner-occupied and 867,749 renter-occupied. The city's goal is to build more than 450,000 homes by 2029 to meet state housing requirements.

Fraction of LA County Housing Units
built before 1960 is only 3.6% of present-day total:
(132,193) / (3,675,720) = 3.6 %

Table 1 – NOx Emission Limits

Equipment	NOx Emission Limits	
	ng/J	ppmv
Water Heater*	10	15
Mobile Home Water Heater	40	55

* Excluding Mobile Home Water Heater

(2) On and after the applicable Table 2 compliance dates, no person shall manufacture, supply, sell, resell, offer for sale, import, or Install a Water Heater for use in the South Coast AQMD that exceeds the Table 2 NOx emission limits. The applicable Table 2 compliance dates for New Building types shall be determined based on the construction or alteration completion date.

PAR 1121 - 5

Response to Comment Letter #45:

Response to Comment 45-1:

Staff appreciate your comment and analysis. Please see Response to General Comment 10 for staff response.

COMMENT LETTER #46: BAN SUP (SINGLE USE PLASTIC)

December 10, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr,

Ban SUP (Single Use Plastic), an organization that focuses on reduction of single use plastic and associated global greenhouse gas emissions with over 400 members, applauds South Coast AQMD's efforts to clean up appliance pollution with amendments to Rules 1111 and 1121.

We are excited this recommendation could reduce more emissions than other initiatives passed in the last three decades. This is especially important since California is slated to miss all of our climate goals. 46-1

According to Edison International, California wants to reduce greenhouse gases 40% below 1990 levels by 2030 but the state could miss the mark by 30 to 90 million metric tons if specific steps are not made to significantly bring down carbon emissions. We think that may be underestimated. Therefore, it is imperative that this amendment passes soon.

We need to make sure that these rules go to the Governing Board quickly with strong wording in order to be adopted in February to try to meet our climate goals, especially since other entities are failing.

Thanks for AQMD's focus and efforts on these proposed amendments.

Sincerely,

Cheryl Auger
President
Ban SUP (Single Use Plastic)

Response to Comment Letter #46:

Response to Comment 46-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #47: STEPHANIE PINCETL

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

On behalf of myself, Stephanie Pincetl, Professor at the UCLA Institute of the Environment and Sustainability, I write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. I am deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February. 47-1

My research with colleagues at UCLA shows that indoor air quality through the burning of fossil gas, is measurable and detrimental to public health. We also have conducted numerous telephone interviews with renters in disadvantaged communities and find that people are open to electrification, even of their stoves. Obviously the biggest obstacle is cost. But public health benefits are significant, and electrification of home appliances can be conducted with existing technologies.

We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

Stephanie Pincetl
Professor at UCLA's Institute for the Environment and Sustainability, writing on my own behalf.

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

Response to Comment Letter #47:

Response to Comment 47-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #48: CLIMATE ACTION SANTA MONICA

CLIMATE ACTION SANTA MONICA

Mr. Krause and Ms. Farr
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121s

Dear Mr. Krause and Ms. Farr:

Climate Action Santa Monica supports the South Coast Air Quality Management District's (SCAQMD) proposal to reduce appliance air pollution to improve public health by adopting Rule 1111 and 1121 amendments requiring that all new and replacement water heaters and furnaces be electric. We urge the adoption of strong requirements with minimal exemptions that take effect when currently proposed. We also support the approval of $100 million in incentives to support the implementation of these amendments, especially for lower income residents, through SCAQMD's Go Zero program. 48-1

The City of Santa Monica has adopted a Title 24 Reach Code encouraging the use of electric water and space heating in new buildings and is working on an existing building ordinance for larger structures. Therefore the proposed Rule 1111 and 1121 amendments would help the City achieve its goals.

As a community organization, we know that many community members are working on electrifying their homes to improve indoor air quality and their health, and to reduce greenhouse gases. The proposed Rule 1111 and 1121 amendments would help both contractors and homeowners by spurring the further development of the markets and skills needed to facilitate the economical and timely execution of electrification projects.

Please adopt the Rule 1111 and 1121 amendments with urgency to expedite the transition away from hazardous air emissions in our homes and communities.

Sincerely,

Laurene von Klan – Executive Director and Co-Chair
Kent Strumpell – Co-Chair

Response to Comment Letter #48:

Response to Comment 48-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #49: SHARED STREETS

SHARED STREETS

Youth Activists for Safer Streets

Board of Directors
Michelle Kim
Edward Duong
Laboni Hoq
Dorothy Wong
Jack Sheng
Ken Lei
Edward Kim
Ringo Suen

Student Leaders
Thomas Kim
Eric Qiu
Andrew Le
Edwin Suen

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

49-1

On behalf of **Shared Streets**, we write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources." Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

Appliance pollution, specifically from gas-powered appliances such as furnaces and water heaters, is a significant contributor to poor air quality in our homes and communities. The emissions from these appliances are responsible for substantial levels of nitrogen oxides (NOx) and other harmful pollutants that worsen respiratory conditions like asthma and disproportionately impact vulnerable populations, including children and the elderly. Transitioning to zero-emission appliances is not just a necessary step for climate action—it is an urgent public health measure to protect our communities from the harmful effects of indoor and outdoor air pollution.

www.shared-streets.org info@shared-streets.org (626) 394-6248

SHARED STREETS
Youth Activists for Safer Streets

49-1

We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

Michelle Kim
Executive Director
Shared Streets
mkim@shared-streets.org

www.shared-streets.org info@shared-streets.org (626) 394-6248

Response to Comment #49:

Response to Comment 49-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #50: PASADENA CHAMBER OF COMMERCE AND CIVIC ASSOCIATION

December 12, 2024

Mr. Peter Campbell and Governing Board Members
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
VIA Email: pcampbell@aqmd.gov

RE: SCAQMD PAR 1111 and PAR 1121

Dear Mr. Campbell, Governing Board and Committee Members,

The Board of Directors of the Pasadena Chamber of Commerce and Civic Association has significant concerns related to the implementation of South Coast Air Quality Management District PAR 1111 and PAR 1121 which would phase in all-electric appliance regulations.

Here are our concerns:

1. Implementation of these rules will have negligible impact on clean air or our environment. 50-1
2. Costs to consumers, businesses and the public will be expensive, especially for those who will be required to switch from gas appliances to electric. 50-2
3. These rules are being considered without adequate input from the public which is mostly unaware of these proposed changes. 50-3

The Board of the Pasadena Chamber of Commerce regularly supports measures that are environmentally friendly, often putting us at odds with other business organizations. In this instance, however, we believe the potential costs and burden on businesses, residents and consumers do not justify these new regulations.

Please reject these new regulations. There are better ways to achieve your goals.

Thank you,

Paul Little
President and Chief Executive Officer

Response to Comment Letter #50:

Response to Comment 50-1:

Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

Response to Comment 50-2:

The new rule concept for Proposed Amended Rules 1111 and 1121 released February 7, 2025, which includes zero-NOx emission sales targets for manufacturers will further address the cost concern for zero-NOx emission units. The new rule proposal allows the sale of both zero-NOx emission electric units and NOx-emitting natural gas-fired units, allowing consumers to make individual decisions on the type of unit to install.

Please refer to General Response to Comment 2.

Response to Comment 50-3:

Please refer to General Response to Comment 5.

COMMENT LETTER #51: ACTIVESGV

ACTIVE SGV

activeSGV.org #ActiveSGV

BOARD

Vincent Chang

David Diaz

Rafael Gonzalez

Stephanie Ramirez

Wesley Reutimann

December 13, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 9176

RE: SUPPORT | Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

51-1

As a community-based organization committed to realizing a more sustainable, equitable, and livable San Gabriel Valley, ActiveSGV strongly supports evidence-based efforts to reduce air pollution, including Rules 1111 and 1121. The proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The rulemaking is also a key step towards implementing the 2022 Air Quality Management Plan (AQMP), which determined that "**[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources.**"

Given the serious pollution in the region, which remains an extreme nonattainment zone, timely adoption of zero-emission technology is desperately needed. Fortunately zero-emission appliances are quickly becoming a best practice, with the rapid adoption of the technology around the world over the past decade. In light of this track record and the need to accelerate the switch, ActiveSGV is concerned by any attempts to weaken the proposal via delayed compliance deadlines or other loopholes. It is critical that these rules go to the Governing Board in a strong form and be adopted in February 2025.

ActiveSGV is also pleased to see the South Coast AQMD's *Go Zero* program take form. Targeted incentives are essential to realizing an equitable transition to zero emission buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. We applaud this effort and urge the Board to endorse an allocation of $100 million to the new program.

As a public health organization headquartered in El Monte, one of the most pollution-burdened communities in California, ActiveSGV is acutely aware of the health impacts associated with air pollution. **The outcomes of our poor air quality in southern California are devastating. High rates of asthma and other respiratory illnesses, as well as cognitive impairments, some cancers, and even obesity have all been linked to exposure to high levels of air pollution.** The cost of these health disparities -- particularly long-term, chronic illnesses such as asthma -- is billions in associated healthcare and diminished productivity to Los Angeles County.

The time is now to adopt clear rules and take a significant step towards implementing the 2022 AQMP. ActiveSGV thanks AQMD staff's extensive work in developing the proposed amendments to Rules 1111 and 1121. We urge the Board and staff to wrap up this rulemaking process as soon as possible, so we can begin the work of eliminating dangerous air pollution from buildings.

If you have any questions regarding this matter, please contact me at david@activeSGV.org. Thank you for your time and consideration,

David Diaz, MPH
Executive Director

Response to Comment Letter #51:

Response to Comment 51-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #52: AMERICAN LUNG ASSOCIATION

American Lung Association. California

December 12, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Via Email: mkrause@aqmd.gov; hfarr@aqmd.gov

American Lung Association Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr: 52-1

The American Lung Association writes in support of the South Coast Air Quality Management District's efforts to further reduce pollution from appliances through amendments to strengthen Rules 1111 and 1121. This proposed regulatory package and focus on zero-emission, non-combustion technologies will provide significant relief to the region's air quality and public health challenges. We urge approval of these lifesaving proposals without further delay.

The South Coast region is home to the most difficult air pollution challenges in the United States, ranking as the nation's most ozone-impacted metropolitan region in our "State of the Air" 2024 report. The health impacts of ozone pollution are well known and represent a serious concern for the millions of residents in the region living with asthma and other respiratory and cardiovascular illnesses, children, seniors, residents with lower incomes, people of color and others at greater risk due to unhealthy air.

At a minimum, the proposed amendments to Rules 1111 and 1121 are needed to achieve clean air standards in the region but can also serve as a strong model framework for a statewide program – both local and statewide actions are vital for public health. The district's estimated benefits demonstrate that the proposals represent an important public health intervention to save lives and reduce suffering throughout the region, including:

- 4,000 lives saved over the course of implementation,
- 16,000 cases of asthma avoided, and
- 4,000 emergency room visits avoided.

To bring these potential health benefits online in communities throughout the South Coast region, the American Lung Association supports timely adoption and implementation of the strongest possible 1111 and 1121 rules without further delay. We also appreciate and support the district's efforts to expand the "Go Zero" incentive funding available to accelerate the transition away from combustion and toward zero-emission technologies with an emphasis on equitable outcomes. Please contact Will Barrett at William.Barrett@Lung.org with any questions.

Sincerely,

Will Barrett
Senior Director
Nationwide Advocacy, Clean Air

1531 I Street, Suite 200 | Sacramento, CA 95814 | 916-554-5864 | Lung.org

Response to Comment #52:

Response to Comment 52-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #53: INDUSTRIOUS LABS

Industrious Labs

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

On behalf of Industrious Labs, I write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February. 53-1

We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

Evan Gillespie
Partner
Industrious Labs

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

Response to Comment #53:

Response to Comment 53-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #54: CLIMATE REALITY PROJECT

The Climate Reality Project LOS ANGELES CHAPTER
The Climate Reality Project ORANGE COUNTY, CA CHAPTER
The Climate Reality Project SAN FERNANDO VALLEY, CA CHAPTER

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

54-1

On behalf of our three chapters of the Climate Reality Project, we write in **support of the South Coast AQMD's Proposed Amended Rules 1111 and 1121**, which would set zero-emission standards for gas furnaces and water heaters, and in **opposition to weakening the rules by changing their future effective dates for existing buildings**.

The proposal as currently drafted requires new water heaters installed in existing buildings to achieve zero NOx emissions beginning on January 1, 2027, and requires new furnaces installed in existing buildings to achieve zero emissions beginning on January 1, 2028. We oppose changing these dates to January 1, 2029 for several reasons.

Delayed implementation delays the rules' health and climate benefits. This proposed regulatory package will achieve more emissions reductions than any effort in the past three decades, but with the 15 to 25 year life of these appliances and alternative compliance options staff has included, the rules will take decades to be fully effective. Given the time lag of these rules and the serious pollution in this region, an implementation delay would needlessly delay desperately-needed health gains from millions of people in the region. A delay means that even more residents will be tethered to greenhouse gas-emitting methane-burning appliances well into the 2050s and well past the year California plans to reach carbon neutrality.

Delayed implementation is not supported by evidence. Several exceptions have already been included in the proposal, including mobile homes, high elevation communities, and installations that require construction. These exceptions were based on staff's assessment of currently available technology and cost benefit calculations. No similar analysis has been given to support a broader delay of the rules. No explanation has been given as to why water heater rules should be delayed two years while furnace rules should be delayed one year. Narrow, targeted alternative compliance options are preferable to broad and unsupported delays. In fact, staff has already proposed a separate new implementation delay for central furnaces where paired air conditioners are less than 10 years old, with justification from staff's new, more conservative cost benefit analysis.

Delayed implementation delays market impacts. Heat pumps outsold both gas furnaces and gas water heaters in the United States last year and are on pace to do so again this year. With increased popularity and incentive support, heat pump manufacturers are offering more models that fill in more use cases. These rules will accelerate this innovation from

54-1

manufacturers and hasten installer workforce development. Delaying implementation would delay these benefits.

Delayed implementation delays legal clarity. Unfortunately, we know that litigation over the rules is likely, if not inevitable. A blanket delay of two years could be followed by a court stay that results in continued emissions and negative health impacts for the region's residents. While AQMD cannot prevent litigation, keeping the current, earlier implementation dates will mean swifter legal clarity that benefits both residents and businesses.

Technology check-ins can provide another opportunity to add alternative compliance options if needed. We are confident in the market's ability to meet demand, and willing to support justified compromises to make sure the rule is both strong and fair. We would support adding a second technology check-in at the end of 2027 and using the check-ins to assess supply chain and cost changes and address any exceptionally challenging installations not covered in the current proposal.

We would also support increasing the budget for South Coast AQMD's Go Zero pilot program to $100 million, which will multiply the impact of this program nearly fivefold.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital to give clarity to the region's homeowners, landlords, tenants, and appliance manufacturers and installers.

Sincerely,

Charles Miller
Chapter Chair
Los Angeles Climate Reality Project

Lisa Swanson
Policy Chair
Climate Reality Project Orange County Chapter

Sharon Ungersma
Chapter Chair
San Fernando Valley Climate Reality Project

Response to Comment #54:

Response to Comment 54-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #55: COALITION FOR CLEAN AIR

COALITION FOR CLEAN AIR

December 11, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr: 55-1

Coalition for Clean Air writes in support of the South Coast AQMD's efforts to clean up building emissions through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emission reductions than any other effort passed by the district in over three decades. These rules are also key components of the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] It is important to note that, as proposed, these amendments are technology-neutral and only create zero-emissions standards for these appliances. These standards would be phased in, starting in 2026 through 2029, and would be prospective – meaning existing units would not need to be proactively decommissioned.

Southern California is home to the smoggiest air in the nation. The tens of millions of breathers in Southern California desperately need these rules and their associated public health benefits. We are deeply concerned, however, that the opponents' tactics of delaying and weaking these proposals are succeeding. The opponents' last-minute demand to delay consideration of these rules is merely a time-tested canard to further sow misinformation and confusion about these rule amendments. While public outreach and transparency are essential parts of the rulemaking process, the opposition are setting an unreasonable standard that is impossible to satisfy.

Without a doubt, the opponents will move the goal posts again, barring a complete capitulation by South Coast AQMD. Already, opponents of this rule are proposing to delay implementation by three years until 2029, which staff is actively considering. We urge both staff and the Governing Board to reject efforts to delay this rule and reduce its efficacy. It is vital that these rules go to the Governing Board in a strong form and be adopted in February. Failure to pass these rules would not only call into question South Coast AQMD's commitment to the AQMP but would also greatly encourage further bad faith tactics from polluters.

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

55-1

With that said, we remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be instrumental in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We understand that the rulemaking process is difficult, and we appreciate South Coast AQMD staff's work on the proposed amendments to Rules 1111 and 1121. Yet, public health in Southern California is on the line. South Coast AQMD must implement all feasible measures to meet health-protective air quality standards. Failure to do so would jeopardize public health and invite severe Federal sanctions for our continued violations of the Clean Air Act.

For these reasons, we urge you to keep the proposed amendments to Rule 1111 and 1121 on track for passage in February.

Sincerely,

Chris Chavez
Deputy Policy Director

Response to Comment Letter #55:

Response to Comment 55-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #56: SEAN ARMSTRONG

From: Sean Armstrong <[redacted]>
Sent: Wednesday, December 11, 2024 4:49 PM
To: Peter Campbell <[redacted]>
Cc: Melissa Yu <[redacted]>; CA Building Decarbonization <[redacted]>; San Diego Building Electrification Coalition <[redacted]>
Subject: [EXTERNAL] Comment Letter to SCAQMD re: Affordable Housing support for rules 1111 and 1121

Dear Peter Campbell,

It is not commonly known that:

1. Nationally Affordable Housing essentially began the modern building electrification movement in 2007, when the USDA Rural Development Division began funding hundreds of houses and apartments each year that competitively scored only if they developed all-electric housing with heat pumps. In California, again it has been affordable housing that developed the supermajority of all-electric housing until 2020, when it became popular with utilities and embraced by the CEC's Title 24 Code. 56-1

2. Affordable Housing developers have shown me that when replacing an old 50 gallon gas tank water heater, a new $900 Ultra Low NOx tank is $200 more expensive than a $700 No NOx electric resistance tank. In California electric resistance water heating is operationally more expensive than gas (but not so in other states), so an $1860 No NOx heat pump tank eliminates that concern. It costs $300,000 to $800,000 per apartment to purchase a building, so the additional $1000 marginal cost of using a heat pump is a de minimus (0.3% to 0.12%) financial impact to the ownership cost of a building. 56-2

3. Replacing an old gas wall furnace with a new one is more expensive than removing it in favor of a new packaged heat pump. An Energy Star, $550 packaged heat pump can be installed in a window in under an hour, or in a wall in 3 hours, and also provide life-saving air conditioning. However, a least-cost, apartment-standard $900 gas wall furnace requires 4+ hours to safely remove, replace and test for combustion safety. 56-3

In short, the circumstances that face affordable housing developers has led them to build and retrofit to all-electric to simply save money. With the addition of tax credits and rebates, it makes no financial sense to install gas replacements to gas appliances. Resistance to change is the reason that some developers oppose new, desperately needed air quality regulations, not information derived from a depth of experience and cost comparisons. 56-4

Sincerely,
Sean Armstrong
Managing Principal
Redwood Energy

Response to Comment Letter #56:

Response to Comment 56-1:

Staff appreciates the comments and information provided about affordable housing.

Response to Comment 56-2:

Staff agrees that although zero-emission water heating appliances may have a higher upfront cost, the cost of operating a zero-emission appliance, specifically highly efficient heat pumps, can be lower than the cost of operating a NOx-emitting appliance. For more information regarding affordability, please refer to Response to General Comment 2.

Response to Comment 56-3:

Staff appreciates the comments and information provided about retrofitting a wall furnace with a packaged heat pump.

Response to Comment 56-4:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #57: BREATHE SOUTHERN CALIFORNIA

BREATHE SOUTHERN CALIFORNIA

BreatheSoCal.org
5858 Wilshire Blvd., Suite 300
Los Angeles, CA 90036
P: (323) 935-8050
F: (323) 935-1873

December 11, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

On behalf of Breathe Southern California, we write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February. 57-1

We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

Marc Carrel
President and CEO
Breathe Southern California

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

Breathe Easier.™

Response to Comment Letter #57:

Response to Comment 57-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #58: CALIFORNIA ENVIRONMENTAL VOTERS

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

58-1

Dear Mr. Krause and Ms. Farr:

California Environmental Voters represents over 135,000 members, with a mission to protect and enhance the environment and the health of all California communities by electing environmental champions, advancing critical priorities, and holding policy makers accountable. As such, EnviroVoters is committed to rules that champion a transition away from polluting appliances in the interest of public health and climate change.

California Environmental Voters is in strong support of South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

The adoption of this rule is necessary to transition households and businesses away from appliances with known health harms. South Coast residents face a significant air pollution burden– tackling NOx emissions will decrease formation of ozone and PM 2.5 in parallel, and is critical in meeting South Coast's climate goals.

We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be extremely helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

Gracyna Mohabir
Clean Air & Energy Regulatory Advocate

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

Response to Comment Letter #58:

Response to Comment 58-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #59: PACIFIC ENVIRONMENT

PACIFIC ENVIRONMENT

December 12, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr: 59-1

On behalf of Pacific Environment, I write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121.

Pacific Environment is a 501(c)(3) public-benefit corporation, headquartered in San Francisco, with regional offices in Anchorage, Alaska, and Chongqing, China. Founded in 1987, Pacific Environment protects people, wildlife, and ecosystems by promoting grassroots activism, strengthening communities, leading strategic campaigns, and reforming international policies. Pacific Environment has earned rare permanent consultative status at the International Maritime Organization (IMO), the United Nations' entity that sets international shipping law. As a member of the Trade, Health, and Equity (T.H.E.) Impact Project, we collaborate with community-based organizations, eNGOs, and environmental lawyers in the South Coast to reduce emissions from polluting freight and logistic operations that threaten the livelihoods of frontline communities.

This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

The South Coast air basin has been in nonattainment with federal Clean Air Act standards for over two decades, yet we still lack regulations that will get us there and drive the adoption of zero-emission technologies. Other sectors like the San Pedro Bay Ports remain responsible for over 100 tons of nitrogen oxide (NOx) emissions per day; however, there is hope that we can achieve the necessary reductions. Regulatory measures from the South Coast AQMD, like the amendments to Rules 1111 and 1121 and the Indirect Source Rule (ISR) for Marine Ports promise much needed emission reductions and are within the district's jurisdiction to tackle.

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

PACIFIC ENVIRONMENT

59-1

Unfortunately, due to the same repeated objections and unsupported claims from the fossil fuel industry, we have seen delays to these life-saving regulations. We need strong regulations to address these sectors and ensure emission reductions that will get us closer to attainment of federal air quality standards. The South Coast AQMD must stand firm against industry pressure and continue its efforts to enforce regulations that safeguard public health and the environment.

Pacific Environment is pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

Cristhian Tapia-Delgado
Climate Campaigner, Southern California
Pacific Environment

Response to Comment Letter #59:

Response to Comment 59-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #60: MOVE LA

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121
Cc: Yessenia Moreno – ymoreno@earthjustice.org

Dear Mr. Krause and Ms. Farr:

60-1

On behalf of Move LA, we write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

Move LA builds broad-based coalitions amongst diverse stakeholders seeking bold solutions to the region's biggest challenges—i.e., mobility, affordable housing, air quality, homelessness, and climate change. Move LA advocates for the development of a transportation and goods movement system for Los Angeles County that is zero-emission, that includes of commercial and industrial buildings. We fight for policies to ensure prosperous and healthy neighborhoods free of pollution where people of all ages and incomes can live, work, and thrive.

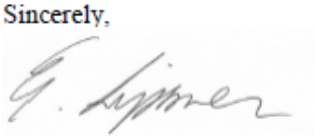
We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,



Eli Lipmen
Executive Director
Move LA
www.movela.org
Eli@movela.org

Response to Comment Letter #60:

Response to Comment 60-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #61: SIERRA CLUB

December 13, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: SUPPORT for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

61-1

The Sierra Club Angeles Chapter is writing to voice our strong support of Proposed Amended Rules (PAR) 1111 and 1121 to set a zero-NO_x emission limit on gas-powered furnaces and water heaters. With over 33,000 members in Los Angeles and Orange Counties, one issue that impacts our members regardless of where they live, work, or income is that we are all affected by the poor air quality in the region.

We are seeking your leadership to apply zero-NO_x standards on furnaces and water heaters, which is critical for meeting National Ambient Air Quality Standards (NAAQS) and a way to achieve the required nitrogen oxide (NO_x) reductions identified in the 2022 Air Quality Management Plan (AQMP). Understanding that residential gas-burning equipment alone emits more NOx pollution than all the region's cement production and power generation combined should add urgency to act and support these rules that over time will target and transition more than 10 million methane-burning furnaces and water heaters.

Our staff, volunteers, and community members have been involved in the process of the proposed amendment of these rules for over a year and we strongly believe that these are reasonable rules. We appreciate staffs engaging working group meetings and discussions where feedback has been provided to ensure a rule works for everyone AND is tackling the poor air quality issue we experience.

These rules are ready. The Go Zero Rebate program is also laying a path forward for stronger success for these rules, including funding for additional outreach, ongoing investments in building and developing the workforce, and funding for rebates ahead of the rules compliance dates. The Go Zero Program will continue to drive the market signal and advance technology, which already exists. Additionally, a technology check-in for June 2027 has been added through the rule-making process which will help share the success of the rules and inform the increased market of technology available in the next few years.

61-1

Energy-efficient heat pumps offer solutions that provide additional significant benefits, such as reduced greenhouse gas emissions and increased access to efficient cooling and air filtration during extreme heat and wildfire events, which are intensified and frequent year after year. The staff has consistently reaffirmed that technology to support this transition exists today and that these measures are feasible, even inviting contractors to present during working group meetings. We have seen heat pumps outsell gas furnaces in the United States for the last two years and a 35% year-over-year growth in the heat pump water heater market last year as well.

The proposal to move these equipment categories to zero-NO_x alternatives is key to meeting the goals in the 2022 AQMP. We support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February. Staff has done great work gathering feedback on achievable compliance dates and supporting an equitable transition. The District must stay the course to deliver on the promise of the 2022 AQMP.

Sincerely,

Kim Orbe
Senior Conservation Program Manager
Sierra Club, Angeles Chapter

Response to Comment Letter #61:

Response to Comment 61-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #62: LA FORWARD INSTITUTE

December 12, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr: 62-1

On behalf of LA Forward Institute, I write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."

Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is key, so we can work on the important aspects of actually transitioning away from combustion in our homes.

62-1

LA Forward Institute is a multiracial, cross-class, intergenerational community of Angelenos who work for policies that will make our region a fair, flourishing place for everyone. Our civic education, community organizing, and policy advocacy work engages hundreds of thousands of people across Los Angeles County. Addressing air pollution and climate change in a real and comprehensive way is a top interest of our members and the people we engage.

Thank you for your consideration of this important matter.

Sincerely,

David Levitus, Ph.D.
Executive Director
LA Forward Institute

Response to Comment Letter #62:

Response to Comment 62-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #63: DAY ONE

day one

175 n. euclid ave. pasadena, ca 91101
p 626.229.9750 f 626.765.6239
www.goDayOne.org

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executive director crime stoppers

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lead staff
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environmental prevention services
director

jennifer jimenez
community prevention programs
director

alisha lopez
tobacco control and prevention
director

ashley mercado
special projects director

colin bogart
active transportation
director

December 13, 2024

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr: 63-1

On behalf of Day One, we write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades.

The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people.

We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to take swift action to safeguard the health and wellness of California residents.

We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

Christy Zamani,
Executive Director. Day One, Inc.

Response to Comment Letter #63:

Response to Comment 63-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #64: EARTHJUSTICE

EARTHJUSTICE

Michael Krause
Assistant Deputy Executive Officer for Planning, Rule Development & Implementation
Heather Farr
Planning & Rules Manager
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

64-1

On behalf of Earthjustice, we write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. By your own estimates, 10 tons of NOx per day could be avoided once the rules are implemented. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero-emission technologies across all stationary and mobile sources."[1]

We cannot overstate the public health benefits of eliminating these dangerous NOx emissions from buildings. NOx emissions are the precursor to ozone pollution and "secondary" $PM_{2.5}$ pollution—harmful pollutants known to trigger respiratory illness and cardiovascular disease, cognitive impairment, and premature death.[2] Eliminating the pollution from these appliances could help avoid the nearly 76,000 asthma attacks, 30,000 lost school days, 130 premature deaths annually estimated to result from methane gas-burning equipment currently prevalent in our buildings.[3] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people.

It is important to understand that these rules are not new; they are the result of years of work. The Air District included this control measure in its 2022 AQMP. The development of that plan involved a public process that lasted over three years and included various outreach activities, such as specialized working groups, regional workshops, public hearings, and the convening of an Advisory Council. Additionally, policy briefs were released on key topics, including one focused on emissions from building appliances.

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.
[2] Coalition for Clean Air and RMI, *Southern California's Hidden Air Pollution Problem: Gas Furnaces & Water Heaters* (December 2024); https://www.ccair.org/wp-content/uploads/2024/12/South-Coast-Brief.pdf
[3] Id

CALIFORNIA OFFICE 707 WILSHIRE BLVD., SUITE 4300 LOS ANGELES, CA 90017
T: 213.766.1059 F: 213.403.4822 CAOFFICE@EARTHJUSTICE.ORG WWW.EARTHJUSTICE.ORG

64-1

To further address appliance issues, a specific subgroup on this topic was created during the development of the 2022 AQMP. The rulemaking process for Proposed Amended Rules 1111 and 1121 has been occurring over 14 months and counting. This process included seven working group meetings, a public workshop, and numerous meetings with stakeholders, such as building owners, manufacturers, environmental groups, and energy providers.

Despite this extensive rulemaking process, some stakeholders critical of the regulation have only raised their concerns with the South Coast AQMD in recent months. These late comments have led staff to conduct additional analyses, provide further responses, and, in some cases, suggest modifications to these important rule amendments. As a result, staff have proposed solutions that we may not fully agree with, but we acknowledge that they arise from genuine efforts by staff to address the criticisms regarding the zero-NOx standards.

While we are deeply concerned that the proposal is being weakened by delaying compliance deadlines and offering unnecessary loopholes, rule passage is of paramount importance. It is vital these rules go to the Governing Board in February of 2025 for final adoption. The built-in technology review offers a clear inflection point to strengthen the rules with an implementation track record to inform improvements.

To help with implementation of the rule, we remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will help hasten the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives. We also encourage the South Coast AQMD Board to convene stakeholders to work together to bring more resources to the South Coast Air Basin. Earthjustice wants to work with the Governing Board and your staff to alleviate obstacles to removing combustion of fossil fuels from our homes.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

Fernando Gaytan
Earthjustice

Response to Comment Letter #64:

Response to Comment 64-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #65: PATRICIA PIPKIN

TO:
Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr: 65-1

I am writing to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1]

Given the serious pollution in our region, the health gains from advancing zero-emissions technology are desperately needed by millions of people. Therefore, it is vital that these rules go to the Governing Board in a strong form and be adopted in February.

The sooner these rules are adopted, the sooner we can begin the process of transitioning away from combustion in our homes.

Sincerely,

Patricia Pipkin
1825 Vistillas Rd.
Altadena, CA 91001
pipkin@earthlink.net

c: Yessenia Moreno, Earthjustice

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

Response to Comment Letter #65:

Response to Comment 65-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #66: SUSTAINABLE CLAREMONT

SUSTAINABLE CLAREMONT PO Box 1502 | Claremont, CA 91711

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

66-1

On behalf of Sustainable Claremont, we write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

Stuart Wood PhD
Executive Director
Sustainable Claremont

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

Response to Comment Letter #66:

Response to Comment 66-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #67: LOS ANGELES NEIGHBORHOOD LAND TRUST

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

67-1

On behalf of the Los Angeles Neighborhood Land Trust (LANLT), we strongly support the South Coast AQMD's efforts to address appliance pollution through amendments to Rules 1111 and 1121. This regulatory package represents an unprecedented opportunity to achieve significant emissions reductions—aligning with the 2022 Air Quality Management Plan's call for zero-emission technologies across all sources. However, we are concerned about delays and loopholes that may weaken this proposal. To prioritize the health and well-being of millions of residents in the South Coast Air Basin, swift action is needed to finalize a strong rule by February.

As an organization dedicated to creating and enhancing green spaces in underserved communities, we see firsthand the devastating impacts of air pollution on public health, particularly in areas disproportionately burdened by environmental injustices. Cleaner air means healthier communities, where children can play safely and residents can enjoy outdoor spaces without harm.

We commend the AQMD's Go Zero program and the proposed increase in funding from $21 million to $100 million for zero-emission incentives. These resources are crucial to advancing equitable access to cleaner technologies, particularly for disadvantaged communities. It is vital the Board endorse this commitment to ensure $100 million goes towards these incentives.

LANLT appreciates the South Coast AQMD staff's dedication and urges swift adoption of these amendments to continue building resilient, healthy communities across Los Angeles.

Sincerely,

Tori Kjer
Executive Director
Los Angeles Neighborhood Land Trust

Response to Comment Letter #67:

Response to Comment 67-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #68: JOBS TO MOVE AMERICA

JOBS TO MOVE AMERICA
PUBLIC GOODS FOR THE MOST PUBLIC GOOD

BOARD OF DIRECTORS

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Joe DiMichele
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Scott Douglas
Exec. Director, Greater Birmingham Ministries

Cecilia Estolano
CEO and Founder, Estolano Advisors

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Xinge Wang
Deputy Director, Transportation Learning Center

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DEPUTY DIRECTOR

Miranda Nelson

December 13, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765

Dear Mr. Krause and Ms. Farr:

68-1

On behalf of Jobs to Move America, we write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve significant emissions reductions and spur manufacturers to create a new generation of zero-emission furnaces and water heaters. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution across the region, these regulatory amendments will bring real health gains and more clean manufacturing jobs by advancing zero-emissions when good "high-road" jobs are desperately needed. Our concern however is the proposal to weaken these rules through delaying compliance deadlines and loopholes. We encourage staff to see these efforts as what they are, a ploy to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board without loopholes or delays and be adopted in February.

There is no need to slow the progress of these rules when we no longer have to choose between creating "high road" jobs and reducing pollution from buildings. The current move to zero-emissions is being embraced by manufacturers as evident in the multiple stakeholder meetings, and the conversation is no longer if, but when our buildings become decarbonized. It is in these conversations that we must continue the call for a better class of jobs in the clean energy transition. Any concerns from the furnace and heater supply chain in meeting these goals should be met with collaboration and creativity, especially when workers are on the front lines, manufacturing, selling, installing and maintaining these new technologies.

We remain pleased to see the South Coast AQMD's Go Zero

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

California Illinois New York/New Jersey Alabama

525 S. Hewitt St, Los Angeles, CA 90013 | 213.358.6548 | info@jobstomoveamerica.org | jobstomoveamerica.org

68-1

program take form. These incentives will be really helpful up-grading buildings' with new zero-emission technologies. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. We'd like to see the Board endorse this commitment with a resolution to ensure the over $100 million will go towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121 and your consideration of the points made in this letter. Wrapping up this rulemaking process as soon as possible is our hope, and we look forward to working on the important aspects of reducing pollution in our homes and increasing workers protections at our jobs.

Sincerely,

Jasmin Vargas
CA Senior Organizer,
Jobs to Move America

California Illinois New York/New Jersey Alabama

525 S. Hewitt St, Los Angeles, CA 90013 | 213.358.6548 | info@jobstomoveamerica.org | jobstomoveamerica.org

Response to Comment Letter #68:

Response to Comment 68-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 which explains the need for the rule amendments and financial incentives.

COMMENT LETTER #69: COMMUNITIES FOR A BETTER ENVIRONMENT (CBE)

12/13/2024

COMMUNITIES FOR A BETTER ENVIRONMENT established 1978

Mr. Krause and Ms. Farr
South Coast Air Quality Management District
(South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr: 69-1

On behalf of Communities for a Better Environment (CBE), we support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed package achieves major and crucial air pollution reductions, necessary to meet health standards in a region with the worst air pollution in the nation.

This effort toward zero emission energy sources was found in the 2022 Air Quality Management Plan (AQMP) as the *only* way to meet health standards in the region, as you know. We need to further expand on this approach, and not step backward.

We are deeply concerned the proposal could be weakened or delayed, and we urge staff to reject such efforts that would reduce rule efficacy. These rules need to go to the Governing Board in a strong form, and adopted in February.

We are pleased that AQMD's Go Zero program incentives are continuing to speed up the transition away from combustion in buildings. We understand that AQMD's Executive Officer committed to a 5-fold increase in the $21 million allocated to this program, another vitally important issue needing Board endorsement.

Thank you for your significant work on proposed amendments to Rules 1111 and 1121. Wrapping up rulemaking as soon as possible is essential toward transitioning away combustion in our homes.

Sincerely,

Julia May
Communities for a Better Environment (CBE)

Response to Comment Letter #69:

Response to Comment 69-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #70: CLIMATE ACTION CAMPAIGN

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
December 13, 2024
Via Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr: 70-1

On behalf of Climate Action Campaign, we write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

Air pollution remains a significant threat in the South Coast region, where the dense population and high levels of industrial activity combine to create some of the worst air quality in the nation. The region frequently fails to meet federal and state air quality standards for pollutants like nitrogen oxides (NOx) and particulate matter (PM), both of which are harmful to public health. Appliance pollution, particularly from gas-fired furnaces, water heaters, and stoves, is a major contributor to these emissions. By transitioning to zero-emissions technologies, we can dramatically reduce harmful pollutants that cause respiratory issues, heart disease, and other chronic health conditions. The impacts of appliance pollution are felt most acutely by vulnerable populations, including low-income communities and communities of color, who disproportionately live near sources of pollution and experience higher rates of asthma, lung disease, and other related illnesses. Strengthening the proposed amendments to Rules 1111 and 1121 will ensure that we take meaningful steps to protect public health and achieve the necessary air quality improvements.

We are pleased to see the South Coast AQMD's Go Zero program take form. These

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

70-1

incentives will help hasten the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a five-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

David Martinez
Orange County Climate Equity Advocate and Organizer
Climate Action Campaign

Response to Comment Letter #70:

Response to Comment 70-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #71: CENTER FOR COMMUNITY ACTION AND ENVIRONMENTAL JUSTICE (CCAEJ)

CENTER FOR COMMUNITY ACTION AND ENVIRONMENTAL JUSTICE
"Bringing People Together to Improve Our Social and Natural Environment"

December 13, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr: 71-1

I am writing on behalf of the Center for Community Action and Environmental Justice (CCAEJ) to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

As an organization which works in communities facing some of the worst air quality in the nation, CCAEJ is strongly in support of these efforts to address the largest single source of pollution in the region. These rules will be instrumental to clearing the air and saving lives and we look forward to seeing families, friends, and neighbors living fuller lives for longer.

We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure the full $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

Marven E. Norman, MPA
Policy Coordinator

CCAEJ is a long-standing community based organization with over 40 years of experience advocating for stronger regulations through strategic campaigns and building a base of community power. Most notably, CCAEJ's founder Penny Newman won a landmark federal case against Stringfellow Construction which resulted in the "Stringfellow Acid Pits" being declared one of the first Superfund sites in the nation. ***CCAEJ*** prioritizes community voices as we continue our grassroots efforts to bring lasting environmental justice to the Inland Valley Region.

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

Mailing Address
PO Box 33124
Jurupa Valley, CA 92519
www.ccaej.org

Response to Comment Letter #71:

Response to Comment 71-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #72: GLENDALE ENVIRONMENTAL COALITION

Glendale Environmental Coalition

December 12, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

72-1

The Glendale Environmental Coalition supports the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. It is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We strongly urge staff to reject efforts to delay compliance, or create loopholes that reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

Preventing the installation of new gas-powered equipment in the basin is a crucial step in transitioning from a gas-based economy to one that is sustainable and that supports a livable future. Adding new equipment that emits nitrogen oxides and other harmful air pollutants is counterproductive and incompatible with the SCAQMD's goals of achieving meaningful emissions reductions.

We support the SCAQMD's Go Zero Program, and urge the Board to issue a resolution providing for $100 million to go toward these incentives. And, we urge the SCAQMD to wrap up the rulemaking process as soon as possible to allow the work of transitioning away from combustion in our homes to proceed!

Sincerely,

Elise Kalfayan, Board Member
Glendale Environmental Coalition

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

Response to Comment Letter #72:

Response to Comment 72-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #73: LEAGUE OF WOMEN VOTES OF LOS ANGELES COUNTY

An Inter-League organization: Beach Cities • East San Gabriel Valley • Long Beach Area • Greater Los Angeles
Mt. Baldy Area • Palos Verdes Peninsula/San Pedro • Pasadena Area • Santa Monica • Torrance Area • Whittier

10011 Melgar Drive, Whittier, CA 90603

December 13, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr: 73-1

On behalf of the League of Women Voters of Los Angeles County, I am writing to express support for the South Coast AQMD's efforts to reduce appliance pollution through amending Rules 1111 and 1121. These proposed amendments represent a historic opportunity to achieve critical emissions reductions in alignment with the 2022 Air Quality Management Plan (AQMP), which concluded that "[t]he only way to achieve the required NOx reductions is through extensive use of zero-emission technologies across all stationary and mobile sources." In a region facing severe pollution, these health and environmental benefits are urgently needed by millions of residents.

The League of Women Voters has long supported policies and actions promoting the electrification of appliances and vehicles to meet the California Renewable Portfolio Standards. Specifically, the League's **Climate Action Policy** advocates for:

- Mandating all-electric appliances in new construction for homes, offices, and commercial properties;
- Retrofits of municipal and county buildings to rely exclusively on renewable energy; and
- Incentives to retrofit private structures for renewable energy supply and energy efficiency.

We appreciate the inclusion of the Go Zero program, which aligns with these goals. Increasing its funding from $21 million to $100 million is critical to support an equitable and timely transition away from combustion in buildings. We urge the Governing Board to endorse this commitment via resolution to ensure its realization.

We are deeply concerned, however, about efforts to weaken the proposal through delayed compliance deadlines and loopholes. To meet the region's health and climate goals, it is vital that Rules 1111 and 1121 go to the Governing Board in February 2025 in their strongest form, without compromises that undermine their efficacy.

The League of Women Voters, a nonpartisan political organization, encourages informed and active participation in government, works to increase understanding of major public policy issues, and influences public policy through education and advocacy.

73-1

Finally, we urge South Coast AQMD to prioritize equity in implementation, ensuring that low-income and underserved communities can access the benefits of cleaner air and improved infrastructure.

We commend AQMD staff for their diligent work on these amendments and encourage swift action to finalize this process. A clear and decisive timeline for rulemaking and implementation will be critical to accelerating the transition to zero-emission technologies.

Respectfully,

Margo A. Reeg

Margo A. Reeg
President
League of Women Voters of Los Angeles County
10011 Melgar Drive
Whittier, CA, 90603
Email: margolwv@gmail.com

The League of Women Voters, a nonpartisan political organization, encourages informed and active participation in government, works to increase understanding of major public policy issues, and influences public policy through education and advocacy.

Response to Comment Letter #73:

Response to Comment 73-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #84: WEST LONG BEACH ASSOCIATION

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765

Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr: 74-1

On behalf of West Long Beach Association, we write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

The time is now to put human beings lives first by removing all sources of negative health impacts instated of profit margins. Industry must no longer be able to hide industries murderous deeds with in weak rules. At some point the board becomes complicit in industries action. Study after study shows the harm NOx is doing to communities and yet you are reluctant to move forward with the resolve to move forward to save human lives. Your own reports have shown the results of NOx pollution are catastrophic, people are dying as a result. The fact is more people are dying from pollution in Los Angeles county than the homicide rate per year in any of the past five years. These reports and other are not read and file, but to read, file and take the accurate action to eliminate their soure or sources of pollution.

[We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in hastening the transition away from combustion in our

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

74-1

buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of transitioning away from combustion in our homes.

Sincerely,

Theral Golden
Treasurer
West Long Beach Association]

Response to Comment Letter #74:

Response to Comment 74-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #75: DEL AMO ACTION COMMITTEE

Staff
Cynthia Babich
Director

Board of Directors
Florence Gharibian
Board Chair

Jan Kalani
Board Member
Homeowner/Resident

Bruce Bansen
Board Member
Homeowner/Resident

Cynthia Medina
Board Member
Homeowner/Resident

Bryan Castro
Board Member

Emeritus Board
Lizabeth Blanco
Homeowner/Resident

In Memoriam
Nick Blanco
Homeowner/Resident

Barbara Stockwell
Homeowner

Brenda Bibee
Board Member

Valerie Medina
Board Member
Resident

Lydia Valdez
Board Member
Homeowner/Resident

December 13, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

75-1

On behalf of Del Amo Action Committee we write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that the only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources. Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

Times have changed and protections must change to meet the needed protections.

We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,
Cynthia Babich
Director
Del Amo Action Committee

967 Torrance Blvd., Torrance, California 90502
P. O. Box 549, Rosamond, California 93560
Office: 661-256-7144 Cell: 310-769-4813

Response to Comment Letter #75:

Response to Comment 75-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #76: CENTER FOR BIOLOGICAL DIVERSITY

December 13th, 2024

Sent via email

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

76-1

The Center for Biological Diversity supports the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.7 million members and online activists throughout California and the United States. The Center and its members have worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life in Contra Costa County and the surrounding region.

Air quality is a significant environmental and public health concern in California. Unhealthy, polluted air contributes to and exacerbates many diseases and increases mortality rates. The U.S. government has estimated that between 10 to 12 percent of total health costs can be attributed to air pollution. (VCAPCD 2003.) Greenhouse gases, such as the air pollutant carbon dioxide, which is released by fossil fuel combustion, contribute directly to human-induced climate change (EPA 2016), and in a positive feedback loop, poor air quality that contributes to climate change will in turn worsen the impacts of climate change and attendant air pollution. (BAAQMD 2016.)

Air pollution and its impacts are felt most heavily by young children, the elderly,

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

76-1

pregnant women and people with existing heart and lung disease. People living in poverty are also more susceptible to air pollution as they are less able to relocate to less polluted areas, and their homes and places of work are more likely to be located near sources of pollution, such as freeways or ports, as these areas are more affordable. (ALA 2022.) Some of the nation's most polluted counties are in Southern California, and San Bernadino County continually tops the list. (ALA 2022.) According to the American Lung Association's 2022 "State of the Air" report, San Bernadino County is the ninth-worst ranked county in the state for both ozone pollution and year-round particulate matter (PM2.5) pollution, with a "Fail" grade and an average number of 180 days per year with ozone levels in the unhealthy range. (Id.)

We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in reducing combustion-related pollution in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

Elizabeth Reid-Wainscoat
Campaigner
Center for Biological Diversity
ereidwainscoat@biologicaldiversity.org

Response to Comment Letter #76:

Response to Comment 76-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #77: HEALING AND JUSTICE CENTER

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

RE: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr:

77-1

On behalf of **Healing and Justice Center**, we write to support the South Coast AQMD's efforts to clean up appliance pollution through amending Rules 1111 and 1121. This proposed regulatory package will achieve more emissions reductions than any other effort passed in over three decades. The effort is also consistent with the 2022 Air Quality Management Plan (AQMP), which determined that "[t]he only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources."[1] Given the serious pollution in this region, these health gains from advancing zero-emissions are desperately needed for millions of people. We are deeply concerned that the proposal is getting weakened through delaying compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy of the rule. It is vital that these rules go to the Governing Board in a strong form and be adopted in February.

The Healing and Justice Center (HJC) is a worker self-directed nonprofit dedicated to fostering collective healing and justice for BIPOC (Black, Indigenous, and People of Color) individuals, communities, and organizations. Our mission is to create safe, connected spaces where community members can access healing-centered strategies that address the physical, mental, and emotional impacts of systemic oppression. Our advocacy efforts focus on dismantling cycles of trauma and burnout through transformative healing justice models. We believe that sustainable social justice requires holistic practices that uplift communities from survival to thriving.

HJC recognizes the clear and vital intersection between environmental justice, housing stability, and the health and well-being of community residents. Pollution in residential areas disproportionately impacts vulnerable communities, often exacerbating health disparities for those already affected by housing insecurity. Our organization is deeply committed to supporting

[1] South Coast AQMD, 2022 AQMP, at Executive Summary.

Info@HealingAndJusticeCenter.org | www.HealingAndJusticeCenter.org

77-1

policy changes that reduce environmental burdens on communities of color, ensure safe and healthy housing, and promote the overall well-being of residents. The proposed amendments to South Coast AQMD Rules 1111 and 1121 present an essential opportunity to reduce pollution at its source and ensure that all residents, particularly those in historically underserved neighborhoods, have access to healthier living environments. The adoption of these rules in their strongest form would support our shared vision of healthy, resilient, and just communities where every person can thrive.

We remain pleased to see the South Coast AQMD's Go Zero program take form. These incentives will be really helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital the Board endorse this commitment via resolution to ensure $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121. Wrapping up this rulemaking process as soon as possible is vital, so we can work on the important aspects of actually transitioning away from combustion in our homes.

Sincerely,

Jorge Rivera

Jorge Rivera
Executive Co-Director
Healing and Justice Center

Response to Comment Letter #77:

Response to Comment 77-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #78: CENTER FOR PROGRESSIE REFORM

Center for Progressive Reform

December 13, 2024

Mr. Krause and Ms. Farr
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765

Re: Support for Proposed Amended Rules 1111 and 1121

Dear Mr. Krause and Ms. Farr: 78-1

My name is Catalina Gonzalez. I am a Los Angeles County resident and a Senior Policy Analyst at the Center for Progressive Reform; we are a nonprofit research and advocacy organization guided by a network of legal scholars and staff with expertise in governance and regulation. On behalf of the Center, I am writing to express our support for the South Coast AQMD's efforts to reduce appliance pollution and, in particular, for amending Rule 1111 and 1121. This proposed regulatory package is consistent with the 2022 Air Quality Management Plan (AQMP) and will achieve more emissions reductions than any other effort passed in over three decades.

On a daily basis, a population of approximately 17 million residents in the South Coast Air Basin are exposed to the most polluted air in the nation, with the highest rankings of smog and particulate matter. This pollution disproportionately impacts environmental justice communities who are primarily low-income communities of color and children. Adopting and implementing standards or zero-NOx water heaters and furnaces under Rules 1111 and 1121 is the next critical step that is needed to begin the process of reducing pollution that will bring health and air quality benefits to millions in the South Coast Air Basin.

We are deeply concerned that the proposal is getting weakened due to delays in compliance deadlines and many loopholes. We encourage staff to reject these efforts to reduce the efficacy

78-1

of the rule. It is vital that the strongest possible version of these rules go to the Governing Board and be adopted in February.

We believe a combination of policy tools and strategies will be needed to achieve the level of pollution and emission reductions needed to protect public health, and we are pleased to see the South Coast AQMD's Go Zero program take form. In combination with zero-Nox standards, these incentives will be helpful in hastening the transition away from combustion in our buildings. It is our understanding that the South Coast AQMD's Executive Officer has committed to a 5-fold increase in the $21 million allocated to this program. It is vital that the Board endorse this commitment via resolution to ensure that $100 million goes towards these incentives.

We appreciate AQMD staff's significant work on these proposed amendments to Rules 1111 and 1121 and urge AQMD to adopt and implement strong rules without delay.

Sincerely,

Catalina Gonzalez
Senior Policy Analyst
Center for Progressive Reform

Response to Comment Letter #78:

Response to Comment 78-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #79: LAKE ELSINORE CITY COUNCIL

CITY OF LAKE ELSINORE
DREAM EXTREME

December 13, 2024

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: Opposition to Amendments to Rules 1111 and 1121 Banning Natural Gas as an Energy Option

Dear Coalition Members, 79-1

On behalf of the Lake Elsinore City Council, I am writing to express our *opposition* to the proposed amendments to Rules 1111 and 1121, which would effectively ban natural gas as an energy option. While we recognize and appreciate California's ambitious efforts to combat climate change, including initiatives similar to Senate Bill 100 (2018), removing natural gas from the energy mix is neither practical nor sustainable at this time. Such a policy would have far-reaching consequences, including significantly higher electricity costs for residents and businesses across the state.

The proposed requirement to replace old furnaces and water heaters exclusively with zero-emission alternatives by 2030 presents significant challenges. Natural gas remains a critical component of California's energy landscape, with consumption far exceeding that of other energy resources and renewables. Mandating such a shift would impose undue financial burdens on homeowners and businesses, particularly during emergency repairs to restore essential services like hot water or heating.
Even with proposed incentives, the funding caps would leave a substantial gap between the actual costs and available assistance, disproportionately affecting vulnerable populations, including seniors, low-income families, and small businesses.

In Lake Elsinore, where approximately 11% of our population lives below the poverty line, these policies could result in many residents going without hot water or adequate heating and cooling, particularly during extreme weather conditions. This would seriously harm their quality of life, health, and safety. Moreover, the limited funding for end-user incentives, supply chain issues, and delays in electric equipment availability present further challenges. We also note that the Southern California Gas Company, a leading provider of natural gas in the state, actively supports California's efforts to meet federal air quality standards, decarbonization goals, and net-zero targets.

951.674.3124
130 S. Main Street
Lake Elsinore, CA 92530
www.lake-elsinore.org

79-1

They are working on innovative solutions to deliver clean, reliable, and affordable energy to residents and businesses. In light of these concerns, we urge you to reconsider the amendments to Rules 1111 and 1121. Policies that force an abrupt transition away from natural gas without addressing the associated costs, infrastructure challenges, and equity impacts will create significant hardships for our community and beyond. Thank you for your consideration.

Sincerely,

Brian Tisdale, Mayor
City of Lake Elsinore

cc: Bob McGee, Mayor Pro Tem
Natasha Johnson, Council Member
Timothy J. Sheridan, Council Member
Jason Simpson, City Manager
Barbara Leibold, City Attorney

951.674.3124
130 S. Main Street
Lake Elsinore, CA 92530
www.lake-elsinore.org

Response to Comment Letter #79:

Response to Comment 79-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For information regarding sustainability of utility demands, please refer to Response to General Comment 3. For information regarding cost and affordability, please refer to Response to General Comment 2. For the need for rule amendments, please refer to Response to General Comment 10.

COMMENT LETTER #80: ORANGE COUNTY BUSINESS COUNCIL (OCBC)

ORANGE COUNTY BUSINESS COUNCIL
2 Park Plaza, Suite 100, Irvine, CA 92614 | P 949.476.2242 | F 949.476.0443 | www.ocbc.org

December 18, 2024

South Coast Air Quality Management District Governing Board
21865 Copley Drive
Diamond Bar, CA 91765

Re: OCBC's Oppositon to Proposed Amended Rules 1111 & 1121

Dear SCAQMD Board Members:

Orange County Business Council (OCBC), the leading voice of business in Orange County, is writing today to express our strong opposition to Proposed Amended Rules (PAR) 1111 & 1121, and respectfully request that the South Coast Air Quality Management District (SCAQMD) reconsider these burdensome and consequential amendments.

OCBC has long supported sustainable public and private infrastructure that protects public health, facilitates a well- educated public and workforce, and supports a robust economy – all while providing for reliable natural gas and electric transmission, distribution, and storage systems. Further, OCBC fully supports sufficient "green" and open space infrastructure projects that promote quality of life. However, considering what data and information is currently available, we have serious concerns regarding the potential implementation of PARs 1111 & 1121. The overall impact these PARs would have are costly and detrimental to businesses and residents throughout the district.

If these PARs are adopted in their current form, it could have a significantly negative impact on the housing market. This is already a point of contention for Orange County's resident workforce. Mandating building owners to refurbish their facilities to be in compliance with these regulations, especially when done at scale, will cost owners an excessive amount in costs – which will undoubtedly be passed down to renters. This comes at a time in which the cost of living is at an all-time high across the region. 80-1

These PARs will also have a significant impact on the hospitality industry – which is one of Orange County's most vibrant and diverse economic sectors. Many in the hospitality industry are still recovering from losses that were experienced during the lockdowns related to the COVID-19 pandemic. Adding expansive regulatory burdens, just a few years removed from the pandemic, could prove to be detrimental to a major sector of our local economy that is still recovering. 80-2

OCBC is strongly opposed to these burdensome and costly proposed amended rules and encourages you to reconsider in the interest of the region's economic well-being which we are all dependent upon. We will always support a comprehensive approach, with inclusive dialogue, to address the state's infrastructure needs. We will continue to work with government entities, such as SCAQMD, to ensure that the voice of Orange County's business community is engaged when discussing comprehensive infrastructure improvements – such as those being considered through PARs 1111 & 1121. Thank you for your time and consideration on this matter.

Sincerely,

Jeffrey Ball
President/CEO

THE LEADING VOICE OF BUSINESS IN ORANGE COUNTY

Response to Comment Letter #80:

Response to Comment 80-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

The new rule concept also revised the proposed applicability and will not expand to larger size spacing heating appliances typically installed at commercial facilities. The revised PAR 1111 and PAR 1121 will be applicable to residential-sized appliances and will have minimal impact to commercial and industrial properties.

For information regarding cost and affordability, please refer to Response to General Comment 2.

Response to Comment 80-2:

Please see above Response to Comment 80-1. In addition, space and water heating in hospitals are unlikely subject to PAR 1111 and PAR 1121. Instead, they may be subject to Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters, Small Boilers and Process Heaters which was adopted in June 2024 for zero-emission standards. Please refer to the Rule 1146.2 Public Hearing documents which include a staff report and socioeconomic impact assessment which contains an analysis related to costs. [(27)]

[(27)] http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2024/2024-Jun7-026.pdf?sfvrsn=6

COMMENT LETTER #81: HENRY ROGERS

From: [redacted] <[redacted]>
Sent: Wednesday, December 18, 2024 4:27 PM
To: Peter Campbell <[redacted]>
Subject: Contact Form

Contact Form

Name: Henry Rogers

Email: [redacted]

Phone: [redacted]

Message:
Re: Opposition to Proposed Amended Rules 1111 and 1121 Dear Honorable Committee Members: On behalf of the Harbor Association of Industry & Commerce (HAIC), I am writing to express our opposition to Proposed Amended Rules (PARs) 1111 and 1121, which would set NOx emissions limits at zero for residential and commercial space heating and residential water heating appliances. While HAIC supports efforts to improve air quality and reduce emissions, we have significant concerns about the potential impacts of these proposed amendments on our members and the broader community: 1. Cost Burden: The proposed rules would impose substantial costs on residents and businesses for appliance replacements and electrical upgrades. Many may struggle to afford these changes, particularly in disadvantaged communities. 2. Feasibility Concerns: The timeline for implementation may not allow sufficient time for the market to develop affordable and reliable zero-emission alternatives, potentially leading to supply chain issues and increased costs. 3. Grid Reliability: A rapid shift to all-electric appliances could strain the electrical grid, potentially compromising reliability and resilience. 4. Limited Alternatives: By effectively banning natural gas appliances, the rules may eliminate viable low-emission options, such as ultra-low NOx gas technologies or hydrogen-enriched systems. 5. Economic Impact: The rules could negatively impact businesses in our region, including those involved in natural gas distribution and appliance manufacturing/servicing. 6. Inadequate Cost-Effectiveness Analysis: We believe the cost-effectiveness calculations presented by SCAQMD staff require further scrutiny and transparency. We respectfully request that the Committee consider the following recommendations: 1. Extend the implementation timeline to allow for a more gradual transition. 2. Conduct a comprehensive economic impact study, including effects on low-income households and small businesses. 3. Explore a technology-neutral approach that allows for multiple pathways to emissions reduction. 4. Enhance incentive programs to assist with the costs of compliance. 5. Conduct additional public outreach to ensure all affected

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parties are fully informed. HAIC appreciates the opportunity to provide input on this important matter. We remain committed to working collaboratively with SCAQMD to achieve our shared goals of improved air quality and a thriving regional economy. Thank you for your consideration. Sincerely, Henry Rogers Executive Director Harbor Association of Industry & Commerce 81-11

Response to Comment Letter #81:

Response to Comment 81-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For information regarding cost and affordability, please refer to Response to General Comment 2.

Response to Comment 81-2:

Please refer to Response to General Comment 4 for information regarding technology readiness.

Response to Comment 81-3:

Please refer to Response to General Comment 3 for information regarding electricity demand and grid sustainability.

Response to Comment 81-4:

As mentioned in Chapter 2 of this report, Rule 1111 and Rule 1121 are fuel and technology neutral, meaning any technology that can meet the emission limits is compliant with the rules. With the new rule concept, consumers will be able to choose either zero-emission appliance options or NOx-emitting natural gas-fired appliance options in the market. Please refer to Response to General Comment 1 for consumer choice.

Response to Comment 81-5:

Staff is preparing a Draft Socioeconomic Impact Assessment which will be released for public review and comment at least 30 days prior to the Public Hearing for PAR 1111 and PAR 1121 scheduled for 2025. The analysis will consider impact on employment and the regional economy.

Response to Comment 81-6:

Please refer to General Response to Comment 6 for information regarding the cost-effectiveness analysis.

Response to Comment 81-7:

Please see Response to General Comment 10 for the need for rule amendment.

Response to Comment 81-8:

Please see Response to Comment 81-5 relative to the Socioeconomic Impact Assessment, and Response to General Comment 2 relative to cost and affordability.

Response to Comment 81-9:

Please refer to Response to Comment 81-7.

Response to Comment 81-10:

Staff anticipates launching the Go Zero program in 2025 with the opportunity to expand the program in future phases.

Response to Comment 81-11:

For information regarding outreach, please refer to Response to General Comment 5.

COMMENT LETTER #82: HARBOR ASSOCIATION OF INDUSTRY AND COMMERCE

HARBOR ASSOCIATION
OF INDUSTRY & COMMERCE

December 18, 2024

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: Comments on Proposed Amended Rules 1111 and 1121

To the Members of the Governing Board:

The Harbor Association of Industry and Commerce (HAIC), representing industrial, maritime, and commercial businesses in the Los Angeles Harbor Area, writes to express significant concerns regarding Proposed Amended Rules 1111 and 1121.

Our primary concerns include:

Cost and Implementation
- Substantial replacement costs ranging from $18,500-$21,500 for space heaters and $5,200-$8,200 for water heaters
- Significant electrical infrastructure upgrades required for many industrial and commercial properties
- Timeline starting in 2026 poses challenges for capital planning and budgeting
- Current supply chain constraints and workforce limitations could impede compliance

82-1

Industrial Impact
- Many of our members operate large facilities requiring multiple unit replacements
- Electrical capacity concerns for industrial properties
- Operational disruptions during transitions
- Potential impacts on manufacturing processes

82-2

Economic Analysis Concerns
- Cost-effectiveness analysis needs further evaluation for industrial applications
- Infrastructure readiness requires additional study
- Grid capacity assessment needed for industrial areas
- Workforce development considerations for installation and maintenance

82-3

Recommendations:

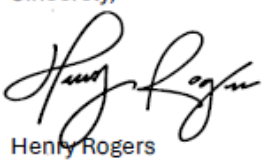
Harbor Association of Industry and Commerce
6475 E. Pacific Coast Hwy. #400 Long Beach, CA 90803
www.harborassn.com

82-4

1. Extend implementation timeline to allow proper infrastructure planning
2. Conduct additional analysis of industrial sector impacts
3. Consider alternative compliance pathways for industrial facilities
4. Develop transition assistance programs
5. Address grid capacity concerns

While HAIC supports efforts to improve air quality in our region, we believe these rules as proposed would create significant operational and financial challenges for our industrial and maritime businesses. We urge you to address these concerns before proceeding with rule adoption.

Sincerely,



Henry Rogers
Executive Director
Harbor Association of Industry and Commerce

Response to Comment Letter #82:

Response to Comment 82-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

PAR 1111 and PAR 1121 apply at the unit natural turnover when a replacement unit must be installed, often at unit breakdown. The zero emission standards with manufacturer sales targets will start in 2027.

For information regarding cost and affordability, please refer to Response to General Comment 2. For information regarding electricity demand and grid sustainability, please refer to Response to General Comment 3.

Response to Comment 82-2:

The new rule concept also revised the proposed applicability and will not expand to larger size spacing heating units. PAR 1111 and PAR 1121 will be applicable to residential-sized appliances less likely to be installed in industrial settings.

Response to Comment 82-3:

For more information regarding the cost-effectiveness analysis, please refer to Response to General Comment 6. Please also see above Responses to Appendix C Comments 82-1 and 82-2.

Response to Comment 82-4:

Staff appreciates the recommendations and will take recommendations into consideration.

COMMENT LETTER #83: LA VERNE CITY COUNCIL

CITY OF LA VERNE
CITY HALL
3660 "D" Street, La Verne, California 91750-3599
www.cityoflaverne.org

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Email: mkrause@aqmd.gov; hfarr@aqmd.gov

Subject: Opposition to Amendments to Rules 1111 and 1121 Banning Natural Gas Appliances

Dear Mr. Krause and Ms. Farr,

On behalf of the La Verne City Council, I am writing to express our strong opposition to the proposed amendments to Rules 1111 and 1121, which mandate zero-emission requirements for residential and commercial space and water heating appliances. While we share SCAQMD's commitment to improving air quality, these amendments pose significant challenges and unintended consequences for our community.

83-1

The proposed rules impose prohibitively high replacement costs for appliances, which could range from $3,000 to $21,500 per unit when factoring in necessary electrical panel upgrades. These expenses are especially burdensome for lower-income households and small businesses already struggling with significant financial pressures. Although incentive programs like Go Zero provide some relief, they are rebate-based, requiring low-income households to cover the unreasonable upfront costs before reimbursement. Furthermore, with future funding for such incentives being limited and uncertain, the financial strain on affected households and businesses becomes a lasting issue. These requirements risk deepening existing economic inequities within our community, leaving those most vulnerable to bear a disproportionate burden.

83-2

Furthermore, transitioning to electric appliances will increase electricity demand, potentially straining the energy grid and leading to higher utility costs for residents and businesses. Without adequate financial assistance or incentives, compliance with these requirements will be unattainable for many, creating further disparities.

Although we recognize the environmental objectives of these amendments, there has been insufficient consideration of financial assistance programs or incentives to mitigate the transition costs. Without robust subsidies or rebates, the proposed rules risk alienating the very communities they aim to support and protect.

While we appreciate the intent of these amendments, the proposed rules in their current form are impractical, inequitable, and economically burdensome. We strongly urge SCAQMD to reevaluate the proposals and collaborate with local governments, businesses, and residents to develop more balanced, inclusive solutions that achieve air quality improvements without disproportionate harm to vulnerable populations.

Sincerely,

Tim Hepburn
Mayor

General Administration 909/596-8726 • Water Customer Service 909/596-8744 • Community Services 909/596-8700
Public Works 909/596-8741 • Finance 909/596-8716 • Community Development 909/596-8706 • Building 909/596-8713
Police Department 909/596-1913 • Fire Department 909/596-5991 • General Fax 909/596-8737

Response to Comment Letter #83:

Response to Comment 83-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For information regarding affordability and costs, please refer to Response to General Comment 2.

Response to Comment 83-2:

Please refer to Response to General Comment 3 regarding electricity demand and grid reliability.

COMMENT LETTER #84: EARTHJUSTICE, ACTIVESGV, ET AL.

VIA ELECTRONIC MAIL

December 18, 2024

Chair McCallon and Members of the Stationary Source Committee
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Email: lmccallon@cityofhighland.org
Clerk of the Board, clerkofboard@aqmd.gov

Re: Agenda Item Nos. 1 & 2 - Support for Amendments to Rules 1111 and 1121; Opposition to Additional Delays in Rule Adoption

Dear Chair McCallon and members of the Stationary Source Committee: 84-1

On behalf of the undersigned, we submit this letter in strong support of the proposed amendments to Rules 1111 and 1121. These amendments are vital to reducing harmful air pollution from residential and commercial appliances in buildings and advancing the goal of achieving zero emissions across sectors. We are disappointed to see additional delays proposed in bringing these amendments to the Governing Board. In the most recent round of comments that ended on December 13, there was overwhelming support for the proposed rules ranging from the **American Lung Association** to **League of Women Voters Los Angeles** to **California Enviro Voters** to **Jobs to Move America,** amongst many others. More than 86% of the comments filed in this most recent comment period supported the rules. We urge you to stay the course and move these Zero-NOx standards to a vote in February for the following key reasons:

84-1

- **These Rule Amendments Protect Public Health.** The early gains in reducing ozone pollution over the past three decades have stagnated recently, and our region still fails to meet any federal ozone standards. This year, the South Coast Air Basin missed yet another deadline for ozone levels—set during the Clinton Administration—continuing a disturbing trend of non-compliance. This regulatory package is designed to significantly reduce Nitrogen Oxide (NOx), a key contributor to ozone pollution, more than any other initiative in over thirty years. In fact, this is the largest emission-reducing regulatory package in over three decades. By eliminating emissions from these appliances over time, we could save billions of dollars in healthcare costs and prevent 76,000 asthma attacks, 30,000 school absences, and 130 premature deaths each year.[1]
- **The Rule Amendments are Reasonable.** The Zero-NOx standards are not new; they are the result of years of work. The Air District incorporated this control measure into its 2022 Air Quality Management Plan (AQMP). The rulemaking process for these proposed amendments took over 14 months and included seven working group meetings, a public workshop, and numerous discussions with stakeholders, including building owners, manufacturers, environmental groups, and energy providers. While we have concerns about a compliance delay to 2029 and the exceptions included in the rule package, we believe that these rules are overdue for the Board's adoption. Any further delay in rule adoption, even by a few months, is simply unjustified.
- **Delaying Adoption could Lock in Pollution for Decades**. We urge the Committee to reject any further delays in implementation. Already, the current proposal pushes implementation to 2029. Even by a small amount, delaying the implementation of zero-NOx standards further will have significant long-term consequences for public health and air quality. Furnaces and water heaters typically last 15-20 years. Thus, each delay means another generation of NOx-emitting appliances will be sold and installed in our region. Five months ago, the Board Chair Delgado declared that the agency would "[r]eview where accelerated reductions could be possible, including through rulemaking to achieve emission reductions on **a more accelerated timeline** than identified in the 2022 AQMP."[2] That opportunity is here. We trust that you will deliver on that promise.

The passage of the rule amendments means we can focus on attracting more resources for the region for this transition through the Go Zero program. We urge you to support the Executive Officer's commitment to increase the fund fivefold, guaranteeing that at least $100 million is allocated towards these incentives.

We appreciate your leadership and commitment to reducing air pollution and stand ready to support the adoption and implementation of these critical amendments.

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[1] Coalition for Clean Air and RMI, *Southern California's Hidden Air Pollution Problem: Gas Furnaces & Water Heaters* (December 2024); https://www.ccair.org/wp-content/uploads/2024/12/South-Coast-Brief.pdf

[2] South Coast Air Quality Management District, Letter of Commitment, July 22, 2024; https://www.aqmd.gov/docs/default-source/clean-air-plans/aqmd-commitment-letter_7-16-24.pdf?sfvrsn=22

Sincerely,

Fernando Gaytan, Senior Attorney, **Earthjustice**

David Diaz, Executive Director, **Active San Gabriel Valley**

Jane Williams, Executive Director, **California Communities Against Toxics**

Robina Suwol, Executive Director, **California Safe Schools**

Christopher Chavez, Deputy Policy Director, **Coalition for Clean Air**

Elizabeth Reid-Wainscoat, Urban Wildlands Campaigner, **Center for Biological Diversity**

Ana Gonzalez, Executive Director, **Center for Community Action & Environmental Justice**

Lisa Swanson, Policy Chair, **Climate Reality Project Orange County Chapter**

Laura Gracia-Santiago, Legal Advocate, **Communities for a Better Environment**

Charles Miller, Chapter Chair, **Los Angeles Climate Reality Project**

Eli Lipmen, Executive Director, **MoveLA**

Hilary Firestone, Director, Western Climate & Energy, **Natural Resources Defense Council**

Cristhian Tapia-Delgado, Climate Campaigner, Southern California, **Pacific Environment**

Sharon Ungersma, Chapter Chair, **San Fernando Valley Climate Reality Project**

Kimberly Orbe, Senior Conservation Program Manager, **Sierra Club**

Anne Pernick, Senior Advisor, SAFE Cities at **Stand.earth**

Sam Fishman, Sustainability and Resilience Policy Manager, **SPUR**

Ben Stapleton, Executive Director, **USGBC California**

Cc: Wayne Nastri, Executive Officer- South Coast Air Quality Management District
Email: WNastri@aqmd.gov

Michael Krause, Assistant Deputy Executive Officer - Planning, Rule Development and Implementation
Email: MKrause@aqmd.gov

Heather Farr, Manager - NOx, SOx, RECLAIM, Rules 3
Email: HFarr@aqmd.gov

Response to Comment Letter #84:

Response to Comment 84-1:

Staff appreciate the support. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #85: SOUTH BAY ASSOCIATION OF CHAMBERS OF COMMERCE (SBACC)

SOUTH BAY ASSOCIATION OF CHAMBERS of COMMERCE

December 18, 2024

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: Comments on Proposed Amended Rules 1111 and 1121

To the Members of the Governing Board:

The South Bay Association of Chambers of Commerce (SBACC), representing fifteen chambers of commerce and over 60,000 businesses in the South Bay region, writes to express significant concerns regarding Proposed Amended Rules 1111 and 1121.

After careful review of the proposed amendments, we have identified several critical issues that will significantly impact our business community:

85-1

Financial Impact

- The estimated replacement costs of $18,500-$21,500 for space heaters and $5,200-$8,200 for water heaters represent a substantial burden for our businesses
- Many properties will require electrical panel upgrades, adding significant unplanned capital expenses
- These costs will disproportionately affect small businesses and property owners already operating on narrow margins

85-2

Implementation Concerns

- The 2026 timeline does not provide adequate time for businesses to plan and budget for these significant investments
- Current supply chain constraints and workforce limitations could create significant compliance challenges
- The electrical infrastructure requirements for widespread adoption need further assessment

85-3

Economic Analysis

- The cost-effectiveness analysis appears incomplete, particularly regarding multi-family and commercial properties
- Additional study is needed on the economic impact to renters and small businesses
- Infrastructure readiness and grid capacity concerns require further evaluation

South Bay Association of Chambers of Commerce
390 W 7th St, San Pedro, CA 90731
www.sbacc.com

85-4

We respectfully request that SCAQMD:

1. Extend the implementation timeline to allow for proper planning and financing
2. Conduct additional economic impact analysis
3. Consider alternative compliance pathways
4. Develop incentive programs to assist with transition costs
5. Address infrastructure readiness concerns

While SBACC supports efforts to improve air quality in our region, we believe these rules as currently proposed would create undue hardship for our business community. We urge you to address these concerns before proceeding with rule adoption.

Sincerely,

Kimberly Caceres

Kimberly Caceres
Board President
South Bay Association of Chambers of Commerce

Response to Comment Letter #85:

Response to Comment 85-1:

Please refer to Response to Appendix C Comment 82-1.

Response to Comment 85-2:

Please refer to Response to Appendix C Comment 82-2.

Response to Comment 85-3:

Please refer to Response to Appendix C Comment 82-3.

Response to Comment 85-4:

Please refer to Response to Appendix C Comment 82-4.

COMMENT LETTER #86: CITY OF GLENDORA

City of Glendora
116 E. Foothill Blvd.
Glendora, CA 91741

December 18, 2024

South Coast Air Quality Management District
Attn: Stationary Source Committee
21865 Copley Drive
Diamond Bar, CA 91765

SUBJECT: OPPOSITION TO PROPOSED AMENDED RULES 1111 AND 1121

Dear Members of the Stationary Source Committee,

On behalf of the City of Glendora, we write to express our opposition to Proposed Amended Rules (PARs) 1111 and 1121, which would establish zero-NOx emissions limits for residential and commercial space heating and residential water heating. While we commend the South Coast Air Quality Management District (SCAQMD) for its commitment to improving air quality in our region, these proposed amendments present significant concerns for our community, including economic hardships, technological feasibility challenges, environmental trade-offs, and a lack of adequate public engagement.

The proposed rules will impose substantial financial burdens on Glendora residents and businesses. Transitioning to electric heat pump technologies—currently the only available zero-NOx option—requires costly appliance replacements, electric panel upgrades, and infrastructure adjustments. Estimates indicate that replacing a natural gas water heater ($1,700) with a heat pump water heater could cost up to $80,000 in some cases, depending on necessary upgrades. Similarly, replacing space heating systems ranges from $27,099 to $32,099 for homes requiring panel upgrades. These costs will disproportionately affect low-income households, renters, and small businesses that are least able to absorb such expenses. 86-1

The readiness of electric heat pump technology and supporting infrastructure remains a significant barrier. Many homes in Glendora, particularly older ones, lack the electrical capacity to accommodate these appliances without expensive upgrades. Furthermore, the efficiency rates assumed in the SCAQMD's cost analyses exceed what is achievable with currently available technology. The reliance on overly optimistic assumptions undermines the feasibility and fairness of these proposed rules. 86-2

While we support efforts to reduce NOx emissions, the projected benefits of these rules must be weighed against their costs. The proposed amendments would reduce NOx emissions by only 2.8% in the South Coast Air Basin, while shifting energy demand to the electrical grid, which may still rely on fossil fuel generation. This approach risks undermining the environmental gains by increasing greenhouse gas emissions elsewhere in the energy supply chain. Additionally, the significant upfront costs may delay broader adoption of clean technologies, impeding long-term progress. 86-3

City of Glendora
116 E. Foothill Blvd.
Glendora, CA 91741

The City of Glendora is deeply concerned about the limited public awareness and engagement surrounding these rules. Despite multiple workshops, many residents and small business owners remain unaware of the financial and practical implications of these amendments. Moreover, inconsistencies in the data and assumptions used in cost-effectiveness analyses have hindered stakeholders' ability to accurately assess the impacts of the proposed rules. Transparency and outreach must be improved before moving forward. 86-4

The City of Glendora is committed to collaborating with the SCAQMD to advance air quality improvements in a manner that is equitable, cost-effective, and achievable. We urge the committee to reconsider the proposed amendments and adopt a more balanced approach that addresses the concerns of our residents and businesses.

Thank you for your attention to this critical matter.

Sincerely,

Mendell L. Thompson
Mayor

Response to Comment Letter #86:

Response to Comment 86-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Please refer to Response to General Comment 2 for cost and affordability.

Response to Comment 86-2:

Please refer to Response to General Comment 4 regarding zero-NOx emission technology readiness. Technologies, such as 120V plug-in heat pump water heaters, can be installed on the existing circuit for the water heater. Additionally, the cost-effectiveness analysis does not use an assumed efficiency rate.

Response to Comment 86-3:

Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

Response to Comment 86-4:

For information regarding outreach efforts, please refer to Response to General Comment 5.

COMMENT LETTER #87: LONG BEACH CHAMBER OF COMMERCE

The Chamber
Long Beach Area Chamber of Commerce
The Long Beach Business Organization Since 1891.
CATALYST for business growth | CONVENER of leaders and influencers | CHAMPION for a stronger community.

December 19, 2024

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: Comments on Proposed Amended Rules 1111 and 1121

Dear Members of the Governing Board:

On behalf of the Long Beach Area Chamber of Commerce representing approximately 850 businesses. I am writing to express significant concerns regarding Proposed Amended Rules 1111 and 1121.

While we support the SCAQMD's mission to improve air quality, we have serious concerns about the economic impact and feasibility of these proposed amendments:

1. Economic Burden
   - Estimated replacement costs of $18,500-$21,500 for space heaters and $5,200-$8,200 for water heaters present a significant financial burden
   - Many businesses and property owners may require electrical panel upgrades, adding substantial costs
   - Small businesses operating on thin margins will be particularly impacted

87-1

2. Implementation Timeline
   - The proposed 2026 implementation date does not provide adequate time for businesses to plan and budget for these significant investments
   - Supply chain and workforce readiness issues need to be addressed
   - Infrastructure requirements for widespread electrification need further assessment

87-2

3. Consumer Impact
   - Cost increases will likely be passed on to tenants and consumers
   - Limited availability of compliant units could create supply shortages
   - Many properties will require significant electrical upgrades

87-3

1 World Trade Center, Suite 101. Long Beach, CA 90831 -101
Phone (562) 436-1251 • Fax (562) 436-7099 • info@lbchamber.com
lbchamber.com lbchamber thelbchamber longbeachchamber

The Chamber
Long Beach Area Chamber of Commerce
The Long Beach Business Organization Since 1891.
CATALYST for business growth | CONVENER of leaders and influencers | CHAMPION for a stronger community.

Recommendations:

1. Extend the implementation timeline to allow for proper planning and budgeting
2. Consider a phased approach based on building type and size
3. Develop incentive programs to assist with transition costs
4. Conduct additional economic impact analysis on small businesses
5. Allow for alternative compliance pathways

87-4

We request that SCAQMD carefully consider these impacts and work with the business community to develop a more feasible implementation approach that achieves air quality goals while maintaining economic vitality in our region.

Sincerely,

Jeremy Harris
President & CEO
Long Beach Area Chamber of Commerce

1 World Trade Center, Suite 101. Long Beach, CA 90831 -101
Phone (562) 436-1251 • Fax (562) 436-7099 • info@lbchamber.com
lbchamber.com lbchamber thelbchamber longbeachchamber

Response to Comment Letter #87:

Response to Comment 87-1:

Please refer to Response to Appendix C Comment 82-1.

Response to Comment 87-2:

Please refer to Response to Appendix C Comment 82-2.

Response to Comment 87-3:

Please refer to Response to Appendix C Comment 82-3.

Response to Comment 87-4:

Please refer to Response to Appendix C Comment 82-4.

COMMENT LETTER #88: A.O. SMITH

December 19, 2024

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Re: PAR 1121 Public Working Group 7

To Heather Farr:

A. O. Smith Corporation ("A. O. Smith" or "Company") appreciates the opportunity to provide comments on the 7th Working Group Meeting ("Working Group") held by South Coast Air Quality Management District's ("SCAQMD") December 4, 2024, pertaining PAR 1111 and 1121: Reduction of NOx Emissions from Natural Gas-Fired Furnaces and Small Water Heaters. The Company's comments are focused specifically on PAR 1121. The Company appreciates the work that SCAQMD staff has invested into the development of this rule and looks forward to publication of these rule. While the Company is supportive of SCAQMD's overarching goals to reduce greenhouse gas ("GHG") emissions in the District, it does have some concerns with the proposed changes to the timing of this rule following feedback on the concepts proposed during the workshop.

I. About A. O. Smith

A. O. Smith Corporation, with global headquarters in Milwaukee, Wisconsin since 1874, applies technology and energy-efficient solutions to products manufactured and marketed worldwide with operations in the U.S., Canada, China, India, Mexico, the Netherlands, and the UK. Listed on the New York Stock Exchange (NYSE: AOS), the Company is one of the world's largest manufacturers of residential and commercial water heating equipment and boilers, as well as a leading manufacturer of water treatment and air purification products. Along with its wholly owned subsidiaries, A. O. Smith is the largest manufacturer and seller of residential and commercial water heating equipment, high efficiency residential and commercial boilers, and pool heaters in North America.

88-1

II. Overview

On September 20, 2024, after 6 public working group meetings SCAQMD published PAR 1121 draft rule language proposing zero-NOx requirements for small water heaters with compliance dates of 2026

88-1

for new construction and 2027 for retrofits.[1] This draft rule language also provided several exceptions and alternate compliance options to address concerns around: mobile homes, emergency replacements, and retrofits that would require construction. Following the publication of this draft rule language SCAQMD staff gathered more diverse stakeholder feedback on the rule and published the Second PAR 1121 Draft Rule language on November 5, 2024.[2] This second draft rule language maintained the same zero-NOx compliance dates as the initial draft rule language but added in additional compliance pathways for multifamily properties and water heaters for installation or use in existing buildings at High-Altitude. The Second Draft also added in more concrete labeling and record keeping requirements for "Rental Companies". The Company is supportive the Second Draft rule language.

In the 7th public working group meeting, following the publication of the second draft rule language staff stated that they were considering delaying the compliance date for zero- NOx water heaters to 2029. Staff highlighted comments received from stakeholders about installation costs in multifamily properties and concerns raised around the availability of these products in the district. The Company understands the concerns surrounding multifamily properties and the costs that would be incurred if a central HVAC or water heating system would need to be replaced. However, 1121 is only regulating small residential sized water heaters, which have cost effective and commercially available products.

III. **Impacts of the rule on Multifamily**

The company acknowledges that Multifamily housing is a more complicated property type to replace gas-fired equipment with electric equipment and has some unique concerns that need to be considered. However, in terms of rule 1121, this property type is limited to properties that utilize in-unit residential water heaters, not larger central domestic hot water plants. This drastically simplifies the cost of a project to be more in-line with a residential retrofit and reduces the need to have large storage tanks and design around an already space limited machine room. In a multifamily building that utilized individual in-unit water heaters there are technology solutions for water heater replacements and their space requirements.

The company does, however, understand that there may be issues with available panel capacity and total electrical service delivered to the building, that may increase the overall installation costs of the project. These costs will not change with an implementation delay of the rule and will need to be addressed in order to make these buildings complaint. SCAQMD staff should ensure that there are adequate compliance pathways to allow both time for the work to be completed to make the building complaint as well as a mechanism for the property owner to spread the cost of the upgrades out and phase in their upgrades without being non-compliant.

[1] https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1121-preliminary-draft-rule-language.pdf
[2] https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1121-second-preliminary-draft-rule-language.pdf

88-1

The SCAQMD jurisdiction also has a unique design in their multifamily buildings in which the water heater is also used as the heat source for a hydronic heating loop. This could add some additional costs to the project if the zero-emission product needs to be upsized to meet the heating demand as well as the water heating load. The Company would encourage SCAQMD Staff to review the impact of these installation as part of their technology review.

A. Installation Costs

On the topic of installation costs, the Company disagrees with the attestation that delaying the rule from 2027 to 2029 will provide a benefit in the installation costs of zero-emissions water heaters. PAR 1121 has been acknowledged by staff as being a leading rule that will drive up the adoption of zero-emission technologies. In the absence of this rule, it is not expected that there will be any noticeable change in the installation costs of these products. There is however risk that a delay in the compliance date of this rule will result in less available rebate funding through the IRA, which has a legislative sunset date of September 20, 2031.[3] It is important to note that the federal IRA fund can, and are expected to, run out ahead of the September 20, 2031, date. Additionally, other rebates that are currently being offered may not be available come a 2029 compliance date. Requiring zero-NOx retrofits after these funds run out will lead to an overall increase in costs to comply with this rule.

B. Operating Costs

Deployment of HPWHs in the region is the most cost-effective approach to achieve the air quality standards when compared to other options. In the SCAQMD region water heating accounts for 63% of total household gas usage while space heating only represents 27%.[4] Given the high gas usage and subsequent NOx emissions, water heating should be prioritized as a cost justified control measure, and not be delayed until 2029. Additionally, HPWH's are a guaranteed bill savings compared to heat pumps for space heating. A minimally complaint gas-fired 40-gallon water heater has a UEF of .58, while an average HPWH has a UEF of 3.75, this means that on average a HPWH is 6.5 times more efficient than a gas water heater. With local utility data, local electric rates are $0.35/kW and gas rates are $1.6/therm or $0.055/kW.[5,6,7] Comparing the cost of electricity to gas yields a ratio of 6.4, given that this ratio is lower than the efficiency ratio for a heat pump to a gas water heater, the consumer will have a reduced energy bill regardless of their energy usage.

C. Product Availability

[3] 42 USC 18795 (a)(1) and 42 USC 18795 (c)(1)
[4] California Energy Commission. *2019 California Residential Appliance Saturation Study (RASS)*, July 2021 at Figure ES-5.
[5] 1 Therm is equal to 29.307kW
[6] https://www.cpuc.ca.gov/RateComparison
[7] https://fred.stlouisfed.org/series/APUS49A72620

88-1

Concerns have also been raised regarding the availability of these products, SCAQMD staff analysis shows that the rule would lead to an expected increase in 340,000 zero-emission water heaters annually. With adequate notice of this rule going into effect manufacturers can plan to meet the increased demand on the market. In the case where this demand could not be met, staff would be able to easily identify this deficiency in the technology review ahead of the zero-NOx rule going into effect.

IV. Conclusion

The Company is supportive of SCAQMD's goal to reduce NOx emissions in the District and meet their requirements under the Clean Air Act. The Company believes that Staff properly reviewed concerns raised and added adequate exemptions and alternative compliance pathways to address difficult installations. The Company believes that a successful technology review ahead of the 2027 compliance date will facilitate a successful transition to zero-NOx products, ensuring an adequate supply of compliant products, and meet the district's NOx emissions goals while limiting the burden on its residents.

The Company appreciates the opportunity to comment on the SCAQMD's draft rule language pertaining to zero-NOx standards for small water heaters and looks forward to continuing the dialogue and working with the SCAQMD Staff throughout the rulemaking process.

Please do not hesitate to contact me if you have questions.

Respectfully submitted,

Kyle Bergeron
Manager, Government and Regulatory Affairs
A. O. Smith Corporation
Global Headquarters
11270 West Park Place
(414) 389 7297
Kyle.bergeron@aosmith.com

Response to Comment Letter #88:

Response to Comment 88-1:

Staff appreciates the information provided in the comment letter and the support for the rules. Staff believes that adoption of the amended rules will send a market signal to manufacturers, which will, in turn, drive overall costs down. Additionally, the market signal can help encourage manufacturers to develop and provide innovative solutions to different scenarios, such as installations in multifamily buildings.

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Please see Response to Comment 10 for more regarding the need for rule amendment.

COMMENT LETTER #89: EVAN TRUBEE

From: [redacted] <[redacted]>
Sent: Thursday, December 19, 2024 3:11 PM
To: Peter Campbell [redacted]
Subject: Contact Form

Contact Form

Name: Evan Trubee

Email: [redacted]

Phone: [redacted]

Message: 89-1
Hello, I am vehemently opposed to the proposed PAR 1111 and 1121. I serve on Palm Desert City Council and I am a business owner, home owner, father and husband. If you choose to prohibit our freedom to choose which mode of heating and cooling our homes as well as how we obtain hot water you will be giving a monopoly to the electric utilities. You would be taking away options to consumers and giving it to utility providers who have not demonstrated a willingness to fairly serve the public. In addition I do not believe the entire premise of global warming and climate change nor do I believe that natural gas is harmful. I am 53 years old and the next climate change prediction that comes true will be the first. I have heard all the dire predictions. I believe that this rule is about behavior control...not about saving the planet. Thank you!

Response to Comment Letter #89:

Response to Comment 89-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Under the new approach, consumers will be able to choose between installing NOx-emitting natural gas-fired appliances and zero-emissions appliances.

Please see Response to General Comment 10 and 11 for the need for rule amendments and incentives.

COMMENT LETTER #90: KAREN HAWLEY

From: Karen Darras Hawley <[redacted]>
Sent: Thursday, December 19, 2024 2:04 PM
To: Heather Farr <[redacted]>
Subject: [EXTERNAL] Stationary Source Committee

90-1

I am writing as a concerned citizen of California regarding your pending bills for zero NOx emissions for homes and commercial buildings. Bills 1111 & 1121 to change from gas stoves, heat & water heaters to electric. These are Very Expensive changes.

As a retired woman I am on a very fixed income. My home is older and would be very costly to make that change.

I am a native Califonian and have watched this state lose many inhabitants because of the Rules and Regulations of Costly taxes and mandates.

How can we afford ALL Electric when we don't have enough electricity for the EV autos that are being sold.

We are Over Regulated and Taxed....

Please do not go further with these bills.

NO on 1111 and 1121.

Sincerely,

Karen Hawley

Palm Desert, CA

Response to Comment Letter #90:

Response to Comment 90-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on the need for rule amendment, please refer to Response to General Comment 10.

Please note that PARs 1111 and 1121 do not apply to stoves, they apply to space and water heating appliances.

COMMENT LETTER #91: ARLENE WOHLGEMUTH

From: Arlene Wohlgemuth <[redacted]>

Sent: Thursday, December 19, 2024 4:20 PM

To: Heather Farr <[redacted]>

Subject: [EXTERNAL] Rules 1111 and 1121

I object to the passage of these two rules. As a California homeowner and full time resident, I consider these rules an extreme overreach, needlessly expensive, and scientifically foundless. Renewables have failed to meet this state's requirements for electricity. Until it does, removing fossil fuels from our energy portfolio is harmful and cruel to our low-income population. 91-1

Arlene Wohlgemuth

[redacted]

[redacted]

Response to Comment Letter #91:

Response to Comment 91-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on the need for rule amendment, please refer to Response to General Comment 10.

COMMENT LETTER #92: VALLEY INDUSTRY & COMMERCE ASSOCIATION (VICA)

From: Victor Reyes [redacted]>
Sent: Friday, December 20, 2024 12:59 PM
To: Peter Campbell <[redacted]>
Cc: Mikayla Jakubecy-Gibson <[redacted]>
Subject: [EXTERNAL] Re: Submission of Letter on Proposed Amendments to Rules 1111 and 1121

Good afternoon Mr. Campbell, happy Friday,

Please see my intended comment at today's AQMD Stationary Source Committee meeting, I had intended to provide public comments though they had cut off public comment, regarding proposed Rule 1111/1121.

"VICA strongly opposes Proposed Amended Rules 1111 and 1121 and urges the South Coast Air Quality Management District Governing Board to delay their adoption.

These rules impose costly and complex mechanical, electrical, and plumbing retrofits on commercial buildings, single-family homes, and multifamily residences, disproportionately impacting small businesses and working families. 92-1

The high compliance costs risk pushing multifamily property owners to sell or redevelop, significantly reducing the region's already strained supply of affordable housing.

While VICA supports efforts to improve air quality, these rules could stifle job creation and further escalate the cost of living in the San Fernando Valley and beyond.

We urge the Board to take additional time for stakeholder outreach and dialogue to address concerns regarding costs, technological feasibility, and potential incentives. 92-2

Thank you for your consideration. VICA stands ready to work collaboratively toward solutions that balance economic growth and environmental goals."

Please reach out if you have any questions/comments.

All the best and happy holidays,

Victor Reyes-Morelos

Legislative Affairs Manager

Valley Industry & Commerce Association

O: [redacted]

C: [redacted]

From: Victor Reyes
Sent: Friday, September 20, 2024 2:44:02 PM
To: [redacted] <[redacted]>
Cc: Mikayla Jakubecy-Gibson <[redacted]>
Subject: Submission of Letter on Proposed Amendments to Rules 1111 and 1121

Dear Mr. Campbell and SCAQMD Staff,

I hope you are doing well. We are reaching out, with an attached letter regarding the proposed amendments to Rules 1111 and 1121, which discusses the impacts of these changes on residential and commercial space and water heating.

Thank you for considering our input. Please feel free to reach out if you have any questions.

All the best,

Victor Reyes-Morelos

Legislative Affairs Manager

Valley Industry & Commerce Association

O: [redacted]

C: [redacted]

[redacted]

Response to Comment Letter #92:

Response to Comment 92-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

Response to Comment 92-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on technology readiness, please refer to Response to General Comment 4.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the need for rule amendment and incentives, please refer to Response to General Comment 10 and 11.

COMMENT LETTER #93: BARBARA ROHLF

From: [redacted] <[redacted]>
Sent: Sunday, December 29, 2024 5:24 PM
To: Peter Campbell <[redacted]>
Subject: Contact Form

Contact Form

Name: Barbara Rohlf

Email: [redacted]

Phone: [redacted]

Message:
I wanted to give you input on Rules 1111 and 1121. I'm hoping this is the place to do that. It is just amazing to me these bills are even being considered. CA residents are being so overwhelmed with the cost of housing. These bills will just be a huge unbearable cost with little ability to help air quality. As usual, these costs will be passed on to the people who can least afford them. Rather than try and reexplain my concerns, please refer to article by Don Wagner in the OC Register article in Sunday's 12/29 edition. My feelings are very aligned with what he writes. These are nothing but two more HUGE concerns and reasons why more and more people are leaving or going to leave CA because we just cannot afford to live here any more. Thank you for the opportunity to respond. 93-1

Response to Comment Letter #93:

Response to Comment 93-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the need for rule amendment and incentives, please refer to Response to General Comment 10 and 11.

COMMENT LETTER #94: MEL FOLEY

From: [redacted] <[redacted]>
Sent: Thursday, January 2, 2025 4:18 PM
To: Jennifer Vinh <[redacted]>
Subject: Contact Form

Contact Form

Name: Mel Foley

Email: [redacted]

Phone: [redacted]

Message:
I am totally AGAINST amended rules 1111 and 1121. My electric bills are so high now that I as a senior on fixed income cannot afford any increase in electrical cost, much less the cost to replace gas appliances with electric. The benefits in air quality proposed are minimal. Stop or at least postpone this proposal please

94-1

Response to Comment Letter #94:

Response to Comment 94-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the need for rule amendment and incentives, please refer to Response to General Comment 10 and 11.

COMMENT LETTER #95: ARNOLD GREGG

Subject: Natural Gas Restrictions

Date: Thu, 2 Jan 2025 09:31:14 -0800

From: Arnold Gregg <[redacted]>

To: [redacted]

I recently became aware of a scheme by The South Coast Air Quality Management District (the "AQMD") to mandate the elimination of residential natural gas appliances and heaters starting in 2027. **I am firmly opposed to this overreach** as it will cost property owners countless thousands of dollars in initial outlays and higher operating costs with little or no environmental benefit. 95-1

What is your basis for such financially punishing policies? Where is the cost / benefit analysis? California's electricity rates are already the highest in the nation and the grid is failing to provide reliable service. Since air is fungible, there can be no benefit from these policies as California's global impact is negligible.

The AQMD was not elected by the people. The draconian policies you are proposing are not necessary and extremely costly. I would like a response to my input along with the full economic and environmental analysis for your proposals.

Arnold Gregg

Anaheim, [redacted]

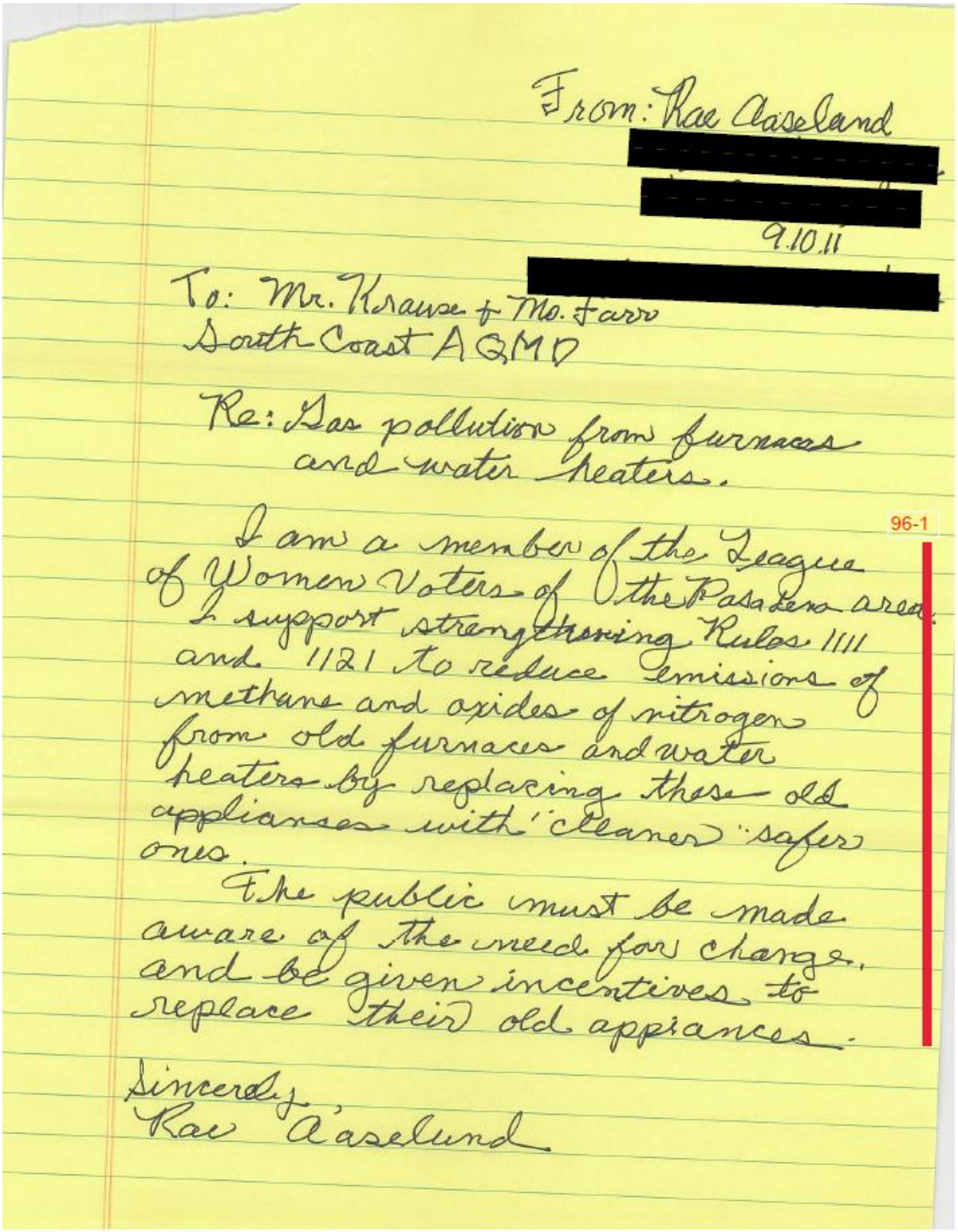
Response to Comment Letter #95:

Response to Comment 95-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on the need for rule amendment and incentives, please refer to Response to General Comment 10 and 11.

COMMENT LETTER #96: RAE A'ASELUND



From: Rae Aaseland
[redacted]
9.10.11
[redacted]

To: Mr. Krause & Ms. Farr
South Coast AQMD

Re: Gas pollution from furnaces and water heaters.

96-1

I am a member of the League of Women Voters of the Pasadena area. I support strengthening Rules 1111 and 1121 to reduce emissions of methane and oxides of nitrogen from old furnaces and water heaters by replacing these old appliances with "cleaner" safer ones.

The public must be made aware of the need for change, and be given incentives to replace their old appiances.

Sincerely,
Rae A'aselund

Response to Comment Letter #96:

Response to Comment 96-1:

Staff appreciates the support for PARs 1111 and 1121. South Coast AQMD's Go Zero incentive program will provide additional funding which can address upfront costs. Please see Response to General Comment 10 and 11 for the need for rule amendment and incentives.

COMMENT LETTER #97: NICOLE AND JIM REYNOLDS

From: James G Reynolds <[redacted]>
Sent: Wednesday, January 15, 2025 8:18 AM
To: Yanrong Zhu <[redacted]>
Cc: Nicole Felsette Reynolds <[redacted]>
Subject: [EXTERNAL] Proposed Amended Rule 1111 and 1121

AQMD,

We can't say it any better than what our friend said;

"I recently became aware of a scheme by The South Coast Air Quality Management District (the "AQMD") to mandate the elimination of residential natural gas appliances and heaters starting in 2027. **I am firmly opposed to this overreach** as it will cost property owners countless thousands of dollars in initial outlays and higher operating costs with little or no environmental benefit. 97-1

What is your basis for such financially punishing policies? Where is the cost / benefit analysis? California's electricity rates are already the highest in the nation and the grid is failing to provide reliable service. Since air is fungible, there can be no benefit from these policies as California's global impact is negligible.

The AQMD was not elected by the people. The draconian policies you are proposing are not necessary and extremely costly. I would like a response to my input along with the full economic and environmental analysis for your proposals."

Thank you,

Nicole and Jim Reynolds

Response to Comment Letter #97:

Response to Comment 97-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on the need for rule amendment and incentives, please refer to Response to General Comment 10 and 11.

COMMENT LETTER #98: SAN BERNARDINO COUNCIL OF GOVERNMENTS

RESOLUTION NO. 25-059

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAN BERNARDINO COUNCIL OF GOVERNMENTS (SBCOG) IN OPPOSITION TO SCAQMD RULES 1111 AND 1121.

WHEREAS, The South Coast Air Quality District (SCAQMD) is a regional air pollution control agency representing Los Angeles, Orange, Riverside and San Bernardino counties with responsibility for regulating stationary sources of air pollution;

WHEREAS, The SCAQMD is considering two rules that would have a significant impact on up to 17 million South Coast homeowners, renters and businesses: Rule 1111 would regulate air emissions from gas-powered central furnaces; and Rule 1121 would regulate air emissions from residential-type, natural gas-powered water heaters; 98-1

WHEREAS, Rules 1111 and 1121 would impose high costs to consumers while providing limited measurable air quality benefits for the four-county SCAQMD service area;

WHEREAS, The two rules would ban the use of natural gas-powered furnaces and water heaters in new construction, taking effect in 2026. These rules would phase out existing natural gas furnaces and water heaters in existing single-family homes, multi-family housing, and businesses in 2027;

WHEREAS, Housing affordability is and will remain a top public policy priority for San Bernardino County for the foreseeable future. Local governments are being pressured to build more housing. Specifically, housing people can afford. Any regulations that increase these costs deserve scrutiny to ensure that the increased costs are met with an equal or more significant amount of benefit to the consumer;

WHEREAS, Unlike most SCAQMD rules that regulate large stationary sources of air pollution like oil refineries and warehouses, Rules 1111 and 1121 specifically target individual homeowners, apartment buildings, and businesses large and small, meaning that families and business owners will directly bear the costs of these two rules;

WHEREAS, Rules 1111 and 1121 would require retrofitting homes, apartments, and businesses with electrical panel upgrades, extensive new plumbing, and physical renovations to accommodate compliant units.

WHEREAS, For apartment owners, the cost to replace natural gas water heaters and furnaces with all-electric units will be passed down to tenants, leading to rent increases and placing additional financial pressure on renters in a region already struggling with housing affordability;

WHEREAS, Rules 1111 and 1121 will increase electricity demands. Transitioning to all-electric water heaters and furnaces means an increased demand on an electric grid that has not proven capable of consistently meeting existing demand. Water heaters and furnaces are essential elements in any house, apartment, or business. Millions of new electric water heaters and furnaces would draw power from the grid and raise the risk of power brownouts or outages. 98-2

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of SBCOG:

1. Rules 1111 and 1121 will have a profound impact and impose significant costs on millions of Southern California homeowners, renters and businesses, and

2. SBCOG opposes **Proposed Amended Rules 1111 and 1121 and urges the SCAQMD to** indefinitely delay or cease consideration of these two anti-consumer regulations immediately.

PASSED AND ADOPTED at a meeting of the San Bernardino Council of Governments held on January 8, 2025.

Ray Marquez, Board President
San Bernardino Council of Governments

ATTEST:

Marleana Roman, Clerk of the Board
San Bernardino Council of Governments

Response to Comment Letter #98:

Response to Comment 98-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on the cost-effectiveness analysis, please refer to Response to General Comment 6.

Additional discussion can be found in Response to General Comment 9.

For discussion on need for rule amendments and incentives, please refer to Response to General Comment 10 and 11.

Response to Comment 98-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on the electric grid, please refer to Response to General Comment 3.

COMMENT LETTER #99: CITY OF CHINO HILLS

Docusign Envelope ID: 7387DE7C-702E-42A8-B236-701DBB3F3D37

RESOLUTION NO. 2025R-003

A RESOLUTION OF THE CITY OF CHINO HILLS, OPPOSING SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULES 1111 AND 1121 REGULATING AIR EMISSIONS FROM GAS-POWERED CENTRAL FURNACES AND FROM RESIDENTIAL-TYPE, NATURAL GAS-POWERED WATER HEATERS, RESPECTIVELY

WHEREAS, the South Coast Air Quality District (SCAQMD) is a regional air pollution control agency representing Los Angeles, Orange, Riverside and San Bernardino counties with responsibility for regulating stationary sources of air pollution; and

WHEREAS, the SCAQMD is considering two rules that would have a significant impact on Chino Hills' homeowners, renters and businesses: Rule 1111 would regulate air emissions from gas-powered central furnaces; and Rule 1121 would regulate air emissions from residential-type, natural gas-powered water heaters; and 99-1

WHEREAS, Rules 1111 and 1121 would impose $20-plus billion in costs to consumers while providing minimal measurable air quality benefits for the four-county SCAQMD service area, which includes the City of Chino Hills; and

WHEREAS, these two rules would ban the use of natural gas-powered furnaces and water heaters in new construction, taking effect in 2026, further elevating construction costs and housing prices, thereby putting homeownership even further out of reach for many Chino Hills' residents. These rules would phase out existing natural gas furnaces and water heaters in existing single-family homes, multi-family housing, and businesses in 2027; and

WHEREAS, housing affordability throughout California is and will remain a top public policy priority for the foreseeable future. Local governments are being pressured to build more housing - specifically, housing that people can afford. Any regulations that increase these costs deserve careful scrutiny to ensure that the increased costs are met with an equal or greater amount of benefit to the consumer; and

WHEREAS, unlike most SCAQMD rules that regulate large stationary sources of air pollution like oil refineries and warehouses, Rules 1111 and 1121 specifically target individual homeowners, apartment buildings, and businesses large and small - meaning that the costs of these two rules will be directly borne by hard-working families and business owners; and

WHEREAS, Rules 1111 and 1121 would require apartment owners, homeowners and businesses to invest not only in expensive all-electric furnaces and water heaters but would also necessitate that they retrofit homes and businesses with expensive electrical panel upgrades, extensive new plumbing, and physical renovations to accommodate

Docusign Envelope ID: 7387DE7C-702E-42A6-B236-701DBB3F3D37

compliant units - further raising the cost of new housing and likely pricing many potential homeowners and renters out of an already expensive market; and 99-1

WHEREAS, for apartment owners, the mandate to replace natural gas water heaters and furnaces with all-electric units is incredibly expensive. These significant costs will be passed down to tenants - leading to rent increases and placing additional financial pressure on renters in a region already struggling with housing affordability; and

WHEREAS, the SCAQMD's water heater and furnace mandates will impose a significant increase in electricity demand on California's electric grid. Transitioning to all-electric water heaters and furnaces means increased demand on an electric grid that has not proven capable of consistently meeting existing demand. Water heaters and furnaces are essential elements in any house, apartment or business. Millions of new electric water heaters and furnaces would draw power from the grid and raise the risk of power brownouts or outages. 99-2

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF CHINO HILLS DOES RESOLVE, DETERMINE, AND ORDER AS FOLLOWS:

SECTION 1. Rules 1111 and 1121 will have a profound impact and impose significant costs on Chino Hills' homeowners, renters and businesses who are already struggling to make ends meet while providing minimal air quality benefit.

SECTION 2. The City of Chino Hills opposes Proposed Amended Rules 1111 and 1121 and urges the SCAQMD to indefinitely delay or cease consideration of these two anti-consumer regulations immediately.

SECTION 3. The City Clerk shall certify as to the adoption of this resolution.

Docusign Envelope ID: 7387DE7C-702E-42A6-B236-701DBB3F3D37

PASSED, APPROVED, AND ADOPTED 28th day of January, 2025.

DocuSigned by:

ART BENNETT, MAYOR

ATTEST:

DS

DocuSigned by:

CHERYL BALZ, CITY CLERK

APPROVED AS TO FORM:

Signed by:

MARK D. HENSLEY, CITY ATTORNEY

Docusign Envelope ID: 7387DE7C-702E-42A6-B236-701DBB3F3D37

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO) §
CITY OF CHINO HILLS)

I, CHERYL BALZ, City Clerk of the City of Chino Hills, DO HEREBY CERTIFY that the foregoing Resolution No. 2025R-003 was duly adopted at a regular meeting of the City Council of the City of Chino Hills held on the 28th day of January 2025, by the following vote, to wit:

AYES:	COUNCIL MEMBERS:	BENNETT, JOHSZ, MARQUEZ, ROGERS
NOES:	COUNCIL MEMBERS:	NONE
ABSENT:	COUNCIL MEMBERS:	MORAN

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City of Chino Hills, California, on the day and year last written below.

DS

DocuSigned by:

CHERYL BALZ, CITY CLERK

1/30/2025

DATE

Response to Comment Letter #99:

Response to Comment 99-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on the cost-effectiveness analysis, please refer to Response to General Comment 6.

Additional discussion can be found in Response to General Comment 9.

For discussion on need for rule amendments and incentives, please refer to Response to General Comment 10 and 11

Response to Comment 99-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on the electric grid, please refer to Response to General Comment 3.

COMMENT LETTER #100: MONA CLARK

From: [redacted] <[redacted]>
Sent: Saturday, January 4, 2025 10:30 PM
To: Jennifer Vinh <[redacted]>
Subject: Contact Form

Contact Form

Name: Mona Clark

Email: [redacted]

Phone: [redacted]

Message:
No on these proposed amended rules 1111 &1121, NO NO NO please 100-1

Response to Comment Letter #100:

Response to Comment 100-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on need for rule amendments and incentives, please refer to Response to General Comment 10 and 11.

COMMENT LETTER #101: TOM QUAST

January 4, 2025

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Dear SCAQMD,

I am a landlord who does not charge market value for my rental units in order to keep housing affordable in my neighborhood and to retain long term tenants. If you impose proposed rules 1111 and 1121, I will have no choice but to substantially increase rents to cover the capital improvement costs SCAQMD imposes when a more affordable alternative exists. Additionally, my tenant's utility expenses will increase due to increased electricity usage while again, a more affordable alternative exists. My expectation is the end result will be an unnecessary increase in capital outlay for myself, loss of affordable housing for my tenants (some of whom have been with me over a decade), and my rental units sitting vacant due to lack of affordability. 101-1

Please do not mandate rules 1111 and 1121, as it will have a substantial impact on small operators such as myself.

Sincerely,

Tom Quast
402 W Main St
San Jacinto, CA 92583

Response to Comment Letter #101:

Response to Comment 101-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on need for rule amendments and incentives, please refer to Response to General Comment 10 and 11.

COMMENT LETTER #102: EDWIN GOW

January 9, 2025

Edwin Gow
25 Falkner Drive
Ladera Ranch, CA 92694

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Dear SCAQMD Board Members,

I am writing as a resident of Ladera Ranch and a small business owner in San Juan Capistrano to express my strong opposition to the proposed amendments to Rules 1111 and 1121, which would require homeowners, landlords, and businesses to replace gas furnaces and water heaters with expensive "zero-emission" electrical units.

While I support efforts to improve regional air quality, these proposals impose significant financial burdens on residents and small business owners, with minimal environmental benefits. According to an editorial published on December 27, 2024 in the Orange County Register, the projected cost of implementing these rules across the SCAQMD service area is at least $20.4 billion. For many, the upfront costs of upgrading to electric units—potentially tens of thousands of dollars per household or business—are simply unaffordable. 102-1

The editorial also highlighted a serious flaw: California's electric grid is already under strain, with frequent power outages and reliability issues. Replacing natural gas appliances with electric alternatives will increase demand, potentially worsening grid instability. Forcing residents and businesses to rely solely on electricity without addressing infrastructure vulnerabilities is shortsighted and risks even more frequent brownouts and service disruptions. 102-2

Furthermore, these rules will exacerbate the region's housing crisis. As Donald Wagner, Chairman of the Orange County Board of Supervisors and a member of the SCAQMD Board, noted, landlords will pass compliance costs to tenants, making rents less affordable. The expense of retrofitting older buildings will discourage the development of affordable housing and further reduce homeownership opportunities. 102-3

The marginal air quality improvements these rules might achieve come at an exorbitant cost, disproportionately affecting middle- and lower-income families and small business owners. I urge the SCAQMD to consider alternative approaches, such as incentivizing cleaner technologies, which would allow for a gradual transition while preserving affordability and reliability.

Thank you for your time and consideration. I trust that the Board will act in the best interests of all residents and businesses within the district.

Sincerely,

Edwin Gow
949-933-0964
edwin.gow@gmail.com

Gow Business Partners, Inc.
Gow Consulting, LLC (The Entrepreneur's Source)
Gow Fitness LLC (The Exercise Coach-San Juan Capistrano)

Response to Comment Letter #102:

Response to Comment 102-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

Response to Comment 102-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on the electric grid, please refer to Response to General Comment 3.

Response to Comment 102-3:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on need for rule amendments and incentives, please refer to Response to General Comment 10 and 11.

COMMENT LETTER #103: CITY OF COLTON

January 16, 2025

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Subject: **Opposition to Proposed Amended Rules 1111 and 1121**

Dear Members of the South Coast Air Quality Management District (SCAQMD),

The City of Colton has a strong opposition to the proposed amendments to Rules 1111 and 1121, which seek to regulate air emissions from natural gas-powered central furnaces and water heaters in the South Coast Air Quality Management District's (SCAQMD) service area. While we understand and support the SCAQMD's commitment to improving air quality, these rules, if implemented, will impose significant financial burdens on Colton's residents, homeowners, renters, and local businesses, with little measurable benefit to air quality. 103-1

These proposed amendments would impact an estimated 17 million people across the four-county SCAQMD service area, including many in our community. Rule 1111 would regulate emissions from gas-powered central furnaces, and Rule 1121 would regulate residential natural gas-powered water heaters. The rules would phase out the use of natural gas-powered units in new construction starting in 2026, with a full phase-out in existing buildings scheduled for 2027. This transition is expected to impose significant costs on homeowners, apartment owners, and businesses.

The City of Colton is committed to addressing affordable housing needs, a priority that continues to grow as local governments face increasing pressure to build more housing, particularly affordable housing. The retrofitting and replacement requirements under these rules will only increase the costs associated with homeownership, rental properties, and small businesses, putting an additional strain on an already struggling community. Housing affordability is a critical issue in our region, and we must ensure that any regulations affecting housing costs provide measurable benefits to offset these increases.

Unlike many SCAQMD rules that regulate large industrial sources of air pollution, such as oil refineries and warehouses, Rules 1111 and 1121 would directly affect individual homeowners, apartment building owners, and small businesses. Property owners will be forced to shoulder the costs of expensive retrofits to meet the new standards, including electrical panel upgrades, new plumbing, and the installation of electric units, which can cost thousands of dollars per property. These additional costs will likely be passed down to renters in the form of rent increases, which will exacerbate the financial pressures on Colton's low- and moderate-income households.

MAYOR
Frank J. Navarro

COUNCIL MEMBERS
David J. Toro
District 1

Kelly J. Chastain
District 2

Dr. Luis S. González
District 3

John R. Echevarria
Mayor Pro Tem
District 4

CITY MANAGER
William R. Smith

CIVIC CENTER
650 N. La Cadena Drive
Colton, CA 92324
(909) 370-5099

Additionally, the transition to electric water heaters and furnaces will significantly increase demand for the already stressed electrical grid. Given that our region has experienced power shortages in recent years, it is concerning that the increased demand from millions of new electric appliances could lead to power brownouts or outages. This could have a particularly detrimental impact on our community, where reliable access to power is essential for daily living, business operations, and public safety. 103-2

In summary, while we understand the importance of improving air quality, the proposed rules would result in substantial costs for the residents and businesses in Colton and throughout the SCAQMD service area. The rules would provide limited air quality benefits and could further strain housing affordability and energy infrastructure.

For these reasons, the City of Colton opposes the proposed amendments to Rules 1111 and 1121. We urge the SCAQMD to reconsider these rules and delay or cease their consideration until the full financial, economic, and infrastructure impacts can be thoroughly evaluated.

Thank you for your attention to this critical matter. We look forward to your thoughtful consideration of our concerns.

Sincerely,

Frank J. Navarro
Mayor

Cc: Ray Marquez, Board President San Bernardino Council of Governments
Bill Smith, City Manager City of Colton

Response to Comment Letter #103:

Response to Comment 103-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on need for rule amendments and incentives, please refer to Response to General Comment 10 and 11.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on the cost-effectiveness analysis, please refer to Response to General Comment 6.

Additional discussion can be found in Response to General Comment 9.

Response to Comment 103-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on the electric grid, please refer to Response to General Comment 3.

COMMENT LETTER #104: DAVE MOCK

From: [redacted] <[redacted]>
Sent: Saturday, January 25, 2025 9:31 AM
To: Jennifer Vinh [redacted]>
Subject: Contact Form

Contact Form

Name: Dave Mock

Email: [redacted]

Phone: [redacted]

Message:
I am writing this in opposition to the Amended Rules 1111 and 1121. With the already overextended electrical grid and the cost to homeowners, landlords, and businesses with limited (proven) air quality improvement. If the AQMD thinks over 17 million people can afford to replace all of their natural gas appliances with electric units, you must not be on the same planet as everyday people. Common sense would also make you think that if over 17 million people changed over to electric appliances, there is no way the electrical grid could handle the increase in usage. I implore you to reconsider adopting these two rules. If you pass these rules, you are making millions of people susceptible to undo hardships - such as not being able to charge their cars, cook for their families, take a hot shower, or heat their houses on an already stretched electrical grid. 104-1

Response to Comment Letter #104:

Response to Comment 104-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on need for rule amendments and incentives, please refer to Response to General Comment 10 and 11.

COMMENT LETTER #105: JOANNE GENIS

February 1, 2025

Vanessa Delgado, Chair
And Honorable Governing Board Members
South Coast Air Quality Management District 21865
Copley Drive Diamond Bar, CA 91765

Subject: Comments on Proposed Amendments to Rule 1111 and Rule 1121

Dear Ms. Delgado and Honorable Members of the Governing Board:

105-1

I just recently attended a city council meeting and heard for the first time of these two proposed amended Rulings. Has SCAQMD done their due diligence in notifying the 17 million people, which reside in your district, about these proposed changes? Did I perhaps miss a mailer?

105-2

As a homeowner and senior citizen living in SCAQMD's district, I have concerns with the impact that Rule 1111 and Rule 1121 would have on my livelihood. These two Rulings would cause an additional monetary burden on my finances. Appliances that are natural gas-powered are less expense and more reliable to operate than those using electricity. I can count on my gas-powered water heater to provide hot water when SCE implements their Public Safety Power Shutoff-PSPS, which can last for a few hours to several days.

How many older homes with 100 amp electrical panels will need to do an upgrade in order to sustain the additional electricity needed? This unexpected cost can range from $1000 on up. This issue could have a significant impact on people's pocketbooks, especially the senior citizens and low-income families. I read that AQMD is working on an incentive program to provide rebates for residents, building owners, and small businesses, but will that incentive program pay or reimburse the individual for the expense of having to upgrading their electrical panels? I share your commitment to clear air, but enacting Rulings that will only cause financial burdens to many is not the right approach to meet your intended goals.

105-3

It seems that every summer or when there's a heat wave, we deal with power outages due to an overwhelmed power grid. The state's transitioning to electrical appliances and cars will only put an addition strain on the power grid.

California is second on the list of the highest electricity rates in the nation. And just recently the CPUC approved SCE's request for another rate increase. When is enough enough?

105-4

My husband and I just installed a new gas-powered water heater and the emissions are significant lower than our previous one. Forcing a homeowner to install electrical appliances I believe is taking away from their rights and freedom to choose.

Thank you for giving me the opportunity to respond.

Sincerely,
Joanne Genis
Chino Hills, CA

Response to Comment Letter #105:

Response to Comment 105-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on outreach, please refer to Response to General Comment 5.

Response to Comment 105-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on the cost-effectiveness analysis, please refer to Response to General Comment 6.

Response to Comment 105-3:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on the electric grid, please refer to Response to General Comment 3.

Response to Comment 105-4:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

COMMENT LETTER #106: REMO HOMES

REMO HOMES

(323)708-4094
WWW.REMO.HOMES
1519 W. 139TH ST
GARDENA CA 90249

February 6, 2025

Mr. Wayne Nastri
Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

POSITION: SUPPORT Amendments to South Coast AQMD Rules 1111 and 1121

Dear Mr. Nastri:

106-1

In view of the state's goal of achieving carbon neutrality by 2045 (Executive Order B-55-18-2018), amendments to South Coast Air Quality Management District Rules 1111 and 1121 would address the transition to zero-emission appliances and reducing emissions, specifically residential furnaces (Rule 111) and water heaters (Rule 1121).

As the future of home building, ReMo Homes' innovative and technological advanced clean energy systems include both the clean residential furnace and water heater. More importantly, by transitioning to all-electric systems, we can eliminate these emissions at the source, improving both public health and environmental quality.

For ReMo Homes' factory pre-made material assembled onsite, electrification policies such as South Coast AQMD Rules 1111 and 1121 are critical to accelerating California's transition to safer, more sustainable housing. We urge South Coast AQMD to move forward with the amendments and continue supporting policies that reduce emissions, lower costs, and create a cleaner future for all Californians.

Sincerely,

Vamsi Kotla
President & CEO
ReMo Homes

Response to Comment Letter #106:

Response to Comment 106-1:

Staff appreciates the support for PARs 1111 and 1121, recognizing the need for emission reductions.

COMMENT LETTER #107: THE CITY COUNCIL OF THE CITY OF LA VERNE, CALIFORNIA

RESOLUTION NO. 25-09

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LA VERNE, CALIFORNIA, OPPOSING PROPOSED AMENDED RULES 1111 AND 1121 OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RELATED TO REGULATION OF NATURAL GAS EMISSIONS DUE TO COSTS TO AFFECTED BUSINESS AND RESIDENTS

WHEREAS, the South Coast Air Quality District (SCAQMD) is a regional air pollution control agency representing Los Angeles, Orange, Riverside and San Bernardino counties with responsibility for regulating stationary sources of air pollution; and

107-1

WHEREAS, the SCAQMD is considering two rules that would have a significant impact on up to 17 million South Coast homeowners, renters and businesses: Rule 1111 would regulate air emissions from gas-powered central furnaces; and Rule 1121 would regulate air emissions from residential-type, natural gas-powered water heaters; and

WHEREAS, Rules 1111 and 1121 would impose high costs to consumers while providing limited measurable air quality benefits for the four-county SCAQMD service area; and

WHEREAS, the two rules would ban the use of natural gas-powered furnaces and water heaters in new construction, taking effect in 2026. These rules would phase out existing natural gas furnaces and water heaters in existing single-family homes, multi-family housing, and businesses in 2027; and

WHEREAS, housing affordability is and will remain a top public policy priority for all local governments for the foreseeable future, and local governments are being pressured to build more housing, specifically housing people can afford and maintain. Any regulations that increase these costs deserve scrutiny to ensure that the increased costs are met with an equal or more significant amount of benefit to the consumer; and

WHEREAS, unlike most SCAQMD rules that regulate large stationary sources of air pollution like oil refineries and warehouses, Rules 1111 and 1121 specifically target

107-1

individual homeowners, apartment buildings, and businesses large and small, meaning that families and business owners will directly bear the costs of these two rules; and

WHEREAS, Rules 1111 and 1121 would require retrofitting homes, apartments, and businesses with electrical panel upgrades, extensive new plumbing, and physical renovations to accommodate compliant units; and

WHEREAS, on June 7, 2024, SCAQMD's Governing Board approved updates to Rule 1146.2 that will require new and existing residential and commercial buildings to transition to zero-emission (ZE) water heaters, to include natural gas-fired pool heaters, larger water heaters, small commercial water heaters, boilers, and process heaters, starting January 1, 2026; and

WHEREAS, for apartment owners, the cost to replace natural gas water heaters and furnaces with all- electric units will be passed down to tenants, leading to rent increases and placing additional financial pressure on renters; and

WHEREAS, updates to Rule 1146.2 will impact approximately 710,000 natural gas-fired residential pool and spa heaters alone, which will lead to further economic hardship to those pool owners; and

WHEREAS, for homeowners, and especially senior homeowners, of whom the City has a higher percentage than other cities, the costs to retrofit homes could be financially infeasible; and

WHEREAS, the City Council shares the commitment of SCAQMD to clean air and water and other quality of life benefits that draw and retain residents and businesses; however, the current version of Rules 1111 and 1121 will increase the cost of living in La Verne and potentially impact job creation and business retention.

NOW, THEREFORE, BE IT HEREBY RESOLVED BY THE CITY COUNCIL OF THE CITY OF LA VERNE THAT:

SECTION 1. Rules 1111 and 1121 will have a profound impact and impose significant costs on thousands of La Verne homeowners and renters and hundreds of businesses; and

107-2

SECTION 2. The City Council requests more time to allow for a more robust public outreach process that ensures residents and businesses are properly informed and that questions regarding cost, technology, and the availability of potential incentives are able to be addressed; and

SECTION 3. The City Council of the City of La Verne opposes Proposed Amended Rules 1111 and 1121 and urges the SCAQMD to indefinitely delay or cease consideration of these two regulations.

SECTION 4. That the Mayor shall sign and the Deputy City Clerk shall certify to the passage and adoption of this resolution and thereupon the same shall take effect and be in force.

PASSED, APPROVED, AND ADOPTED this 3rd day of February 2025.

Tim Hepburn, Mayor

ATTEST:

Debra Fritz, CMC Deputy City Clerk

I hereby certify that the foregoing **Resolution No. 25-09** was introduced and adopted at a regular meeting of the City Council of the City of La Verne held on the **3rd day of February 2025,** by the following votes:

AYES:	Kashifalghita, Lau, Johnson, and Hepburn.
NOES:	None.
ABSENT:	Crosby.
ABSTAIN:	None.

Debra Fritz, CMC Deputy City Clerk

City of La Verne,City Council Agenda Report

Approved on 2/3/25 at the regular meeting of the La Verne City Council.

DATE: February 3, 2025

TO: Honorable Mayor and City Council

FROM: Ken Domer, City Manager

SUBJECT: **RESOLUTION OPPOSING SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT PROPOSED AMENDED RULES 1111 AND 1121 RELATED TO REGULATION OF AIR EMISSIONS FROM RESIDENTIAL AND BUSINESS NATURAL GAS FURNACES AND WATER HEATERS.**

SUMMARY

The South Coast Air Quality Management District (SCAQMD) will consider two Proposed Amended Rules (PARs), Rule 1111 and Rule 1121, regulating the emissions from residential and commercial furnaces and emissions from residential water heaters. The proposed amendments to the rules seek to transition to zero-emission space and water heating appliances, based on future effective dates, when existing appliances need to be replaced. The proposed Resolution seeks to oppose the two rules based on costs to transition and seeks additional time and assistance to affected residents and businesses.

RECOMMENDATION

That the City Council adopt a Resolution titled, "A RESOLUTION OF THE CITY COUNCIL, CITY OF LA VERNE, CALIFORNIA, OPPOSING PROPOSED AMENDED RULES 1111 AND 1121 OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RELATED TO REGULATION OF NATURAL GAS EMISSIONS DUE TO COSTS TO AFFECTED BUSINESS AND RESIDENTS."

DISCUSSION

After being contacted by residents, Mayor Tim Hepburn requested that this item be placed for consideration by the City Council. Previously, on December XX, 2024, the City sent a letter to the South Coast Air Quality Management District (SCAQMD) expressing the City Council's opposition to the Proposed Amended Rules stating that while the City Council shares SCAQMD's commitment to improving air quality, the proposed amendments pose significant challenges and unintended consequences for our community.

One of the functions of SCAQMD is to promulgate rules that assist the region in attaining federal air quality standards. Rule 1111 regulates the emissions from residential and commercial furnaces and Rule 1121 regulates the emissions from residential water heaters. The proposed amendments to the rules seek to transition to zero-emission space and water heating appliances, based on future effective dates, when existing appliances need to be replaced.

There is strong concern over the two Proposed Amended Rules (PARS) due to the costs associated with implementing the regulations upon residents and business owners. Estimates

from a SCAQMD draft staff report on the PARS show replacement costs for space heaters ranging from $18,500 to $21,500 in an electric panel upgrade is needed. For water heater replacements, the cost to go electric ranges from approximately $5,200 to $8,200. At this time, SCAQMD has not released information on the proposed Go Zero Incentive Plan which is proposed to reimburse residents for the transition. It is important to note that as understood, the Go Zero Incentive Plan is a rebate program so residents would need to provide upfront funding. An example from a SCAQMD presentation shows the cost of a Heat Pump Water Heater at $5,200 while the incentive rebated is only in the $1,000 to $2,000 range, though with longer-term fuel savings derived from the switch.

Previously, on June 7, 2024, SCAQMD's Governing Board approved updates to Rule 1146.2 that will require new and existing residential and commercial buildings to transition to zero-emission (ZE) water heaters, to include natural gas-fired pool heaters, larger water heaters, small commercial water heaters, boilers, and process heaters, starting January 1, 2026.

Concern expressed by industry and resident commenters in meetings held by SCAQMD include that the rules create significant burdens for consumers and will potentially cost billions of dollars to only slightly reduce overall nitrogen oxide (NOx) emissions within the South Coast Air Basin. Based on information contained in a preliminary staff report for the Proposed Amended Rules, that percentage is 10 tons per day out of the total 351 tons per day of NOx emitted by all sources within the basin. As such, there is concern that PARs 1111 and 1121 require significantly more public education and consideration before being promulgated by SCAQMD.

FISCAL ANALYSIS

The consideration and adoption of the Resolution does not have a City fiscal impact.

ENVIRONMENTAL ANALYSIS

Not applicable.

LEGAL REVIEW

The City Attorney has reviewed the proposed Resolution.

ATTACHMENTS

1. Reso No 25-XX SCAQMD Rules 1111 and 1121
2. Rule 1111 and 1121 Factsheet

South Coast AQMD is Conducting Rulemaking that Could Impact Your Home Water Heaters and Furnaces

The rules will reduce emissions from residential furnaces (Rule 1111) and water heaters (Rule 1121) by transitioning to zero-emission appliances.

How Will the Rules Impact You?

Rules will take effect in 2-5 years and will be required only when:

Appliances are voluntarily replaced

Existing appliances break

Will There be any Flexibility?

Exceptions will be allowed for:

- **Construction or utility upgrades delays**
- **High-altitude areas**
- **Owners of multifamily buildings**
- **Considering other circumstances**

Health Benefits

Once implemented, these rules will prevent:

- **4,000** premature deaths
- **16,000** cases of newly onset asthma
- **4,000** emergency room visits

Will Financial Assistance be Available?

South Coast AQMD is working on an incentive program to provide rebates for residents, building owners and small businesses.

More info →

Get Involved

Want to provide feedback on the rules or need more information? Join a working group meeting. More information can be found at: www.aqmd.gov/home/rules-compliance/rules. To receive future updates on rulemaking and incentives via email newsletter: Subscribe by checking the "Building Appliances" box located under Rule Updates: www.aqmd.gov/sign-up.

South Coast Air Quality Management District
21865 Copley Dr. Diamond Bar, CA 91765
www.aqmd.gov • 1-800-CUT-SMOG®

@SouthCoastAQMD

V.1

Response to Comment Letter #107:

Response to Comment 107-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on consumer choice, please refer to Response to General Comment 1.

For discussion on cost, please refer to Response to General Comment 2.

For discussion on the electric grid, please refer to Response to General Comment 3.

For discussion on the cost-effectiveness analysis, please refer to Response to General Comment 6.

Additional discussion can be found in Response to General Comment 9.

For discussion on need for rule amendments and incentives, please refer to Response to general Comment 10 and 11.

Staff will conduct a status update/technology check-in(s) to further assess the market and provide updates to the Stationary Source Committee.

Response to Comment 107-2:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

For discussion on outreach, please refer to Response to General Comment 5.

Comment Letter #108: Alexandria Helmer

From: [redacted] <[redacted]>
Sent: Monday, February 10, 2025 5:35 PM
To: Jennifer Vinh <[redacted]>
Subject: Contact Form

Contact Form

Name: Alexandria Helmer

Email: [redacted]

Phone: [redacted]

Message:
I am opposed to Rule 1111 and 1121 mandates. Please do not approve. 108-1

Response to Comment Letter #108:

Response to Comment 108-1:

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Please refer to Response to General Comment 10 for the need for rule amendments.

APPENDIX D:

RESPONSE TO COMMENTS SENT TO BOARD AND COMMITTEE MEMBERS

AS OF MARCH 20, 2025 (CLOSE OF COMMENT PERIOD)

COMMENTS RECEIVED BEFORE MARCH 20, 2025 COMMENT LETTERS

Stakeholders have been submitting letters to the Governing Board and Stationary Source Committee Members since September 2024. This appendix contains those letters listed in the tables below that were received by March 20, 2025, the end of comment period. Staff summarized the general characterizations of the comments and provided responses.

COMMENT LETTERS SUPPORTING PAR 1111 AND PAR 1121

The following comments supported the original rule concept and maintained support for the new rule concept that sets manufacturer sales targets and mitigation fees. Many of the letters request to strengthen the rule requirements with higher mitigation fees and higher zero-NOx emission sales targets and support and urge no delay on rule adoption. Staff responses to the key points from those comment letters are included in a later section of this appendix.

Table Appendix D-1 –Support Letters Received before March 20, 2025

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
1	10/30/2024	Andrea Vidaurre, Charles Miller, David Diaz MPH, Tomas Castro, Lisa Swanson, Christopher Chavez, Christy Zamani, Fernando Gaytan, Jorge Rivera, Charlotte Matthews, Sharon Ungersma, Kim Orbe, Sam Fishman, Stuart Wood PhD,	The People's Collective for Environmental Justice, Los Angeles Climate Reality Project, Active San Gabriel Valley, Climate Action Campaign, Climate Reality Project Orange County Chapter, Coalition for Clean Air,	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-coalition-20241030.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
		Ben Stapleton	Day One, Earthjustice, Healing and Justice Center, RMI, San Fernando Valley Climate Reality Project, Sierra Club Los Angeles Chapter, SPUR, Sustainable Claremont, USGBC California)			
2	10/31/2024	Brendan Brown	Green & Healthy Homes Initiative	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-green-and-healthy-homes-initiatives-20241031.pdf
3	12/18/2024	Christopher Chavez, Charlotte Matthews	Coalition for Clean Air, RMI	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-coalition-202412187dd0ecefc2b66f27bf6fff00004a91a9.pdf
4	1/9/2025	Fernando Gaytan, David Diaz, Jane Williams, Robina Suwol, Christopher Chavez, Elizabeth Reid-Wainscoat,	Earthjustice, Active San Gabriel Valley, California Communities Against Toxics,	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-coalition-20250109.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
		Ana Gonzalez, David Martinez, Lisa Swanson, Jesse Marquez, Laura Gracia-Santiago, Charles Miller, Eli Lipmen, Hilary Firestone, Christhian Tapia-Delgado, Peter M. Warren, Sharon Ungersma, Kimberly Orbe, Anne Pernick, Sam Fishman, Ben Stapleton, Theral Golden	California Safe Schools, Coalition for Clean Air, Center for Biological Diversity, Center for Community Action & Environmental Justice, OC Policy Advocate Climate Action Campaign, Climate Reality Project Orange County Chapter, Coalition For A Safe Environment, Communities for a Better Environment, Los Angeles Climate Reality Project, MoveLA, Natural Resources			

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
			Defense Council, Pacific Environment, San Pedro & Peninsula Homeowners Coalition, San Fernando Valley Climate Reality Project, Sierra Club, SAFE Cities at Stand.earth, SPUR, USGBC California, West Long Beach Association			
5	1/15/2025	John M. Erickson	City of West Hollywood	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-west-hollywood-20250117.pdf
6	1/30/2025	Gracyna Mohabir	California Environmental Voters	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-california-environmental-voters-20250130.pdf
7	1/30/2025	Adrian Martinez	EarthJustice	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-earthjustice-20250130.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
8	2/6/2025	Jorge Rivera	Healing and Justice Center	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-healing-and-justice-center-20250206.pdf
9	2/6/2025	Chris Chavez	Coalition for Clean Air	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-coalition-for-clean-air-20250206.pdf
10	2/7/2025	Ashley Mercado	Day One	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-day-one-20250207.pdf
11	2/11/2025	Jane Williams	California Communities Against Toxics	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-california-communities-against-toxics-20250211.pdf
12	2/13/2025	Shreyas Sudhakar	Vayu	Business	1	http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-shreyas-sudhakar-20250213.pdf
13	2/13/2025	Nathan Taft	Stand.earth	Env. Group	1	http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-stand-earth-20250213.pdf
14	2/7/2025	Various	Self	Resident	31	http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-various-20250207.pdf
15	2/11/2025	Isabella Ford	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/comment-letter-from-isabella-ford-20250211.pdf?sfvrsn=c31f9f61_3
16	2/18/2025	Robina Suwol	California Safe Schools	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-california-safe-schools-20250218.pdf
17	2/19/2025	Fernando Gaytan, Adrian Martinez	EarthJustice	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-earthjustice-20250219.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
18	2/19/2025	Sherry Lear, Alan Weiner, Jack Eidt, Cheryl Auger, Anita Ghazarian, Bill Sive, Dave Shukla, Chris Peck, Regina Banks, Jennifer Tanner, Ruth Richardson, David J Marrett, Phil Glosserman	350 Southland Legislative Alliance, 350 South Bay Los Angeles, 350 Conejo / San Fernando Valley, SoCal 350 Climate Action, Ban SUP, Indivisible Alta Pasadena, Pink Panthers, Long Beach Alliance for Clean Energy, Urban Ecology Project, Lutheran Office of Public Policy, Indivisible Ca Green Team, Rooted in Resistance (Indivisible), Climate Reality Project Riverside County Chapter, Third	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-coalition-20250219.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
			Act SoCal Chapter			
19	2/14/2025	Various	Self	Resident	755	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-various-20250218.pdf
20	2/19/2025	Elise Kalfayan	Glendale Environmental Coalition	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-glendale-environmental-coalition-20250219.pdf
21	2/20/2025	Charles Miller	Los Angeles Climate Reality Project	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-los-angeles-climate-reality-project-20250220.pdf
22	2/20/2025	Eli Lipmen	Move LA	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-move-la-20250220.pdf
23	2/20/2025	Maggie Tsai	Asian Pacific Environmental Network	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-apen-20250220.pdf
24	2/20/2025	Tori Kjer	Los Angeles Neighborhood Land Trust	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-los-angeles-neighborhood-land-trust-20250220.pdf
25	2/20/2025	Teto (Hector) Huezo	Jobs to Move America	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-jobs-to-move-america-20250220.pdf
26	2/20/2025	Tony Sirna	Evergreen Action	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-evergreen-action-20250220.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
27	2/20/2025	David Diaz	ActiveSGV	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-activesgv-20250220.pdf
28	2/20/2025	Andrew McNamara	Carbon Zero Buildings	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-carbon-zero-buildings-20250220.pdf
29	2/20/2025	Marven E. Norman	Center for Community Action and Environmental Justice	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-center-for-community-action-and-environmental-justice-20250220.pdf
30	2/20/2025	Michelle Kim	Shared Streets	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-shared-streets-20250220.pdf
31	2/21/2025	Cristhian Tapia-Delgado	Pacific Environment	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-pacific-environment-20250221.pdf
32	2/20/2025	David Levitus	LA Forward Institute	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-lafi-20250220.pdf
33	2/19/2025	Various	Self	Resident	307	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-various-20250304.pdf
34	2/28/2025	Alex Arellano	Everybody's Long Beach	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-everybodys-long-beach-20250228.pdf
35	2/21/2025	Josh Lowenthal	California's 69th Assembly District	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-asm-lowenthal-20250221.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
36	3/6/2025	Stuart Wood	Sustainable Claremont	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-sustainable-claremont-20250306.pdf
37	2/19/2025	Various	Self	Resident	312	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-various-20250307.pdf
38	2/14/2025	Claire Broome	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-claire-broome-20250214.pdf
39	3/3/2025	Don Weiden	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/don-weiden-support-march-3-2025.pdf?sfvrsn=be6c9f61_2
40	3/5/2025	Brenden Kalfus	City of Temecula	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-temecula-20250305.pdf
41	3/13/2025	John M. Erickson (West Hollywood Mayor), Elizabeth Alcantar Loza (Cudahy Mayor), Freddy Puza (Culver City Vice Mayor), Denise Davis (Redlands City Council Member), Jessie Lopaz (Santa Ana Councilwoman), Juan Munoz-Guevara (City of Lynwood	Elected Officials	City/ County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-elected-group-20250313.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
		Council Member), Susan Sonne (Buena Park Council Member), Yasmine-Imani McMorrin (Culver City Council Member)				
42	3/18/2025	Pete Marsh	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-pete-marsh-20250318.pdf
43	3/18/2025	Ciara Morning Star Belardes	Sacred Places Institute for Indigenous Peoples	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-sacred-places-institute-20250318.pdf
44	3/19/2025	David Martinez	Climate Action Campaign	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-climate-action-campaign-20250319.pdf
45	3/20/2025	Amy Luna Capelle	Women for American Values and Ethics	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-wave-20250320.pdf
46	3/20/2025	Tiffany Lwin	Sunrise Movement Orange County	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-sunrise-movement-orange-county-20250320.pdf
47	3/20/2025	Craig Perkins	The Energy Coalition	Env. Group	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-the-energy-coalition-20250320.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
48	3/21/2025	Various	Sierra Club/Self	Env. Group	624	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-sierra-club-20250320.pdf

COMMENT LETTERS OPPOSING PAR 1111 AND PAR 1121

The comment letters listed in the table below expressed opposition or concerns. The majority of those comments are based on the original rule concept that contained a future effective zero-NOx emission standard that would only allow for the sale of zero-NOx emission space and water heating appliances, e.g., a mandate to transition to zero-NOx appliances. Some comment letters included in the table below have recognized the new rule concept but expressed some concerns on certain provisions. The opposition and concerns on the original rule concept have been addressed by the new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers and will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. Staff responses to the key points from the comment letters are included in a later section of this appendix. Comment letter #4 of Table Appendix D-2 is identical to the comment letter included in Appendix C as Comment Letter #37, where a detailed response is provided for each point made in the letter.

Table Appendix D-2 –Opposition Letters Received before March 20, 2025

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
1	9/20/2024	Tracy Hernandez	BizFed	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-bizfed-20240920.pdf
2	9/20/2024	Stuart Waldman	Valley Industry & Commerce Association	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-valley-industry-commerce-association-20240920.pdf
3	10/3/2024	Fran Inman, David Fleming, Tracy Hernandez, David Englin	BizFed	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/los-angeles-county-business-federation.pdf
4	10/17/2024	Kevin Barker	SoCalGas	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
						1121/comment-letter-from-socalgas-20241017.pdf
5	10/17/2024	Whitney Squire	Plumbing Heating Cooling Contractors of California	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-phcc-of-california-20241017.pdf
6	10/30/2024	Fran Inman, David Fleming, Tracy Hernandez, David Englin	BizFed	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-bizfed-20241030.pdf
7	10/31/2024	Sandi Schulz	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-sandi-schulz-20241031.pdf
8	10/31/2024	Julie Peterson	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-julie-peterson-20241030.pdf
9	11/3/2024	Marsha Golden	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-marsha-golden-20241103.pdf
10	11/4/2024	Deborah Knowlton	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-deborah-knowlton-20241104.pdf
11	11/8/2024	Terry Schulz	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-terry-schulz-20241108.pdf
12	11/29/2024	Lawrence Yoo	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-lawrence-yoo-20241129.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
13	12/18/2024	Hari Dhiman	Eastvale Chamber of Commerce	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-eastvale-chamber-of-commerce-20241218.pdf
14	12/18/2024	Marnie O'Brien Primmer	Orange County Council of Governments	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-occog-20241216.pdf
15	12/18/2024	Tim Hepburn	San Gabriel Valley Council of Governments	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-sgvcog-20241218.pdf
16	12/18/2024	Mendell L. Thompson	City of Glendora	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-the-city-of-glendora-20241218.pdf
17	12/30/2024	Various	Self	Resident	86	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-various-20241229.pdf
18	12/30/2024	Various	Self	Resident	13	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/comment-letter-from-various-20241230.pdf
19	12/31/2024	Miguel Prietto	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/comment-letter-from-miguel-prietto-20241231.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
20	1/1/2025	Various	Self	Resident	7	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-various-20250107.pdf
21	1/9/2025	Various	Self	Resident	4	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-various-20250109.pdf
22	1/17/2025	Katherine Johansen	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-katherine-johansen-20250117.pdf
23	1/7/2025	Eunice Ulloa	City of Chino	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-chino-20250107.pdf
24	1/11/2025	Various	Self	Resident	9	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-various-20250111.pdf
25	1/23/2025	Mark Attaway	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/comment-letter-from-mark-attaway-20250123.pdf
26	1/28/2025	Phillip Dupper	City of Loma Linda	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-loma-linda-20250128.pdf
27	1/28/2025	Phillip Dupper, Mayor Popescu, Rigsby, Spencer-Hwang	The City Council of The City of Loma Linda	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-the-city-council-of-the-city-of-loma-linda-20250128.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
28	1/28/2025	Scott Voigts	City of Lake Forest	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-lake-forest-20250128.pdf
29	1/24/2025	Various	Self	Resident	16	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-various-20250124.pdf
30	1/30/2025	Blair Stewart	City of Brea	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-brea-20250130.pdf
31	2/1/2025	Various	Self	Resident	8	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-scott-moody-20250201.pdf
32	2/7/2025	Debra Kamm	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-debra-kamm-20250207.pdf
33	2/7/2025	Various	Self	Resident	68	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-various-20250211.pdf
34	2/14/2025	Greg Newton	City of Norco	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-norco-20250214.pdf
35	2/10/2025	Various	Self	Resident	68	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-various-20250214.pdf
36	2/14/2025	Various	Self	Resident	7	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-various-20250115.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
37	2/19/2025	Mayor Warren, Mayor Pro Tem Garcia, Council Members Cothran, Roberts and Sandoval	City of Fontana	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-fontana-20250219.pdf
38	2/21/2025	Kris Murray	Association of California Cities Orange County	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-accoc-20250221.pdf
39	2/24/2025	L. Dennis Michael	City of Rancho Cucamonga	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-rancho-cucamonga-20250224.pdf
40	2/21/2025	Rose Espinoza	City of La Habra	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-la-habra-20250221.pdf
41	2/21/2025	Scott Cutshall	Clay Lacy Aviation	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-clay-lacy-aviation-20250221.pdf
42	1/7/2025	Joe Stapleton	City of Newport Beach	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-newport-beach-20250107.pdf
43	2/20/2025	Various	Self	Resident	23	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-various-20250306.pdf
44	2/17/2025	Sam Wong, MD	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/sam-wong-comment-letter-feb-17-2025.pdf?sfvrsn=b36c9f61_2

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
45	3/11/2025	Greg Van Dyke	California Consumer Advocates for Affordability and Safety	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-ca-consumer-advocates-20250311.pdf
46	3/18/2025	Sam Wong	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-sam-wong-20250318.pdf
47	3/13/2025	Various	Self	Resident	9331	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letters-from-residents-in-opposition-20250313.pdf
48	3/12/2025	Bishop Dwight E. Williams	California Senior Alliance	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-california-senior-alliance-20250312.pdf
49	3/17/2025	Adam Briones	California Community Builders	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-california-community-builders-20250317.pdf
50	3/17/2025	Chip Ahlswede	Apartment Association of Orange County	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-apartment-association-of-orange-county-20250317.pdf
51	3/18/2025	Robert Sausedo	Community Build, Inc.	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-community-build-inc-20250318.pdf

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
52	3/20/2025	Todd Titus	Heating, Air-Conditioning, & Refrigeration Distributors International (HARDI)	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-hardi-20250320.pdf
53	3/20/2025	Jack Miranda	Jesse Miranda Center for Hispanic Leadership	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-jesse-miranda-center-20250320.pdf
54	3/20/2025	Gretchen Gutierrez	Desert Valleys Builders Association	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-desert-valleys-builders-association-20250320.pdf
55	3/20/2025	Laura Halverson, Tim Shaw, Christine Schachter	Tri-Counties of Realtors	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-tri-counties-of-realtors-20250320.pdf
56	2/20/2025	Janice Lim	City of Yorba Linda	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-yorba-linda.pdf
57	2/26/2025	Todd Rogers	City of Lakewood	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-lakewood-20250226.pdf
58	3/5/2025	Ricky Estrada	City of Menifee	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-city-of-menifee-20250305.pdf
59	3/5/2025	Daniel R. Slater	City of Orange	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-

	Date Received	Commentor Name	Representing	Category	# of Letters	Link
						1121/comment-letter-from-city-of-orange-20250305.pdf
60	3/10/2025	Russell Johnson	Associated Builders and Contractors of Southern California	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-associated-builders-and-contractors-of-southern-california-20250310.pdf
61	3/19/2025	Robert Apodaca	The Two Hundred	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/comment-letter-from-the-two-hundred-20250319.pdf
62	3/20/2025	Laura Halverson, Tim Shaw, Christine Schachter	The Pacific West Association of Realtors	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/comment-letter-from-the-pacific-west-association-of-realtors-20250320.pdf

RESPONSE TO KEY TOPICS IN THE COMMENT LETTERS TO THE GOVERNING BOARD AND COMMITTEE MEMBERS

Rule Mandate

Opposition letters expressed concern over the original rule concept and the mandate to transition to zero-NOx space and water heating appliances at future effective dates when appliances are replaced. Based on the feedback, staff developed a new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers and will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. The new rule concept is not a mandate, as consumers can choose which units to install in their homes.

Consumer Choice

For discussion on consumer choice, please refer to Response to General Comment 1 in Appendix A.

Cost and Affordability

For discussion on cost and affordability, please refer to Response to General Comment 2 in Appendix A.

Electricity Demand and Grid Sustainability

For discussion on electric grid sustainability for meeting demand and addressing concerns on power outages, please refer to Response to General Comment 3 in Appendix A.

Zero-NOx Emission Technology Readiness

For discussion on zero-NOx emission technology readiness, please refer to Response to General Comment 4 in Appendix A.

Sufficient Outreach, Public Participation, and Rulemaking Schedule

For discussion on outreach and rulemaking schedule, please refer to Response to General Comment 5 in Appendix A. Stakeholders can continue to participate in the rulemaking process at future public meetings, including the Public Hearing.

Cost-Effectiveness Analysis

For discussion on the cost-effectiveness analysis, please refer to Response to General Comment 6 in Appendix A.

Emergency Replacements

For discussion on emergency replacement, please refer to Response to General Comment 7 in Appendix A.

High-Altitude Concerns

For discussion on high-altitude installations, please refer to Response to General Comment 8 in Appendix A.

EPCA

For discussion on EPCA or concerns on banning natural gas, please refer to Response to General Comment 9 in Appendix A.

Need for the Rule Amendments

For discussion on the need for rule amendment, please refer to Response to General Comment 10 in Appendix A. While there may be some co-benefits for indoor air quality, the proposed rule focuses on ambient air quality.

Benefit of NOx Reduction to Ozone Reduction

NOx is identified as a criteria pollutant and one of the main precursor pollutants for ozone formation by U.S. EPA. Please refer to Appendix C Response to Comment 11-1 for more regarding the benefit of NOx reductions from PAR 1111 and PAR 1121 on achieving control on ozone formation.

Incentives to Transition to Zero-NOx Appliances

For discussion on incentives, please refer to Response to General Comment 11 in Appendix A.

Labeling and Reporting Requirements

For discussion on labeling, please refer to Appendix C Response to Comment 27-4.

For discussion on reporting requirements, please refer to Appendix C Response to Comment 27-9.

Delay January 1, 2027 Compliance Date to 2029

PAR 1121 Table 2 compliance date for existing buildings has been revised from January 1, 2027, to January 1, 2029. Furthermore, the new rule concept will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use.

Feasibility of 120V Heat Pump Water Heater

Please refer to Appendix C Response to Comment PW-9 for a similar comment.

Technology Check-In for Rule 1146.2

Staff will conduct a technology check in for Rule 1146.2 and provide update to the Stationary Source Committee prior to the future effective date for the existing building Zero-NOx emission standard.

Replacement of Units

PAR 1111 and PAR 1121 do not require the replacement of any operational units. PAR 1111 and PAR 1121 apply at the unit natural turnover when a replacement unit must be installed, often at unit breakdown.

Existing Mobile Homes

PAR 1111 and PAR 1121 have been amended to remove the zero-NOx emission standard for space and water heating appliance installations in existing mobile homes. For more discussion on existing mobile homes, please refer to Appendix B Response to Comment 6-1.

Natural Gas-Fired Stoves, Grills, and Other Cooktops

Discussion regarding natural gas-fired stoves, grills, and other cooktops are outside of the scope of this rulemaking.

Costly for Swimming Pool Heaters Going Electric

Discussion of swimming pool heaters is outside of the scope of this rulemaking. Please refer to South Coast AQMD Rule 1146.2: https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1146-2.

Motor Vehicles

Discussion of motor vehicles is outside of the scope of this rulemaking. For more information regarding South Coast AQMD's Old-Vehicle Scrapping Program, please refer to: https://www.aqmd.gov/home/programs/community/old-vehicle-scrapping.

Improving Public Transportation

Discussion of improving public transportation in South Coast AQMD is outside of the scope of this rulemaking.

High Electric Bill

For discussion on consumer choice, please refer to Response to General Comment 1 in Appendix A. For discussion on cost and affordability, including utility cost, please refer to Response to General Comment 2 in Appendix A.

Tankless Electric Water Heater Electrical Upgrade and Cost

PAR 1121 is for tank type water heaters, tankless water heaters are outside of the scope of this rulemaking. Please refer to South Coast AQMD Rule 1146.2: https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1146-2 .

For discussion on consumer choice, please refer to Response to General Comment 1 in Appendix A. For consumers who choose a zero-NOx unit, an electric panel upgrade is not needed in every case. There are 120v heat pump water heaters available that are plug-in, along with other technologies.

White Papers and Studies

Staff appreciates the studies and analyses. For discussion on consumer choice, please refer to Response to General Comment 1 in Appendix A.

Impact Studies

Staff appreciates the studies and analyses providing data on existing fossil fuel combustion costs, energy costs, household impacts, health impacts, and technology readiness. Also see General Comment Responses 3 through 5. For discussion on impact assessments, including a socioeconomic impact assessment, estimated number of units, and emission reductions, please refer to Chapter 4.

Wildfires

Wildfire emissions are a concern to South Coast AQMD but are outside the scope of PAR 1111 and PAR 1121. The primary concern of wildfires is particulate matter emissions

(PM2.5 and PM10). Rule development for Proposed Rule 444.1 – PM Reductions from Forest Waste for Wildfire Prevention has been initiated. Information for the rulemaking will be posted here: https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-404-and-444-1. South Coast AQMD is supporting ongoing federal, state, and local efforts in response to the recent devastating Los Angeles wildfires. More information on wildfire response can be found here: https://www.aqmd.gov/2025-wildfire-response.

Carbon Footprint

South Coast AQMD is a regional air pollution regulatory agency; the carbon footprint of household natural gas usage is outside of the scope of PAR 1111 and PAR 1121. For discussion on the purpose of PAR 1111 and PAR 1121, please refer to Response to General Comment 10 in Appendix A.

Methane Emissions and Landfills

CARB regulates methane emissions and adopted numerous methane regulations, including a methane regulation for municipal solid waste landfills. South Coast AQMD also has rules for landfills including Rule 1150 – Excavation of Landfill Sites (https://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1150.pdf) , Rule 1150.1 – Control of Gaseous Emissions from Municipal Solid Waste Landfills (https://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1150-1.pdf), Rule 1150.3 – Emissions of Oxides of Nitrogen from Combustion Equipment at Landfills (https://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1150-3.pdf?sfvrsn=10), and Rule 1118.1 - Control of Emissions from Non-Refinery Flares (https://www.aqmd.gov/docs/default-source/rule-book/reg-xi/R1118-1.pdf?sfvrsn=d217f161_9).

Lawn Equipment

CARB regulates lawn, garden, and landscape equipment and has not banned gas powered equipment. South Coast AQMD has an incentive program to exchange gasoline or diesel powered commercial lawn and garden equipment for zero-emission battery electric alternatives. For more information regarding South Coast AQMD's Lawn and Garden Program, please refer to: https://www.aqmd.gov/home/programs/community/electric-lawn-and-garden-programs.

Pilot Program to Verify Feasibility of Zero-NOx Emission Standard

The comment was based on the original rule concept. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, allows for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. For discussion on technology readiness, please refer to Response to General Comment 4 in Appendix A. Staff will conduct a technology check-in for rule implementation and provide updates to the Stationary Source Committee.

Implementation Schedule

PAR 1111 and PAR 121 are applicable to new installations at end of unit life, or at natural turnover, which means 15-25 years of implementation timeline. The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, allowing both zero-NOx emission

units and NOx-emitting natural gas-fired units further addresses stakeholder concerns regarding insufficient time to transition to zero-NOx emission appliances.

Financial Burden of Mitigation Fee

Both rules previously had mitigation fee alternative compliance options. The mitigation fee in the new rule concept strikes a balance while incentivizing zero-NOx emission units. For more on the mitigation fee, please refer to Appendix B Response to Comment PC-6.

Housing Affordability

The new rule concept for PAR 1111 and PAR 1121 released on February 7, 2025, helps address stakeholder concerns regarding costs and the impacts on housing affordability. For discussion on affordability and cost, please refer to Appendix A Response to General Comment 2. For discussion on rent stabilization and tenant protections, please refer to Chapter 2.

South Coast AQMD Authority

The South Coast AQMD Governing Board has authority to adopt amendments to Rule 1111 and Rule 1121 pursuant to the Health and Safety Code Sections 39002, 40000, 40001, 40440, 40702, 40725 through 40728.5, and 41508.

PAR 1111 and PAR 1121 Implementation

PAR 1111 and PAR 1121 apply to the product supply chain. Manufacturers have the option to comply with PAR 1111 and PAR 1121 by the ZEM alternative compliance option or compliance schedule for new and existing building according to rule paragraph (d)(2). The proposed ZEM alternative compliance option, in lieu of paragraph (d)(2), intends to provide flexibility for the implementation and addresses the concern for consumer choice and costs. The compliance targets by the proposed ZEM alternative compliance option are not hard targets. If consumer demand results in higher sales of NOx-emitting gas units, the manufacturer may supply those units with a higher mitigation fee. Both rules previously had mitigation fee alternative compliance options and manufacturers, distributors, and contractor/installers have gained experience through similar implementation.

Increase Mitigation Fees

Please refer to Appendix B, Response to Comment - PC-4, Response to Comment 43-1, and Response to Comment 29-2. Fees will be utilized for the Go Zero program. Increasing the fees over time outside CPI, increasing fees for continuously missing targets, ~~eliminating the discount fee,~~ or stricter compliance percentage targets would not be in line with the current efforts to strike a balance while incentivizing zero-NOx emission units.

Lower Mitigation Fees

For further discussion on fees, please refer to Appendix – B Response to Comment PC-6.

EPCA Preemption

The new rule concept for Proposed Amended Rules 1111 and 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and

installed for use. For discussion on EPCA or concerns on banning natural gas, please refer to Response to General Comment 9 in Appendix A.

Impact on Schools

The PAR 1111 applicability was revised and no longer includes units with a rated heat input capacity of 175,000 Btu/hr or greater, which would include many furnace sizes for commercial applications such as in schools. The current proposal limits PAR 1111 to furnaces used for indoor heating to less than 175,000 Btu per hour. The rules are not proscriptive, so there may be scenarios where schools choose to install smaller-sized appliance that are subject to PAR 1111 or PAR 1121. The new rule concept for PARs 1111 and 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. For discussion on consumer choice, please refer to Response to General Comment 1 in Appendix A.

Availability of Solar

Discussion regarding the availability and cost of solar power is outside the scope of this rulemaking. Please refer to Chapter 2 for discussion on solar technology for heating, ventilation, and air conditioning.

Conflict with the Dormant Commerce Clause

The new rule concept for Proposed Amended Rules 1111 and 1121 released on February 7, 2025, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. For discussion on consumer choice, please refer to Response to General Comment 1 in Appendix A. For a discussion on the Dormant Commerce Clause please refer to Response to Comment 4-2 in Appendix C.

Attainment of Existing NOx Standards

South Coast Air Basin has been classified as “extreme” nonattainment for the 2015 federal ozone standard. Ozone is formed when NOx and VOC react in the presence of sunlight. While both NOx and VOC contribute to ozone formation, the key to attaining the ozone standard in the Basin is to reduce NOx. For a discussion on the need for the rule amendments, please refer to Response to General Comment 10 in Appendix A.

Accuracy of Health Impacts

Health benefit from the rules is based on NOx emission reductions. Although natural gas combustion is not as emissive as combusting other fossil fuels, the large universe of appliances subject to PAR 1111 and PAR 1121 results in the large emission inventory. PAR 1111 and PAR 1121 will cover over 10 million units emitting an estimated 6.8 tpd NOx emissions. Comparatively for NOx emission, by 2037, staff estimates all utilities emit 2 to 3 tpd, all refineries emit about 4 tpd, and all passenger vehicles emit about 7 tpd. The health benefit from the rules will be significant. For a detailed discussion on the health benefits analysis, please refer to Response to General Comment 10 in Appendix A.

Impact on Gas Stoves

Please note that PARs 1111 and 1121 do not apply to stoves, they apply to space and water heating appliances.

Readiness of Electrical Appliances

For a discussion on the readiness of zero-NOx emission technology and consumer choice, please refer to Response to General Comment 4 and Response to General Comment 1, respectively, in Appendix A.

Impact on Disadvantaged Communities

PARs 1111 and 1121 apply to residential furnaces and water heaters. The NOx emission reductions as a result of implementation of these two proposed amended rules will benefit the air quality in all communities in which these types of equipment operate. Consumers will have the choice to purchase conventional NOx-emitting units when an appliance needs to be replaced at end of unit life. For consumers who choose to pursue zero-NOx emission units, more incentives and lower utility rate would be available for lower income consumers. For discussion on cost, affordability and incentives, please refer to Response to General Comment 2 and Response to General Comment 11 in Appendix A.

Impact on Climate Change

The South Coast AQMD's mission is to improve regional air pollution and to attain state and federal air quality standards. PARs 1111 and 1121 target NOx emission reductions to assist in meeting federal ozone and PM2.5 air quality standards for the region. While there may be co-benefits for greenhouse gas emission reductions via the prevention of natural gas combustion, that is not the direct purview of the South Coast AQMD or the purpose for the proposed rule amendments.

Sales Targets

For comments on assessment of sales targets and potential revisions, please refer to Appendix B - Response to Comment PC-3.

Consistency in Appliance Regulations Across Air Districts

The South Coast AQMD evaluates the air quality impacts of pollution within its geographical jurisdiction. Similar evaluations of other Air Districts within California may determine the necessity of regulations that also reduce NOx emissions from residential furnaces and waters heaters and result in air quality benefits. South Coast AQMD has been in communication with CARB, which is considering statewide rulemaking for space and water heating.

Go Zero Program Prioritization of Disadvantaged Communities

An effort will be made to focus rebates on those in overburdened regions, with 75 percent of rebate funding dedicated to overburdened communities for the pilot phase. Staff will monitor the program performance and ensure the prioritization of overburdened communities for future phases. For more information, please refer to Response to Comment 22-1 in Appendix B.

Utility-Funded Loan Program for Zero-Emission Equipment Transition

Staff understand utility companies such as Southern California Edison offer state-administered financing programs that help customers by spreading the cost of qualified installations overtime. In addition to those financing opportunities, South Coast AQMD's Go Zero program will provide a source of funds to incentivize the transition to zero-NOx emission residential furnaces and water heaters. This program will be partially funded by the implementation of mitigation fees for NOx emitting natural gas-fired units sold specified in Proposed Amended Rules 1111 and 1121. For more information, please refer to Appendix A – Response to General Comment 11.

Electrical Upgrades

By the new rule concept, consumers will have the choice to purchase conventional NOx-emitting units when an appliance needs to be replaced at end of unit life. For consumers who choose zero-NOx emission units, the project cost examples listed in the Clearinghouse website include electric upgrade costs (https://www.aqmd.gov/home/rules-compliance/residential-and-commercial-building-appliances), which is also included in staff analysis of cost-effectiveness under Chapter 2 of the staff report. For more information on the costs, please refer to Appendix A – Response to General Comment 2.

Applicability Change in PAR 1111

The PAR 1111 applicability was revised and no longer includes units with a rated heat input capacity of 175,000 Btu/hr or greater, units with rated heat input capacity 175,000 Btu/hr and above will be addressed in a future rule development process. For more information, please refer to Appendix B – Response to PC-16.

APPENDIX E:

COMMENT LETTERS RECEIVED AFTER CLOSE OF COMMENT PERIOD

Comments Received from March 21, 2025, to ~~March 28, 2025~~ May 16, 2025

COMMENT LETTERS

This appendix contains those letters listed in the tables below that were received from March 21, 2025, to ~~March 28, 2025~~ May 16, 2025. Staff summarized the general characterizations of the comments and provided responses. For the most up to date comment letters, including comment letters received past May 16, 2025, please refer to the following links below:

- Comment Letters Sent to Staff
  - https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1111-and-rule-1121/comment-letters
- Comment Letters Sent to the Board/Committee
  - https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1111-and-rule-1121/comment-letters/comment-letters-to-the-board-committee

TABLE APPENDIX E-1*:* COMMENTS RECEIVED FROM MARCH 21, 2025 TO MARCH 28, 2025

Letter	Date Received	Commentor Name	Representing	Category	# of Letters	Link
1	3/23/2025	Jesse Biebesheimer	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/comment-letter-from-jesse-biebesheimer-20250323.pdf?sfvrsn=1e1d9f61_2
2	3/26/2025	Faith Bautista	National Diversity Coalition	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/ndc-letter-to-vanessa-delgado.pdf?sfvrsn=c31b9f61_3
3	3/21/2025	Roy Profitt	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/comment-letter-from-roy-profitt-20250321.pdf?sfvrsn=3b009f61_3
4		Various	Self	Resident	116	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/comment-letter-from-various-20250326.pdf?sfvrsn=d80e9f61_2
5	3/27/2025	Stuart Waldman	Valley Industry & Commerce Association	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/comment-letter-from-vica-20250327.pdf?sfvrsn=b17f9f61_2
6	3/28/2025	Leah Skinner	Carson Chamber of Commerce	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/comment-letter-from-carson-chamber-of-commerce-20250328.pdf?sfvrsn=8f7f9f61_2
7	3/28/2025	Paul Little	Pasadena Chamber of Commerce and Civic Association	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/comment-letter-from-pasadena-chamber-of-commerce-20250328.pdf?sfvrsn=a67c9f61_2
8	3/21/2025	Erin Pak	Kheir Clinic	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/amended-rule-1111-oppose-kheir-2025-03-21.pdf?sfvrsn=ba8e9e61_2
9	3/29/2025	Katherine Johansen	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/par-1111-and-par-1121-public-comment-katherine-johansen.pdf?sfvrsn=9b579f61_2

Letter	Date Received	Commentor Name	Representing	Category	# of Letters	Link
10	4/4/2025	Various	-	-	2	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(2-in-support).pdf?sfvrsn=4f079e61_2
11	3/30/2025-4/8/2025	Various	-	-	217	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(217-in-opposition)d7ba3c1a-fdb8-4736-8ad0-7892b7118c5e.pdf?sfvrsn=348d9d61_3
12	4/11/2025	John C. Heintz	Regulatory Flexibility Group (RFG)	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/regulatory-flexibility-group.pdf?sfvrsn=55399e61_7
13	4/9/2025-4/14/2025	Various	-	-	21	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(21-in-opposition).pdf?sfvrsn=501e9e61_3
14	4/14/2025	Robert Helbing	Air-Tro	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/oppose---air-tro-comment-letter.pdf?sfvrsn=5b1e9e61_3
15	4/14/2025	Kyle Bergeron	A.O. Smith	Manufacturer	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/ao-smith-041425.pdf?sfvrsn=917f9e61_3
16	4/9/2025	Matt Vespa	Earthjustice, California Environmental Voters, Coalition for Clean Air and Sierra Club Angeles Chapter	Environmental Group	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/earthjustice-040925.pdf?sfvrsn=6e1e9e61_9
17	3/20/2025	Aziz Amiri	Regional Chamber of Commerce San Gabriel Valley	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/opposition-letter-aqmd.pdf?sfvrsn=a8579f61_2
18	4/2/2025	Bill Velto	City of Upland	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/letter-of-opposition---scaqmd.pdf?sfvrsn=b38e9e61_2

Letter	Date Received	Commentor Name	Representing	Category	# of Letters	Link
19	4/2/2025	Bill Velto	City of Upland	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/6819-scaqmd-resolution-2-10-25.pdf?sfvrsn=bb8e9e61_2
20	4/2/205	Various	-	-	10	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/april-scaqmd-par-1111-1121---public-opposition-letters-03-27-25.pdf?sfvrsn=a18e9e61_2
21	3/30/2025-4/8/2025	Various	-	-	91	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-to-board-(91-in-opposition).pdf?sfvrsn=48cb9e61_2
22	4/7/2025	Steven Shepherd	Shepherd Architects	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/steven-c-shepherd.pdf?sfvrsn=ecb9e61_2
23	4/4/2025	Paul J. Miller	NESCAUM	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/nescaum.pdf?sfvrsn=31159e61_4
24	4/9/2025	Various	-	-	38	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various---scqamd-resident-letters-(38-in-opposition).pdf?sfvrsn=10119e61_3
25	3/21/2025	-	SCAQMD Local Government & Small Business Assistance Advisory Group	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/board-oppose---3-21-25-lgsba-opposition-letter.pdf?sfvrsn=38119e61_3
26	4/10/2025	Various	Amigos Properties, L.P., Huntington Gardens L.P., Solteros Apartments L.P., and Trident Properties L.P.	Other	4	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(4-in-opposition).pdf?sfvrsn=1119e61_3
27	4/9/2025	L. Anthony Beall	City of Rancho Santa Margarita	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/board-oppose---city-of-rancho-santa-margarita---anthony-beall.pdf?sfvrsn=31119e61_3
28	4/10/2025	Kevin Barker	SoCalGas	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/board-

Letter	Date Received	Commentor Name	Representing	Category	# of Letters	Link
						oppose---socalgas-041025.pdf?sfvrsn=26119e61_3
29	4/4/2025-4/14/2025	Various	-	-	18	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(18-in-opposition).pdf?sfvrsn=4a119e61_3
30	4/15/2025	Terry W. Trombatore	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/terry-w-trombatore-041525.pdf?sfvrsn=807f9e61_3
31	4/16/2025	Stacia Nadelman	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/stacia-nadelman-041625.pdf?sfvrsn=aa7f9e61_3
32	4/16/2025	Jo Dee Preston	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/jo-dee-preston-041625.pdf?sfvrsn=d87f9e61_3
33	4/16/2025	Cindy Warren	City of Murrieta	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/cindy-warren---mayor-of-murrieta-041625.pdf?sfvrsn=bb7f9e61_3
34	4/17/2025	Wynn Tucker	Green & Healthy Homes Initiative (GHHI)	Environmental Group	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/green-healthy-homes-initiative-(ghhi)-041725.pdf?sfvrsn=8f429e61_3
35	4/18/2025-4/22/2025	Various	-	-	10	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(10-in-opposition).pdf?sfvrsn=25439e61_4
36	4/22/2025-4/25/2025	Various	-	-	63	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(63-in-opposition)-042225-042525.pdf?sfvrsn=859e9d61_3
37	4/23/2025-4/2420/25	Various	-		6	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(6-in-support)-042325-042425.pdf?sfvrsn=acac9d61_7
38	4/29/2025	Jim Steiner	City of Corona	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/city-of-corona-042425.pdf?sfvrsn=989e9d61_3

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39	4/18/2025-4/25/2025	Various	-	-	16	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(16-in-opposition)-0418-042525.pdf?sfvrsn=c2af9d61_3
40	4/22/2025		City of Anaheim	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/city-of-anaheim-042225.pdf?sfvrsn=d1af9d61_3
41	4/22/2025		City of Tustin	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/city-of-tustin-042225.pdf?sfvrsn=f0af9d61_3
42	4/4/2025-4/23/2025	Various	-	-	11	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(11-in-opposition)-20250404-20250423.pdf?sfvrsn=62e09d61_3
43	4/30/2025	Rosalie Barcinas	Southern California Edison	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/sce-20250430.pdf?sfvrsn=a6e19d61_3
44	5/1/2025	Mel Smith	Mel Smith Electric, Inc	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/mel-smith-electric-20250501.pdf?sfvrsn=6fe19d61_3
45	5/1/2/2025-5/2/2025	Various	-	-	12	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(12-in-opposition)-20250501-20250502.pdf?sfvrsn=79d69d61_3
46	5/5/2025-5/6/2025	Various	-	-	15	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(15-in-opposition-from-geary-pacific)-20250505-20250506.pdf?sfvrsn=37cd9d61_3
47	5/2/2025-5/7/2025	Various	-	-	32	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(32-in-opposition)-20250502-20250507.pdf?sfvrsn=2aca9d61_2
48	5/7/2025	Oscar Ortiz	Coachella Valley Association of Governments	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/cvag-oscar-ortiz-20250507.pdf?sfvrsn=faca9d61_2

Letter	Date Received	Commentor Name	Representing	Category	# of Letters	Link
49	5/7/2025	Ted Weill	Coachella Valley Association of Governments	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/cvag-ted-weill-20250507.pdf?sfvrsn=9cca9d61_2
50	5/5/2025	Brina Simon	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/brina-simon-20250505.pdf?sfvrsn=d8cd9d61_6
51	5/5/2025-5/7/2025	Various	-	-	66	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(66-in-opposition)-20250505-20250507.pdf?sfvrsn=e5369d61_2
52	5/5/2025-5/6/2025	Various	-	-	2	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(2-in-support)-20250505-20250506.pdf?sfvrsn=59369d61_2
53	5/6/2025-5/8/2025	Various	-	-	31	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(31-in-opposition)-20250506-20250508.pdf?sfvrsn=c83a9d61_2
54	4/22/2025-4/25/2025	Various	-	-	60	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(60-in-opposition)-042225-042525.pdf?sfvrsn=2b859d61_3
55	4/23/2025	Jerry Buchanan	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/jerry-buchanan-20250423.pdf?sfvrsn=37f29d61_3
56	4/25/2025	Clelia Svoboda	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/clelia-svoboda-20250425.pdf?sfvrsn=84f29d61_3
55	4/25/2025	Christy Willman	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/christy-willman-20250425.pdf?sfvrsn=d5f29d61_3
56	4/28/2025	Tom Gervais	Bradford White Corporation	Manufacturer	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/bradford-white-corporation-20250428.pdf?sfvrsn=aff39d61_3
57	4/25/2025-4/29/2025	Various	-	-	3	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(3-

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						in-opposition)-20250425-20250429.pdf?sfvrsn=dbff9d61_3
58	4/25/2025-4/29/2025	Various	-	-	45	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(45-in-opposition)-20250425-20250429.pdf?sfvrsn=f1fd9d61_3
59	4/29/2025-5/1/2025	Various	-	-	16	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(16-in-opposition)-20250429-20250501.pdf?sfvrsn=e7e59d61_31
60	3/21/2025	Sierra Club Members	Sierra Club	Environmental Group	624	https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/comment-letter-from-sierra-club-20250320.pdf?sfvrsn=9f79f61_6
61	4/3/2025	Erin A. Morton	United Way of Greater Los Angeles	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/erin-morton---united-way-040325.pdf?sfvrsn=c57f9e61_3
62	4/4/2025	Janice Lim	City of Yorba Linda	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/city-of-yorba-linda-040425.pdf?sfvrsn=b3a49d61_3
63	3/30/2025-4/8/2025	Various	-	-	88	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(88-in-opposition).pdf?sfvrsn=55a49d61_4
64	4/8/2025	Connie Perez Moreno	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/connie-perez-moreno-04-08-25.pdf?sfvrsn=ed7f9e61_3
65	4/15/2025	Jed Holtzman	RMI	Environmental	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/rmi-041525.pdf?sfvrsn=e8429e61_5
66	4/18/2025	Various	Self	Resident	283	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various---scaqmd-resident-letters-(283-opposition)-4-18-25.pdf?sfvrsn=fbaf9d61_3

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67	4/22/2025	Sandra Van Etten	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/sandra-van-etten-042225.pdf?sfvrsn=f4f59d61_3
68	4/25/2025	John Cruikshank	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/john-cruikshank-20250425.pdf?sfvrsn=b1f29d61_3
69	4/25/2025	Phillip Delaney	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/phillip-delaney-20250425.pdf?sfvrsn=5f29d61_3
70	4/25/2025	Tom Eccles	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/tom-eccles-20250425.pdf?sfvrsn=5cf29d61_3
71	4/11/2025-4/20/2025	Various	-	-	9	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(9-in-support)-20250411-20250420.pdf?sfvrsn=28f39d61_3
72	4/11/2025	Various	-	-	7	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(7-in-opposition)-20250411-20250422.pdf?sfvrsn=3f39d61_3
73	4/22/2025	Various	-	-	760	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(760-in-support)-20250422.pdf?sfvrsn=54f39d61_3
74	4/28/2025	Various	-	-	45	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(45-in-opposition)-20250428.pdf?sfvrsn=80f39d61_3
75	4/29/2025	Katherine Johansen	Trident Management LLC	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/katherine-johansen-20250429.pdf?sfvrsn=32fc9d61_3
76	4/30/2025	George O'Hara	Cypress Chamber of Commerce	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/cypress-chamber-of-commerce-20250501.pdf?sfvrsn=dbe29d61_3
77	4/30/2025	Gloria Pruyne	Eagle Forum of Orange	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/eagle-forum-20250430.pdf?sfvrsn=86e29d61_3

Letter	Date Received	Commentor Name	Representing	Category	# of Letters	Link
78	4/26/2025-5/1/2025	Various	-	-	12	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(12-in-opposition)-20250426-20250501.pdf?sfvrsn=32e39d61_3
79	4/21/2025	Daniel M. Yukelson	Apartment Association of Los Angeles County, Inc.	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/aagla-20250421.pdf?sfvrsn=f9e19d61_3
80	4/25/2025	Sean H. Mill	City of Riverside	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/city-of-riverside-20250425.pdf?sfvrsn=24ee9d61_3
81	5/6/2025	L. Dennis Michael	City of Rancho Cucamonga	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/city-of-rancho-cucamonga-20250506.pdf?sfvrsn=95cd9d61_3
82	5/6/2025	David L. Bradley	City of Rancho Palos Verdes	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/city-of-rancho-palos-verdes-20250506.pdf?sfvrsn=46ca9d61_2
83	5/6/2025	Various	-	-	4	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(4-in-opposition)-20250506.pdf?sfvrsn=1369d61_2
84	5/7/2025	Amy Garrett	The Law Office of Amy York Garrett	Other	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/the-law-office-of-amy-york-garrett-20250507.pdf?sfvrsn=c3369d61_2
85	5/6/2025	Jamey Federico	Association of California Cities Orange County	City/County	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/association-of-california-cities-orange-county-20250506.pdf?sfvrsn=c93d9d61_2
86	5/8/2025	Ed Molina	Orange County Realtors	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/orange-county-realtors-20250508.pdf?sfvrsn=273a9d61_2
87	5/1/2025	Various	-	-	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(9-in-opposition)-20250501.pdf?sfvrsn=793a9d61_2

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88	5/8/2025	Various	-	-	127	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(127-in-opposition)-20250508.pdf?sfvrsn=573a9d61_2
89	5/9/2025	Jonathan Zimmerman	Self	Resident	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/jonathan-zimmerman-20250509.pdf?sfvrsn=af3a9d61_2
90	5/7/2025-5/13/2025	Various	-	-	22	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(22-in-opposition)-20250507-20250513.pdf?sfvrsn=9e149d61_2
91	5/9/2025-5/13/2025	Various	-	-	11	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(11-in-opposition)-20250509-20250513.pdf?sfvrsn=40149d61_2
92	5/2/2025-5/9/2025	Various	-	-	7	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(7-in-opposition)-20250502-20250509.pdf?sfvrsn=f4149d61_2
93	5/2/2025-5/8/2025	Various	-	-	3	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/various-(3-in-support)-20250502-20250508.pdf?sfvrsn=d2149d61_2
94	5/13/2025	Ben Granholm	Cost of Living Council	Other	73	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/cost-of-living-council-20250513.pdf?sfvrsn=6a149d61_2
95	5/14/2025	Alex Gilderman	Gilderman Apartments	Business	1	https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/gilderman-apartments-20250514.pdf?sfvrsn=d3139d61_2

RESPONSE TO KEY TOPICS IN THE COMMENT LETTERS

Need for Rule Amendments

For discussion regarding the need for the rule amendments, please refer to Response to General Comment 10 in Appendix A.

Rule Mandate

Opposition letters suggested the rule proposal is a mandate. While the previous version requires all new and replaced units to meet a zero-NOx emission standard, the revised version with the new rule concept removed the zero-NOx emission mandate. The new rule concept includes zero-NOx emission sales targets for manufacturers and will allow for both zero-NOx emission units and NOx-emitting natural gas-fired units to be sold and installed for use. The new rule concept is not a mandate, as consumers can choose which units to install in their homes.

Consumer Choice

For discussion on consumer choice, please refer to Response to General Comment 1 in Appendix A.

Cost and Affordability

Commenters expressed concern on cost and affordability. Some stated the rules are projected to impose more than $300 million in additional annual expenses in residents, totaling approximately $7.7 billion over the average 25-year appliance lifespan. For discussion on cost and affordability, please refer to Response to General Comment 2 in Appendix A. Included in the discussion, staff conducted a socioeconomic impact assessment that estimated $5.14 billion and $2.68 billion cost savings over the forecast period (i.e., 2027 to 2060), with a discount rate of 1 percent and 4 percent for the present value.

Upfront Cost of Zero-NOx Emission Appliances

Several commenters expressed concern on the upfront cost of zero-NOx appliances citing an upfront cost of $47,000 to replace zero-NOx emission appliances. Staff relied on the real-world cost data from the TECH Clean California (TECH). TECH is a collection of state funded incentive programs and has collected data on the installation costs for retrofitting heat pumps. Based on the TECH data with thousands of installations in the South Coast AQMD region, combined median costs in 2024 for a zero-NOx emission HVAC and water heater is $25,000 for a single family home and $9,000 to $17,000 for a multi-family home. When assessing the impacts of the rules, staff considers the incremental cost increase of installing a NOx emitting appliance and zero-NOx appliance because the rule only applies at natural appliance replacement. In the case of an HVAC, the replacement costs are equivalent, meaning PAR 1111 would have no cost increase in those instances. A homeowner replacing only a NOx emitting furnace would incur a $8,000 increase to install a heat pump but gets the added benefit of cooling. A homeowner replacing a NOx emitting water heater with a heat pump water heater would incur a $2,000 increase; however, incentives and rebates are available and lifetime utility cost savings will help offset the upfront costs. This means the combined incremental cost of both rules would be $2,000 to $10,000, lower with incentives.

Electricity Demand and Grid Sustainability

For discussion on electric grid sustainability for meeting demand and addressing concerns on power outages, please refer to Response to General Comment 3 in Appendix A. In addition, staff has held many discussions on the grid with investor-owned utilities, publicly owned utilities, community choice aggregators, and relevant agencies. Southern California Edison conducted a

projecting potential impacts of these proposed amended rules and similar rulemaking by California Air Resources Board on electricity demand. A discussion with the Imperial Irrigation District revealed multiple ongoing grid improvement projects to address future demand expectations, with space and water heating appliances expected to contribute no immediate concern.

Zero-NOx Emission Technology Readiness

For discussion on zero-NOx emission technology readiness, please refer to Response to General Comment 4 in Appendix A.

Sufficient Outreach, Public Participation, and Rulemaking Schedule

For discussion on outreach and rulemaking schedule, please refer to Response to General Comment 5 in Appendix A. Stakeholders can continue to participate in the rulemaking process at future public meetings, including the Public Hearing.

Cost-Effectiveness Analysis

For discussion on the cost-effectiveness analysis, please refer to Response to General Comment 6 in Appendix A.

EPCA

EPCA does not preempt the rules. EPCA expressly preempts regulations concerning the energy efficiency or energy use of products for which a federal energy efficiency standard is in place. 42 U.S.C. § 6297(c). The Ninth Circuit Court of Appeals recently issued a "very narrow" holding in California Restaurant Association v. City of Berkeley, 89 F.4th 1094, 1101, 1106 (9th Cir. 2024), that EPCA preempted a local building code prohibiting the installation of natural gas infrastructure in new buildings. The court in Berkeley reasoned that the building code concerned the energy use of covered appliances by regulating the quantity of natural gas they could use. Id. at 1101-02. The court repeatedly emphasized that its holding was "limited" only to building codes that regulate the gas usage of certain consumer appliances. Id. at 1101, 1103, 1106. Indeed, as Judge Baker explained in his concurrence, "EPCA preemption is unlikely to reach a host of state and local regulations that incidentally impact 'the quantity of natural gas' directly consumed by a [covered] product at point of use." Id. at 1117.

Unlike Berkeley's regulation, PARs 1111 and 1121 are health- and safety-based NOx emission limits on appliances, not regulations of the type of energy appliances may use. The rules are in furtherance of Congress's direction to the states to attain the National Ambient Air Quality Standards in section 110 of the Clean Air Act by regulating emission sources other than mobile sources. The rules are not building codes, and they do not ban natural gas or otherwise regulate the amount of natural gas used by covered appliances.

The rules do not prohibit the sale of natural gas-fired units or force a reduction in the number of units sold. Indeed, the rules do not target natural gas-fired units at all, but instead are aimed at reducing the emissions of NOx from appliances, without regard for the type of fuel they use. Equipment that meets the NOx emission limits, regardless of the energy source, is permitted under PARs 1111 and 1121. In fact, the South Coast AQMD has contemplated that natural gas fuel cells could comply with the rule. See PAR 1111 & 1121 Final Staff Report at 2-12. Because the rules do not regulate the quantity of natural gas appliances use, let alone eliminate the use of natural gas as an energy source for appliances, they do not fall within the scope of EPCA preemption as interpreted by the court in CRA. See CRA, 89 F.4th -at 1101.

Contrary to the commenter's argument, the alternative compliance method in PARs 1111 and 1121 also does not effectively ban natural gas appliances. Instead, it allows manufacturers to continue producing non-zero emission appliances, including natural gas appliances, and for consumers to continue purchasing non-zero emission appliances so long as they pay the corresponding mitigation fee. Furthermore, the mitigation fee does not raise the price on non-compliant products to the point that they become unavailable. To the contrary, it preserves consumer choice by continuing to make these appliances available for a fee.

By regulating emissions from appliances, the South Coast AQMD is not "doing indirectly" that which it is preempted from doing directly. Instead, the Rules directly regulate a quantity of emissions from appliances, as the South Coast AQMD has done for decades. EPCA does not preempt regulations that only incidentally impact the quantity of natural gas appliances use. CRA, 89 F.4th at 1117 (Baker, J., concurring).

For discussion on EPCA or concerns on banning natural gas, please refer to Response to General Comment 9 in Appendix A.

Need Stronger Sales Targets for More Emission Reductions

For comments on assessment of sales targets and potential revisions, please refer to Appendix B Response to Comment PC-3.

Delay the Consideration of Rule Adoption

Stakeholders suggest delaying the rule until a thorough feasibility study of lower-NOx alternative, including fuel-neutral pathways, is completed. Please refer to Appendix A Response to General Comment 10. The 2022 AQMP's objective is to transition to zero-emission technologies, wherever feasible, and staff identified technically feasible zero-NOx emission control options for equipment subject to Rules 1111 and 1121. Staff has also met with manufacturers and understand all original equipment manufacturers have both NOx-emitting and zero-NOx emission space and water heating units for the market. Many manufacturers expressed no development plan for lower NOx emission technology when they have zero-NOx emission units to sell. Staff does not agree with the recommendation to delay rule adoption but will assess the zero-NOx emission unit market adoption after each annual reporting cycle from the ZEM alternative compliance option.

Cost-Effective Alternatives

Commenters recommended staff to hold an additional public workshop to provide stakeholders with more opportunities to review and discuss cost-effective alternatives that protect both air quality goals and consumer affordability. Staff recognized that cost-effectiveness for implementing zero-NOx emission limit is high for some cases. At the Working Group Meeting #8 on February 13, 2025, staff introduced the ZEM alternative compliance option with compliance targets that will allow the sales of both zero-emission electric units and NOx-emitting natural gas-fired units. The discussion of the ZEM alternative compliance option has been conducted in every public meeting since February 13, 2025, including Public Consultation meetings on March 6, 2025 where staff discuss the rule concept and cost assessments for over four hours, the Stationary Source Committee Meetings, and outreach presentations in public meetings of many cities and various organizations.

Manufacturer to Pay the Mitigation Fees for All Sales (Zero-NOx Emission and NOx-emitting)

The original rule concept proposed very limited use of NOx-emitting natural gas units by alternative compliance options, and manufacturers would be mandated to sell zero-NOx emission units. The new rule concept with the ZEM alternative compliance provides flexibility to

manufacturers for the sales, where mitigation fees will only apply when manufacturers choose to sell NOx-emitting units. There is no fee for manufacturers selling zero-NOx emission units. The alternative compliance option addresses consumer choice, affordability, and allows a gradual transition to new technologies.

Impact of Mitigation Fee on Consumers

Stakeholders suggested that mitigation fees would raise the cost of NOx-emitting natural gas products, making them unaffordable. The mitigation fees are to be paid by the manufacturer; therefore, staff cannot fully predict how the cost will be passed down to consumers for NOx-emitting units. The cost of the base mitigation fee is less than one percent of the estimated installation and equipment cost of a NOx-emitting unit. For the over the target mitigation fee, this is less than 10 percent of the installation and equipment cost of a NOx-emitting unit. For consumers electing to install NOx-emitting units, the SoCalGas energy efficiency program provides incentives for customers to continue to install gas-fired appliances that could offset mitigation fee costs. For consumers electing to install zero-NOx emission appliances, incentives from various programs, including the Go Zero program, will help offset upfront costs making them more affordable. As more consumers install zero-NOx emission appliances, upfront costs are anticipated to decrease.

Charge Mitigation Fee at the Point of Sale or Installation

Manufacturers suggested having the fee applicable at the point of sale or installation for greater business certainty to manufacturers and transparency of the cost to consumers. The mitigation fee is associated with the alternative compliance option. If manufacturers opt-in to the ZEM alternative compliance option, the mitigation fee will be applicable. If manufacturers sell more NOx-emitting units going above the sales targets, the over target higher fee will apply. It is reasonable for manufacturers to pay the mitigation fee according to their compliance decision. Moreover, PAR 1111 and PAR 1121 align with the mitigation fee alternative compliance option utilized in both Rules 1111 and 1121 previously, when manufacturers paid mitigation fees based on their sales. Previous implementation of mitigation fee alternative compliance options proved the feasibility of the proposed mitigation fee structure. Staff believes charging mitigation fees at the point of sale or installation would not be feasible, which could also make enforcement, reporting, recordkeeping, and tracking sales targets less effective.

Flat Mitigation Fee vs. Tiered Base and Over Target Mitigation Fees

Manufacturers suggested having a flat mitigation fee for greater business certainty. A two-tiered approach provides flexibility to allow manufacturers to sell NOx-emitting units over the sales targets. Exceeding targets is not a rule violation, and targets are not hard caps. However, the higher over target fee will incentivizes manufacturers not to exceed the NOx-emitting unit sales target. A flat mitigation fee would not encourage manufacturers to meet the sales targets, it would just maintain a business as usual for the sale of space and water heating appliances.

Tiered Penalty Structure for Over Target Mitigation Fee

Environmental stakeholders suggested to incorporate a tiered non-compliance penalty structure that tiers penalties to the degree of non-compliance for up to $1,000 fee per unit, to ensure reasonable assurance that their health benefits are realized. Please refer to Appendix B, Response to Comment - PC-4, Response to Comment 43-1, and Response to Comment 29-2. Staff believes the current fee structure strikes a balance between emissions reductions and incentivizing zero-NOx emission units without putting unnecessary hardship on the manufacturers, distributors, retailers, resellers, installers, and consumers. Moreover, the mitigation fee is not a penalty, but

rather a means of recovering part of the cost of offsetting the emissions from a NOX-emitting unit by incentivizing the sale of more zero-emission units, and thus does not exceed the reasonable cost of providing the manufacturer with the benefit of not having to sell exclusively zero-emissions units.

Further Guidance and Regulatory Reporting Requirements

Manufacturers suggested further guidance and regulatory reporting requirements will need to be established to ensure a uniform reporting structure that all impacted manufacturers must follow. Manufacturers are required to submit a report to the Executive Officer and maintain records of the units sold into the South Coast AQMD. For more information regarding the specific requirements for reporting, please refer to the rule language provided along with this staff report. Staff will work with manufacturers to ensure a feasible reporting structure is established.

Impact on Climate Change

For discussion on impact to climate change, please refer to Response to Impact on Climate Change in Appendix D.

Wildfires

For discussion on wildfires, please refer to Appendix D – Wildfires.

Natural Gas-Fired Stoves, Grills, and Other Cooktops

Discussion regarding natural gas-fired stoves, grills, and other cooktops are outside of the scope of this rulemaking.

Natural Gas-Fired Dryers

Discussion regarding natural gas-fired dryers and appliances other than furnaces and water heaters are outside of the scope of this rulemaking.

Electricity Generation with Natural Gas

Staff recognizes that there are externalities for both electric and natural gas production and distribution. Staff also recognizes the need for regulation of emissions from electricity generation. For example, South Coast AQMD Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities, is a rule that aims to lower emissions from electricity generation.

Regarding natural gas systems, natural gas leaks into the atmosphere from natural gas wells, storage tanks, pipelines, and processing plants. In 2020, methane emissions from natural gas and petroleum systems and from abandoned oil and natural gas wells were the source of approximately 33 percent of U.S. methane emissions and approximately four percent of U.S. greenhouse gas emissions. In the South Coast AQMD region, there have been examples of large leaks such as Aliso Canyon, where 109,000 metric tons of methane emissions were released between October 2015 and February 2016.

For this rulemaking, staff did not conduct lifecycle analyses related to the BARCT assessment for either the electricity or natural gas systems as a lifecycle analysis is not required under California Health and Safety Code Section 40406 for a BARCT assessment. However, other organizations have conducted lifecycle analyses which show overall NOx reductions when moving to zero-emissions. A 2021 Northeast States for Coordinated Air Use Management (NESCAUM) study estimating NOx reductions for residential scenarios where fossil fuel-burning furnaces are replaced with heat pumps found significant reductions in NOx along with sulfur dioxide and carbon

dioxide.[1] A 2023 NESCAUM study also found emission reductions for different scenarios.[2] A 2022 Energy Innovation Policy & Technology study found that switching to heat pumps for industrial processes reduces NOx emissions.[3] Due to the high efficiency of zero-NOx emission units, the stricter NOx emission limits for electricity generating facilities, and the increased renewable energy on the California electrical grid, emissions from electrical generation will continue to decline.

Effect of the Rules on Ozone

For discussion on the impact of the proposed amended rules on ground-level ozone formation, please refer to Response to Comment 11-1 in Appendix C.

Securing Permits and Waiting Months Without Hot Water

Please see Response to Appendix A, Response to General Comment 1. The ZEM alternative compliance option allows consumers to choose to install NOx-emitting appliances, where installation of zero-NOx emission appliances may be cost-prohibitive.

Housing Affordability

For discussion on affordability and cost, please refer to Appendix A Response to General Comment 2. For information regarding rent stabilization and tenant protections, please refer to Chapter 3 of the Staff Report.

Rule 1146.2

The proposed rule amendments are for Rule 1111 and Rule 1121.

Use of Natural Gas Appliances During Power Outages

For discussion on use of NOx-emitting appliances during a power outage, please refer to Appendix A, Response to General Comment 3.

Mitigation Fee is a Tax

The proposed fee in the rules' alternative compliance method is not a tax. The California Constitution states that any charge that a government agency imposes on a payor is a tax requiring voter approval unless it comes within an exception. Cal. Const. art. XIII §1(e). However, the fee in the PARs is a purely voluntary alternative to complying with the zero-emission standard in the rules. In other words, contrary to the commenter's assertion that manufacturers will be coerced into paying the fee, they will have the choice to sell zero-emission appliances and avoid the fee, or sell non-emitting appliances so long as they pay the fee. Because manufacturers must choose to pay the fee, it is an in-lieu fee. As such, the South Coast AQMD need not show that the fee qualifies for an exception under Prop. 26. *See Cal. Bldg. Indus. Ass'n v. City of San Jose*, 61 Cal.4th 435, 477 (2015); *616 Croft Ave., LLC v. City of W. Hollywood*, 3 Cal. App. 5th 621, 628–29 (2016).

Nevertheless, the fee *does* fit within an exception to Prop 26's definition of tax. In particular, the fee qualifies as one "imposed for a special benefit conferred or privilege granted directly to the

[1] NESCAUM, Estimating the Emissions Benefits of Switching to Heat Pumps for Residential Heating, https://otcair.org/upload/Documents/Reports/nescaum-otc-emission-reduction-analysis-for-residential-heating-202106.pdf

[2] NESCAUM and OTC, Residential Building Electrification in the Northeast and Mid-Atlantic, https://otcair.org/upload/Documents/Reports/Residential%20Building%20Electrification%20Final%20Report%20August%202023.pdf

[3] Energy Innovation Policy & Technology LLC, https://energyinnovation.org/wp-content/uploads/2022/10/Decarbonizing-Low-Temperature-Industrial-Heat-In-The-U.S.-Report-2.pdf

payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege." Cal. Const. art. XIII § 1(e)(1). The amount of the fee may be "no more than necessary to cover the reasonable costs of the governmental activity," and the costs allocated to the payor must bear a "fair or reasonable relationship" to the benefits the payor receives. Cal. Const. art. XIII.

The proposed fee in PARs 1111 and 1121 satisfies each of these requirements. First, it will be charged only to those who receive the privilege of avoiding the zero-emission limit and continuing to sell NOx-emitting appliances. Second, the amount of the fee in aggregate is less than the aggregate cost of the "government activity"—namely, providing subsidies to purchase zero-emission appliances to offset the NOx-emissions generated by the fee payors. *See Great Oaks Water Co. v. Santa Clara Valley Water Dist.*, 110 Cal. App. 5th 260, 2025 WL 969510 at *14-17 (Feb. 28, 2025). The commenter asserts that the amount of the fee is too high relative to the cost of the appliances. The South Coast AQMD disagrees, as the fee is less than 1% of typical installation costs. But, in any event, that is not the relevant inquiry, and here the fee satisfies the relevant requirement. And third, the costs are fairly allocated across the manufacturers who elect to participate in the alternative compliance method, as the fees will be paid for each non-zero emission appliance sold.

Updating the Discount Rate for the Socioeconomic Analysis

During the discussion of PAR 1111 and PAR 1121 at the April 18, 2025 Stationary Source Committee meeting, there was a question about why the interest rate range of 1%-4% was relied upon in the Draft Socioeconomic Impact Assessment.[4] It is important to clarify that the real interest rate range of 1%-4%, is not outdated because it takes into account the average real interest rate in the U.S. over the last thirty years and its fluctuation over time.

This comment appears to confuse interest rates with discount rates. Interest rates and discount rates are two different financial concepts. An interest rate represents the percentage charged or earned on money over time, while a discount rate is used to determine the present value of future cash flows. Further, the 3%-7% interest rates mentioned in this comment are referring to nominal interest rates.

To understand the relationship between real interest rates and nominal interest rates, please refer to the following equation:

Nominal Interest Rate = Real Interest Rate + Inflation Rate

For example, the nominal interest rate range of 4%-7% is the result of adding the real interest rate range of 1%-4% to the 3% inflation rate for California in 2024.

Nominal interest rates are published rates such as those advertised by a bank, on websites, for a mortgage, etc. As such, the 4%-7% nominal interest rates represent the current rates available on the market. All the costs in the Socioeconomic Impact Assessment are presented in real terms, adjusted for inflation to 2024 dollars; the real interest rates are used in the amortization or annualization process. For projects which have long implementation timelines, which is the case with PAR 1111 and PAR 1121, there is no reliable way to forecast inflation rates. For this reason,

[4] Agenda No. 21, Stationary Source Meeting Minutes – April 18, 2025, Update on Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters, https://www.aqmd.gov/docs/default-source/agendas/governing-board/2025/2025-apr4-021.pdf, accessed May 2025.

the analysis in the Socioeconomic Impact Assessment relies on real costs adjusted for inflation and real interest rates in the process of amortization.

In addition, the analysis in the Socioeconomic Impact Assessment relies on discount rates which consider the real rate of return on long-term U.S. government debt, risk and the long period of analysis among others, which is consistent with guidance provided in Circular No. A-4.[5]

Mitigation Fee Hard to Implement

Rules 1111 and Rule 1121 have implemented a mitigation fee when reducing the emissions limits from 40 ng/J to 14 ng/J for Rule 1111 and to 10 ng/J for Rule 1121. The mitigation fee would be implemented and enforced in a similar way as previously done.

Rule Will Ban Gas Products if a Manufacturer Doesn't Participate in the Alternative Pathway

All manufacturers currently sell both natural gas units and zero-NOx emission units. Through discussions with manufacturers, staff understands that manufacturers will provide products based on market demand. If there is demand for gas products, manufacturers will participate in the alternative compliance option.

Lack of Health Benefit

For a discussion on health benefits, please refer to the section titled, "Macroeconomic Impacts on the Regional Economy," of the Socioeconomic Impact Report. This section includes a health benefits subsection, which includes the analysis and explanation of methodologies. Briefly, PAR 1111 and PAR 1121 are anticipated to prevent approximately 2,490 premature mortalities, which is an estimated monetized present value of $25.43 billion.

Residents are Forced to Change Out Their Space and Water Heating Units Upon Rule Adoption

PAR 1111 and PAR 1121 are regulated through the supply chain, i.e., manufacturer, distributor, and installer. Residents are only impacted by the rules when they need to replace their space and water heating appliances, e.g., at the end of the equipment lifetime. For instance, if a resident owns and operates a NOx-emitting furnace and/or water heater beyond the compliance dates, they can continue to use the furnace and/or water heater until it needs to be replaced (e.g., due to breakdown). Residents are not forced to change out their space and water heating units at any time. In addition, PAR 1111 and PAR 1121 provide residents with the option to choose between NOx-emitting gas units and zero-NOx emission units when residents need to change their space and water heating units.

Mountain Communities at High Altitudes

For discussion on mountain communities and high altitude, please refer to Appendix A Response to Comment 8.

Labor Shortages in the HVAC Industry

Because of the ZEM alternative compliance option, both installers of NOx-emitting and zero-NOx emission appliances will be able to continue to conduct business in the HVAC industry. As the adoption of zero-NOx emission appliances increases, installers within the HVAC industry may also increase to adjust with the transition. Manufacturers provide installer training for their newer technologies and the Go Zero Incentive Program also has an upcoming installer training portion to better prepare the workforce for zero-NOx emission appliance installations.

[5] Circular No. A-4, Regulatory Analysis - November 9, 2023, p.76, https://whitehouse.gov/wp-content/uploads/2023/11/CircularA-4.pdf, accessed May 2025.

Rules Will Have Positive Impact on Local Air Pollution

PAR 1111 and PAR 1121 is estimated to reduce NOx emissions by about 6 tons per day at full implementation. For health impacts associated with the emissions reductions, please refer to Attachment K, Final Socioeconomic Impact Assessment.

Staff Report Fails to Include Cost of Electrical Upgrades

Chapter 3 of the staff report includes project costs, which includes any equipment, installation, and any electrical service upgrades needed for installation.

The following letters were included in the Draft Staff Report released on April 1, 2025. The letters have been struck out here, added to the table at the beginning of this Appendix, and provided responses above.

~~***COMMENT LETTER #1: JESSE BIEBESHEIMER***~~

Marissa Poon

From: Jennifer Vinh
Sent: Tuesday, March 25, 2025 8:32 AM
To: [redacted]
Subject: FW: Contact Form

From: South Coast AQMD <[redacted]>
Sent: Sunday, March 23, 2025 4:01 PM
To: Jennifer Vinh <jvinh@aqmd.gov>
Subject: Contact Form

Contact Form

Name: Jesse Biebesheimer

Email: [redacted]

Phone: [redacted]

Message:
As a long time resident of Huntington Beach, I am writing to voice my opposition to the Proposed Amended Rules 1111 and 1121. I already live in an area subject to the SCAQMD's strict requirements for Ultra-low NOx emitting water heaters and furnaces. I am opposed to further banning or restricting gas-fueled appliances for existing homes, as is proposed. Furnaces and water heaters are essential appliances in every household. Driving the costs higher though mandates and bans is

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not fair to lower-income residents. Consumers should be incentivized to adopt these theoretically lower-emission technologies, but they should not be mandated to do so, and traditional gas-fueled products should not be "banned" or removed from the market. This simply serves to limit choice and drive up consumer prices. Furthermore, when such an appliance breaks down, replacement is typically urgent, stressful, and already very costly. It is not appropriate to force homeowners in need of an urgent replacement to suddenly have to search for electrical contractors to simultaneously replace their electrical panels and wiring in order to accomplish the installation of an electric water heater, furnace, or heat pump. Consumers should have the freedom to do a like-for-like replacement when one of these products breaks down and needs replacement. Even an exception for repairs is not sufficient -- it will drive homeowners to continue to "put bandaids" on problems, when a more cost effective long-term solution is replacement with a brand new similar unit. It may be reasonable to mandate these changes in brand new construction, but not for existing homes making periodic maintenance replacements. Thank you for your consideration of this viewpoint. Regards, Jesse Biebesheimer Homeowner Huntington Beach, California

~~***COMMENT LETTER #2: NATIONAL DIVERSITY COALITION***~~

March 26, 2025

Hon. Vanessa Delgado, Chair
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: OPPOSE – Proposed Amended Rules 1111 & 1121 - as released February 28

Dear Chair Delgado and Governing Board Members:

On behalf of the National Diversity Coalition, we write to express our opposition to the proposed amendments to Rules 1111 and 1121. National Diversity Coalition is an empowering voice for our nation's minority and low-income communities, particularly in California, at every level of government and within the business community.

While the latest rule concept attempts to move in the right direction, it fails to address many of the fundamental concerns we have with the proposed amendments.

Beyond the initial cost of the appliances, the amendments do not account for fo on homeowners, renters, and business owners—many of whom can least afford it.

Additionally, we are deeply concerned about the increased strain these rules will place on an already aging electrical grid. This grid not only relies on nonrenewable sources, such as natural gas to generate power, but is also ill-equipped to handle excessive new demand, posing a significant public safety risk. Residents have already endured frequent blackouts and service interruptions, and since 2015, electric power lines have caused six of the 20 most devastating wildfires in our community. Furthermore, numerous residential and commercial projects are currently on hold due to a lack of available power.

Many Southern California families are already struggling with high living costs, and mandating costly retrofits or replacements will only exacerbate financial hardships. These rules disproportionately impact lower-income households, which are the least able to afford such expenses.

While we understand and support the Air District's efforts to improve air quality, the proposed amendments would impose an undue and significant burden on homeowners, renters, and small businesses.

Thank you for your time and consideration. We respectfully urge the Board to explore alternative approaches that balance air quality improvements with economic feasibility for all residents.

Sincerely,

Faith Bautista
President & Chief Executive Officer, National Diversity Coalition
Email: faith@nationaldiversitycoalition.org

~~COMMENT LETTER #3: ROY PROFITT~~

Marissa Poon

From: Emily Yen
Sent: Thursday, March 27, 2025 8:58 AM
To: [redacted]
Cc:
Subject: FW: Contact Form

From: [redacted] <[redacted]>
Sent: Friday, March 21, 2025 6:59 PM
To: Emily Yen <EYen@aqmd.gov>
Subject: Contact Form

Contact Form

Name: ROY PROFITT

Email: [redacted]

Phone: [redacted]

Message:
I urge a NO vote. There isn't a climate emergency, our state is ran by fruits and nuts. They continue to imagine foolish and strange conditions which don't exist in our world. Our governor has tried to make the once Golden State a 3rd world country. We have homeless people everywhere (that is a concern), we can't get medical appointments for several months, illegals are living here,

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and some people want to ban gas water heaters (don't be deceived). Do the morally right thing and VOTE NO!

~~***COMMENT LETTER #4: VARIOUS***~~

To: Carlos Rodriguez, Curt Hagman, Larry McCallon, Manuel Perez, Michael Cacciotti, Patricia Lock Dawson, Vanessa Delgado, Janet Nguyen, Brenda Olmos, Jennifer Vinh

Subject: URGENT: Please Oppose Rules 1111 & 1121

I am writing as a South Coast Air Basin resident in strong opposition to Proposed Amended Rules 1111 & 1121. These rules directly affect the general public, not just large facilities or industries but homeowners and renters, like me.

Under newly amended proposed Rules 1111 and 1121, the consumer will still be left with a higher price tag, and in this case, it will be the renters and homeowners who bear the brunt of the manufacturer's fee at the end of the day.

Additionally, upgrading buildings with new electric appliances and wiring is a costly process, which I understand is very likely in excess of $30,000 or more per unit. These high costs will likely lead to rent increases, placing additional financial pressure on tenants in a region already struggling with housing affordability. At a time when the housing market is already under strain, increased costs and the potential for tenant displacement will only make it more challenging for renters and landlords alike, worsening Southern California's housing affordability crisis.

With this added ruling, SCAQMD just added to the cost of living crisis by creating an impossible scenario where Southern California residents must decide between 1) having to install a more costly electric heat pump with an estimated price tag of $6,000 or 2) replacing their current gas water heater at an average cost of $1500 or more plus additional fees!

Beyond the higher purchase cost, consumers will also need to secure permits if they choose the electric route, which could mean waiting for months without hot water or having to rent a temporary heat pump in the meantime. These rules apply not only to water heaters but also to space heating, adding to the burdens already imposed by recent rules on pool heaters.

Finally, I know my friends, neighbors, and most residents are unaware of the upcoming requirements and the significant costs involved. Despite holding public workshops, the SCAQMD has not conducted sufficient outreach to inform and engage the broader community. Without targeted communication through mainstream media and other accessible channels, residents who are directly impacted have not and will not have an adequate opportunity to understand or voice concerns about these extremely expensive rules.

Thank you for your time and consideration.

I respectfully urge the Board to oppose Rules 1111 & 1121.

FIRST NAME	LAST NAME	ADDRESS	CITY	ZIP	EMAIL
Vanessa	Cisneros	[redacted]	Walnut	91789	[redacted]
Jessica	Coonrod	[redacted]	Chino	91710	[redacted]
Kim Joseph	Cousins	[redacted]	Lake Elsinore	92530	[redacted]
Cesar	Khandjian	[redacted]	Temecula	92592	[redacted]
Luis	Garcia	[redacted]	San Bernardino	92410	[redacted]
Elena	Fowler	[redacted]	PALM DESERT	92260	[redacted]
John	Weithas	[redacted]	Pasadena	91105	[redacted]
Samantha	Argosino	[redacted]	Chino Hills	91709	[redacted]
Tina	Javid	[redacted]	Chino Hills	91709	[redacted]
Craig	Snow	[redacted]	Redondo Beach	90277	[redacted]
Craig	Michael	[redacted]	Chino Hills	91709	[redacted]
Mae	Gentry	[redacted]	Burbank	91501	[redacted]
Monica	Lopez	[redacted]	San Bernardino	92408	[redacted]
ROBERT	EVANS	[redacted]	laguna hills	92653	[redacted]
VICKIE	TALLEY	[redacted]	Laguna Hills	92653	[redacted]
Gerry	Gutierrez	[redacted]	Pico Rivera	90660	[redacted]
Lisa	Gutierrez	[redacted]	Pico Rivera	90660	[redacted]
Eric	Rivera	[redacted]	Pico Rivera	90660	[redacted]
Bianca	Rivera	[redacted]	Whittier	90605	[redacted]
Kristine	Scott	[redacted]	Rancho Cucamonga	91730	[redacted]
Ron	Henderson	[redacted]	West Hills	91304	[redacted]
Louisa	Henry	[redacted]	Newhall	91321	[redacted]
Kelly	Laird	[redacted]	Seal Beach	90740	[redacted]
Denny	Rockwell	[redacted]	Placentia	92870	[redacted]
Darci	Castillejos	[redacted]	Menifee	92585	[redacted]
Tracey	Garamone	[redacted]	Murrieta	92563	[redacted]
Wenjiao	Ma	[redacted]	Irvine	92602	[redacted]
Mary	King-Batiste	[redacted]	Bellflower	90706	[redacted]
Nancy	Lulejian Starczyk	[redacted]	Los Angeles	91326	[redacted]
Robin	Clinch	[redacted]	Long Beach	90804	[redacted]
Hanh	Truong	[redacted]	Moreno Valley	92551	[redacted]
Connie	Berduo	[redacted]	Whittier	90606	[redacted]

Wendy	Lin	[redacted]	Placentia	92870
Renate	Holloway	[redacted]	Anaheim	92801
Sally	Ragan	[redacted]	Diamond Bar	91765
Julia	Huntsman	[redacted]	Long Beach	90809
Lou	Thomas	[redacted]	Yorba Linda	92886
Donald	Rabbitt	[redacted]	Yorba Linda	92887
Cheri	Kelley	[redacted]	Norwalk	90650
Ron	Berger	[redacted]	Manteca	95336
Will	Alarcon	[redacted]	Walnut	91710
Shirley	Yeh	[redacted]	Chino	91710
Carlos	Barron	[redacted]	La Mirada	90638
Celia	Rangel	[redacted]	Orange	92867
cesar	Llanes	[redacted]	Walnut	91789
Neal	Gagliano	[redacted]	Huntington Beach	92649
Joe	Liuzzi	[redacted]	Orange	92869
xiomara	vasquez	[redacted]	Chino Hill	91709
Cesar	Caballero	[redacted]	La Habra	90631
Elvia	Alvarez	[redacted]	!8726 Aguiro St	91748
Diane	Todd	[redacted]	Menifee	92586
Sylvia	Cruz-Ron	[redacted]	Chino Hills	91709
patrick	chen	[redacted]	walnut	91789
Nittaya	Pichedvanichok	[redacted]	Irvine	92602
SUE-HWA	LIU	[redacted]	Tustin	92780
Bob	Arneal	[redacted]	Anaheim Hills	92807
Laura	Greene	[redacted]	Rancho Cucamonga	91701
Raul	Lozano	[redacted]	Fontana	92337
Lucy	Ramirez	[redacted]	Santa Ana	92704
Carl	NALBONE	[redacted]	Long Beach	90803
Dominic	Nguyen	[redacted]	Pomona	91766
Scott	Chaplin	[redacted]	Orange	92867
Lin	Yann	[redacted]	Anaheim	92804
Shannon	Sternagle	[redacted]	Long Beach	90808
Kelly	McConnell	[redacted]	Santa Ana, CA	92706
Desiree	Jones	[redacted]	Laguna Niguel	92677

Heidi	Burns	Long beach	90853	
Carol	Laughlin	Yorba Linda	92886	
Nancy	Lucia	Tustin	92780	
Jennifer	Pillon	Fullerton	92831	
Theresa	Miller	Bellflower	90706	
Raymond	Sonoda	Lakewood	90713	
sharon	tai	la mirada	90638	
Graciela	Ricaud	Fullerton	92833	
WEN KAI	SUNG	Walnut	91789	
Bruce	Wen	TORRANCE	90501	
Rosalina	Laguna	Montclair	91763	
Patricia	LaFosse	Covina	91724	
CathyLyn	Brooks	Huntington Beach	92649	
Debra	Greco	Long Beach	90803	
Lisa	Dunn	Long Beach	90807	
Marina	RL	Diamond Bar	91765	
Suzanne	Daley	Temecula	92592	
Beena	Khakhria	Phillips Ranch	91766	
Kate	Johansen	Tustin	92780	
Clervil	Heraux	Signal Hill	90755	
AMIE	CHEN	Hacienda Heights	91745	
JACQUELYN	WILSON	West Covina	91790	
Phil	Schaefer	Santa Ana	92706	
Matt	Mayo	Long Beach	90804	
JUDY	BARR	ORANGE	92869	
Raymond	Daitch	Irvine	92612	
Melvin	Steiner	Santa Ana	92706	
Loree	Swanenburg	Rossmoor	90720	
John	Villaescusa	NORWALK	90650	
Marvin	Byrne	Whittier	90601	
Amanda	Lazo	Loma Linda	92354	
Matt	Brown	Grand Terrace	92313	
Cooper	Strull	Newport Beach	92660	
Kate	Yust	Tustin	92780	
Lori	Carraway	Tustin	92780	
James	Larsen	Loma Linda	92373	
Ranae	Larsen	Loma Linda	92373	
Anne	Larsen	Loma Linda	92354	
Jessica	Rood	San Clemente	92672	
Michaeljohn	Martinez	Chino	91710	

Jacqueline	Fernandez	Chino	91710	
Cherie	Pondoff	Murrieta	92563	
Nicole	Suydam	Aliso Viejo	92656	
Michelle	Murphy	Irvine	92614	
Steve	Horn	San Diego	92129	
Frances	Dunn	Villa park	92861	
Russell	Tao	Whittier	90603	
Kelly	Turbeville	Trabuco Canyon	92679	
Galen	Alldrin	Ballico	95303	
Danielle	Corliss	Dove Canyon	92679	

~~COMMENT LETTER #5: VALLEY INDUSTRY & COMMERCE ASSOCIATION~~

March 27, 2025

Hon. Vanessa Delgado, Chair
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

SUBJECT: OPPOSE – Proposed Amended Rules 1111 & 1121 - as released February 28

Dear Chair Delgado and Governing Board Members,

On behalf of the Valley Industry & Commerce Association (VICA), we write to express our strong opposition to Proposed Amended Rules (PAR) 1111 and 1121. Our concerns are based on the revised language released on February 28, 2025, and the negative impact these rules pose for the region's economic vitality.

While we understand and support efforts to improve air quality, the current amendments create disproportionate and unnecessary financial burdens for businesses and working families—particularly in the form of increased compliance costs, higher consumer prices, and costly retrofits.

The amended rules would either require consumers to switch to significantly more expensive "all-electric" space and water heaters or face increased costs passed down by manufacturers paying compliance fees to continue offering natural gas appliances. These policies ignore market realities and affordability challenges, placing businesses—especially small businesses and property owners—in an impossible position.

Projected to cost over $300 million annually, or $7.7 billion over 25 years, these rules will severely impact businesses that are already operating on thin margins. This is especially concerning in a region like Southern California, where commercial tenants and landlords are already grappling with high energy bills, inflationary pressures, and a challenging regulatory environment.

An alternative path—such as establishing ultra-low NOx emission standards for natural gas appliances—could achieve meaningful environmental outcomes without forcing costly technology shifts or disrupting established markets. This approach would also allow manufacturers and businesses to innovate within existing infrastructure, avoiding unnecessary grid strain and capital expenditures.

Moreover, the amendments fail to consider the massive retrofitting costs that would fall on commercial property owners, multifamily housing operators, and small businesses occupying older structures. These infrastructure changes could cost tens of thousands of dollars per building and pose significant logistical challenges in areas with outdated electrical systems or limited power access.

The additional burden on California's aging and overstressed electrical grid also raises major concerns. Many business developments are already delayed due to energy constraints, and these rules will only exacerbate the issue by accelerating demand without sufficient infrastructure investment. As we've seen, unreliable power supply leads to operational disruptions, safety hazards, and even contributes to catastrophic wildfires.

Southern California businesses are working hard to remain competitive in a high-cost environment. Saddling them with aggressive mandates that offer limited flexibility and significant expense undermines economic development, workforce stability, and our region's ability to grow sustainably.

Valley Industry & Commerce Association • 16600 Sherman Way, Suite 170 Van Nuys, CA 91406 • phone: 818.817.0545 • fax: 818.907.7934 • www.vica.com

VICA urges the Board to reconsider this one-size-fits-all regulatory approach and instead engage with stakeholders to develop pragmatic solutions that protect both the environment and our local economy.

Sincerely,

Stuart Waldman
VICA President

Valley Industry & Commerce Association • 16600 Sherman Way, Suite 170 Van Nuys, CA 91406 • phone: 818.817.0545 • fax: 818.907.7934 • www.vica.com

~~COMMENT LETTER #6: CARSON CHAMBER OF COMMERCE~~

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Vice Chair, Government Affairs
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M & B Associates
Vice Chair, Special Events
Lena Whittaker
Magnificent Events
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Darrow's New Orleans Grill
Ralph Felix
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DoubleTree by Hilton Carson
Lyman Fox
Kaiser Permanente, South Bay
Victor Ibarra
Marathon
Tami Lorenzen-Fanselow
Price Transfer, Inc.
Derrick Mims
CSU Dominguez Hills
Shannon Moody
Air Products & Chemicals
Mariane Torhus
IKEA US West, Inc

March 28, 2025

Hon. Vanessa Delgado, Chair
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: OPPOSE – Proposed Amended Rules 1111 & 1121 - as released February 28

Dear Chair Delgado and Governing Board Members:

On behalf of Carson Chamber of Commerce, we write to express our opposition to Proposed Amended Rules (PAR) 1111 and 1121. Our opposition is reflective of the revised language officially released on February 28, 2025, and discussed at subsequent hearings.

While the latest amendments attempt to move in the right direction, they fail to address many of the fundamental concerns we have with the proposed amendments.

SCAQMD Amended Rules 1111 and 1121 mandate higher costs on consumers. Both amended rules force consumers to choose a much more expensive option of "all-electric" space and water heaters that cost thousands more than natural gas appliances or require consumers to pay higher costs, through the fees imposed on manufacturers, to continue using natural gas furnaces and water heaters.

These amended rules will burden consumers with over $300 million annually or $7.7 billion over the 25-year life of these appliances. With California's soaring cost of living and many consumers struggling to keep up, now is not the time to impose additional costs on consumers.

A better approach to reducing NOx emissions would be to impose ultra-low NOx emission standards to make natural gas appliances even more environmentally friendly at no additional cost to consumers.

Beyond the initial cost of the appliances, the amendments do not account for the substantial retrofit and infrastructure upgrade expenses that owners of older homes will have to bear to accommodate the new technology. These costs could amount to tens of thousands of dollars, placing an undue financial burden on homeowners, renters, and business owners, many of whom can least afford it.

Additionally, we are deeply concerned about the increased strain these rules will place on an already aging electrical grid. This grid not only relies on nonrenewable sources, such as natural gas, to generate power, but is also ill-equipped to handle excessive new demand, posing a significant public safety risk. Residents have already endured frequent blackouts and service interruptions, and since 2015, electric power lines have caused six of the 20 most devastating wildfires in our community. Furthermore, numerous residential and commercial projects are currently on hold due to a lack of available power.

Many Southern California families are already struggling with high living costs, and mandating costly retrofits or replacements will only exacerbate financial hardships. These rules disproportionately impact lower-income households, which are the least able to afford such expenses.

While we understand and support the Air District's efforts to improve air quality, the proposed amendments would impose an undue and significant burden on homeowners, renters, and small businesses.

Thank you for your time and consideration. We respectfully urge the Board to oppose Proposed Amended Rules 1111 and 1121 and explore alternative approaches that balance air quality improvements with economic feasibility for all residents.

Sincerely,

Leal Skinner

President

Working Together for Growth and Prosperity
530 E Del Amo Blvd., Carson, CA 90746 (310) 217-4590
www.CarsonChamber.com

~~COMMENT LETTER #7: PASADENA CHAMBER OF COMMERCE AND CIVIC ASSOCIATION~~

PASADENA
CHAMBER OF COMMERCE
& CIVIC ASSOCIATION

March 28, 2025

Hon. Vanessa Delgado, Chair
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: PLEASE OPPOSE – Proposed Amended Rules 1111 and 1121 - February 28 Versions

Dear Chair Delgado and Governing Board Members,

The Board of Directors of the Pasadena Chamber of Commerce and Civic Association opposes the proposed Amended Rules PAR 1111 and PAR 1112.

Despite the changes to the rules we remain opposed. While we do appreciate the amendments, they are simply not enough for us to support or even remain neutral about Rules 1111 and 1121.

SCAQMD Amended Rules 1111 and 1121 force higher costs on consumers. When people are faced with increasing costs for everyday needs, imposing rules that would significantly increase costs for heaters seems almost punitive.

We all recognize the impacts climate change is having on Southern California. We also understand that we all need to amplify our efforts to reduce greenhouse gas emissions. But, we need to balance that with cost considerations and an understanding of the impacts to everyday people and their household economies.

Thank you for your service to Southern California. Your time and expertise is very much appreciated.

The Board of Directors of the Pasadena Chamber of Commerce and Civic Association respectfully urges the AQMD Board to explore different approaches that balance air quality improvements with economic reality facing residents.

Sincerely,

Paul Little
President and Chief Executive Officer

cc: Members of the AQMD Governing Board

44 North Mentor Avenue ■ Pasadena, California 91106-1745
626-795-3355 ph ■ 626-795-5603 fax ■ www.pasadena-chamber.org

~~***COMMENT LETTER #8: ERIN PAK (KHEIR CLINIC)***~~

Kheir Clinic
이웃케어클리닉
Clínica Kheir

March 21, 2025

Stationary Source Committee, South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: Proposed Amended Rule 1111 & Amended Rule 1121 - OPPOSE

Dear Members of the Stationary Source Committee,

On behalf of nearly 22,000 indigent residents of Los Angeles we serve at Kheir Clinic, we are writing to express our opposition to the Proposed Amended Rules 1111 and 1121. While we recognize that this legislation is regional in scope, the Proposed Rule Concept and Mitigation Fees will have a disproportionate impact on low-income and underserved communities. The rules appear to heavily favor zero-NOX equipment adoption, which often defaults to electric options, without fully accounting for infrastructure readiness, consumer preference, or the resulting financial burden. Kheir is a 501(c)(3) non-profit service agency, providing critical culturally and linguistically sensitive healthcare and social services to the uninsured and under-insured working poor of Los Angeles.

We believe our patients and residents of Southern California should retain the right to choose from a full range of safe, reliable, and affordable energy sources and appliances for their homes and businesses. We further believe there are more balanced and cost-effective strategies available to improve air quality and protect the environment without creating additional hardships for vulnerable communities.

Southern California faces unprecedented affordability challenges: the costs of housing, transportation, and energy continue to rise. Every day, we care for patients struggling with food insecurity, unemployment, and housing instability—all of which significantly impact their health outcomes and overall safety. It is unreasonable to expect that all households and small businesses will be able to bear the expense of switching to zero-NOX appliances—whether electric or otherwise—without encountering financial strain. For homeowners and landlords, these changes often come with additional costs, such as electric panel and wiring upgrades. For renters, these costs are typically passed on in the form of higher rents. Moreover, households that rely exclusively on electric appliances currently face energy bills averaging over $1,100 more annually than those using mixed-fuel systems.

Additionally, past events such as the Camp Fire, Kincade Fire, Woolsey Fire, and Eaton Fire have demonstrated vulnerabilities in California's utility infrastructure, including safety lapses linked to electric utilities. Until our regional energy infrastructure can provide safe, comprehensive, and reliable service, it is premature to limit residents to primarily electric or zero-NOX alternatives. The proposed rules erode consumer choice and concentrate risk by eliminating energy diversity. In the event of power outages or service interruptions—whether due to natural disasters or utility failures—residents will face the dangerous prospect of being entirely without energy for critical needs such as cooking, heating, and hot water.

For these reasons, we respectfully oppose the Proposed Amended Rules 1111 and 1121.

Sincerely,

Erin Pak

CC: Supervisor Holly Mitchell, Committee Vice Chair

Kheir Clinic is committed to providing linguistically and culturally sensitive quality primary healthcare and human services support to the underserved and uninsured residents of Southern California.

ATTACHMENT J

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Subsequent Environmental Assessment for:

Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces, and Proposed Amended Rule 1121 – Reduction of NOx Emissions from ~~Small~~ Residential Type, Natural Gas-Fired Water Heaters

June 2025

State Clearinghouse No. 2022050287
South Coast AQMD No. 20240924JA/05122022KN

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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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CARLOS RODRIGUEZ
Mayor Pro Tem, Yorba Linda
Cities of Orange County

VACANT
Governor's Appointee

EXECUTIVE OFFICER:
WAYNE NASTRI

PREFACE

This document constitutes the Final Subsequent Environmental Assessment (SEA) for Proposed Amended Rule (PAR) 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces, and PAR 1121 – Reduction of NOx Emissions from Residential Type Natural Gas-Fired Water Heaters. The Draft SEA was circulated for a 46-day public review and comment period from September 27, 2024 to November 12, 2024. Three comment letters were received during the comment period. The comments and responses relative to the Draft SEA are included in Appendix B of this Final SEA.

Subsequent to the release of the Draft SEA for public review and comment, modifications were made to PAR 1111 and PAR 1121 which reduce previously estimated environmental impacts. The Draft SEA had analyzed rule concepts presented in the October 3, 2024 public workshop, referred herein as the "Original Rule Concept"; and the Final SEA updates the analysis according to the revised rule concepts presented at and since the February 13, 2025 public working group meeting, referred herein as the "Revised Rule Concept."

Under the Original Rule Concept, the applicability of PAR 1111 included all natural gas-fired furnaces with a rated heat input capacity up to 2,000,000 British thermal units per hour (Btu/hr). Under the Revised Rule Concept, the applicability for PAR 1111 is similar to the current Rule 1111, covering central furnaces with a rated heat input capacity of less than 175,000 Btu/hr, or, for combination heating and cooling units, a cooling rate of less than 65,000 Btu/hr; but expanded to include floor and wall furnaces with the same rated heat input capacity threshold. Under the Original Rule Concept for PAR 1111, NOx emission limits were proposed for the Commercial Fan-Type Central Furnace equipment category. Under the Revised Rule Concept for PAR 1111, this equipment category has been removed because PAR 1111 no longer implements Control Measure C-CMB-02 of the 2022 AQMP.

Under the Original Rule Concept for PAR 1111 and PAR 1121, alternative compliance options were provided for emergency replacements and installations requiring specific types of construction. However, under Revised Rule Concept for PAR 1111 and PAR 1121, a Zero-NOx Manufacturer (ZEM) alternative compliance option is proposed that establishes compliance targets for the sale of NOx-emitting and zero-NOx emission appliances except for mobile home units. The targets change over time to transition the market to zero-NOx emission appliances. The ZEM alternative compliance option also includes fees for the sale of all NOx-emitting appliances, with higher fees for the NOx-emitting appliances sold over the NOx-emitting unit sales target. The fees increase annually to reflect the consumer price index after 2027. Mobile home units for installations in existing buildings and master-metered mobile home parks are exempted from zero-NOx emission limits. Large condensing or non-condensing furnaces greater than 100,000 Btu/hr for high-altitude installation are no longer exempted, effective at the date of rule adoption.

Under the Original Rule Concept, full implementation was expected by 2055 for PAR 1111, and 2045 for PAR 1121; under the Revised Rule Concept, full implementation is expected by 2061 for both rules.

In summary, PAR 1111 and PAR 1121 have undergone clarifications and updates, including restructuring the rules, removing obsolete language, and streamlining labeling, recordkeeping, and reporting requirements. To facilitate identification of the changes between the Draft SEA and the Final SEA, modifications to the document are included as <u>underlined text</u> and text removed from

the document is indicated by ~~strikethrough text~~. To avoid confusion, minor formatting changes are not shown in underline or strikethrough mode.

South Coast AQMD staff has evaluated the modifications made to PAR 1111 and PAR 1121 after the release of the Draft SEA for public review and comment and concluded that none of the revisions constitute significant new information, because: 1) no new significant environmental impacts would result from the proposed project; 2) there is no substantial increase in the severity of any environmental impact; 3) no other feasible project alternative or mitigation measure was identified that would clearly lessen the environmental impacts of the proposed project and that was considerably different from others previously analyzed, and 4) the Draft SEA did not deprive the public from meaningful review and comment. Consequently, revisions to PAR 1111 and PAR 1121 and the analysis in response to verbal or written comments during the rule development process would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the Draft SEA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Therefore, the Draft SEA has been revised to include the aforementioned modifications such that it is now the Final SEA.

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CHAPTER 1

EXECUTIVE SUMMARY

Introduction

California Environmental Quality Act

Previous CEQA Documentation

Intended Uses of this Document

Areas of Controversy

Executive Summary

1.0 INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (South Coast AQMD) in 1977[1] as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin and portions of the Salton Sea Air Basin and Mojave Desert Air Basin. In 1977, amendments to the federal Clean Air Act (CAA) included requirements for submitting State Implementation Plans (SIPs) for nonattainment areas that fail to meet all federal ambient air quality standards [CAA Section 172], and similar requirements exist in state law [Health and Safety Code Section 40462]. The federal CAA was amended in 1990 to specify attainment dates and SIP requirements for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), and particulate matter with an aerodynamic diameter of less than 10 microns (PM10). In 1997, the United States Environmental Protection Agency (U.S. EPA) promulgated ambient air quality standards for particulate matter with an aerodynamic diameter less than 2.5 microns (PM2.5). The U.S. EPA is required to periodically update the national ambient air quality standards (NAAQS).

In addition, the California Clean Air Act (CCAA), adopted in 1988, requires the South Coast AQMD to achieve and maintain state ambient air quality standards for ozone, CO, sulfur dioxide, and NO_2 by the earliest practicable date [Health and Safety Code Section 40910]. The CCAA also requires a three-year plan review, and, if necessary, an update to the SIP. The CCAA requires air districts to achieve and maintain state standards by the earliest practicable date and for extreme non-attainment areas, to include all feasible measures pursuant to Health and Safety Code Sections 40913, 40914, and 40920.5. The term "feasible" is defined in the California Environmental Quality Act (CEQA) Guidelines[2] Section 15364, as a measure "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

By statute, the South Coast AQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the areas under the jurisdiction of the South Coast AQMD.[3] Furthermore, the South Coast AQMD must adopt rules and regulations that carry out the AQMP.[4] The AQMP is a regional blueprint for how the South Coast AQMD will achieve air quality standards and healthful air, and the 2022 AQMP[5] contains multiple goals promoting reductions of criteria air pollutants, greenhouse gases (GHGs), and toxic air contaminants (TACs). The 2022 AQMP states that both oxides of nitrogen (NOx) and volatile organic compound (VOC) emissions need to be addressed, with the emphasis that NOx emission reductions are more effective to reduce the formation of ozone and PM2.5. Ozone is a criteria pollutant shown to adversely affect human health and is formed when VOCs react with NOx in the atmosphere. NOx is a precursor to the formation of ozone and PM2.5, and NOx emission reductions are necessary to achieve the ozone standard attainment. NOx emission reductions also contribute to attainment of PM2.5 standards. In particular, the 2022 AQMP includes Control Measures R-CMB-02 – Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Space Heating~~, and C-CMB-02 – Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Commercial Space~~

[1] The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., Ch. 324 (codified at Health and Safety Code Section 40400-40540).
[2] The CEQA Guidelines are codified at Title 14 California Code of Regulations Section 15000 *et seq.*
[3] Health and Safety Code Section 40460(a).
[4] Health and Safety Code Section 40440(a).
[5] South Coast AQMD, Final 2022 Air Quality Management Plan, December 2022. https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/final-2022-aqmp.pdf.

~~Heating,~~ which identifies Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces, as having the potential to achieve additional NOx emission reductions from this equipment category. The 2022 AQMP also includes Control Measure R-CMB-01 – Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Water Heating, which identifies Rule 1121 – Control of Nitrogen Oxides from Residential Type, Natural-Gas-Fired Water Heaters, as having the potential to achieve additional NOx emission reductions from this equipment category.

Rule 1111 regulates NOx emissions from natural gas-fired fan-type central furnaces with rated heat input capacity of less than 175,000 British thermal units per hour (Btu/hr), or for units with combined heating and cooling (package units), a cooling rate of less than 65,000 Btu/hr. The rule was first adopted in December 1978, and amended in November 2009 to lower the NOx emission limit from 40 to 14 nanograms per Joule (ng/J). The rule was later amended several times to provide an alternative compliance option and extend the option that allows the manufacturer to pay a per-unit mitigation fee, in lieu of meeting the lower NOx emission limit. All furnace types have transitioned to 14 ng/J, except for mobile home furnaces for which the mitigation fee alternative compliance option will end by September 30, 2025.

Rule 1121 regulates NOx emissions from natural gas-fired water heaters with a rated heat input capacity of less than 75,000 Btu/hr. The rule was also first adopted in December 1978. It was amended in 1999 to reduce the NOx emission limit from 40 ng/J stepwise to 10 ng/J, and amended again in 2004 to extend the compliance dates of 10 ng/J limit for some categories. Currently, all Rule 1121 water heaters are meeting the NOx emission limit of 10 ng/J, except for mobile home water heaters that are subject to a NOx emission limit of 40 ng/J.

Proposed Amended Rule 1111 – Reduction of NOx Emissions From Natural Gas-Fired Furnaces (PAR 1111), implements 2022 AQMP Control Measure~~s~~ R-CMB-02 ~~and C-CMB-02~~, and proposes to expand the applicability to ~~all~~ include previously unregulated wall and floor furnaces with a rated heat input capacity of less than ~~or equal to~~ 175,000 ~~2,000,000~~ Btu/hr. PAR 1111 categorizes ~~these~~ units into ~~four~~ three groups: 1) residential fan-type central furnaces, ~~2) commercial fan-type central furnaces~~, 2) mobile home furnaces, and 3) wall furnaces and floor furnaces. Each category has zero-NOx emission limits based on future effective dates for new installations at natural turnover. The zero-NOx emission compliance dates are further differentiated for units installed in new or existing buildings. ~~Mobile home furnaces will have a delayed compliance date for installations in existing buildings. Until the applicable zero-emission compliance date, mobile home furnace manufacturer may still use the mitigation fee alternative compliance option. PAR 1111 proposes additional alternative compliance options for emergency replacement and installations requiring construction to expand the space to house or relocate a furnace and associated equipment, perform a utility service upgrade for necessary power, or replace a furnace that does not require the simultaneous replacement of space cooling equipment.~~

Proposed Amended Rule 1121 – Reduction of NOx Emissions From ~~Small~~ Residential Type, Natural Gas-Fired Water Heaters (PAR 1121), implements 2022 AQMP Control Measure R-CMB-01 and proposes zero-NOx emission limits with future effective dates for new water heater installations at natural turnover, with compliance dates differentiated for installations in new or existing buildings. ~~Mobile home water heaters will have a later implementation date for installations in existing buildings. PAR 1121 also includes alternative compliance options for emergency replacements and for installations requiring additional construction to expand the space~~

~~to house or relocate a water heater and associated equipment, or construction to perform a utility service upgrade for necessary power.~~

Space and water heating appliances for existing mobile homes and any mobile home in master-metered mobile home parks will be exempt from the zero-NOx emission standards, and mobile home appliances will transition to zero-NOx emission appliances in new mobile homes or when existing mobile homes are replaced with new mobile homes. Space and water heating appliances that will be installed or used in new buildings with building permit issued prior to the date of rule adoption are also exempted from zero-NOx emission standards. Downflow space heating furnaces for high-altitude installation are exempted from 14 ng/J NOx limit and zero-NOx emission standards.

A Zero-NOx Manufacturer (ZEM) alternative compliance option is provided that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances. The targets change over time to transition the market to zero-NOx emission appliances. The ZEM alternative compliance option also includes fees for the sale of all NOx-emitting appliances, with higher fees for the NOx-emitting appliances sold over the NOx-emitting unit sales target. The fees increase annually to reflect the consumer price index after 2027.

PAR 1111 and PAR 1121 will each affect the manufacturers, distributors, retailers, resellers, and installers of space and water heating systems used in over five million buildings, mostly residential homes. Upon full implementation, incorporating the ZEM alternative compliance option, PAR 1111 will reduce NOx emissions by 4.05 ~~7.7~~ tons per day (tpd), and PAR 1121 will reduce NOx emissions by 2.07 ~~2.3~~ tpd.

1.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) requires that all potential adverse environmental impacts of proposed projects be evaluated and that methods to reduce or avoid identified significant adverse environmental impacts of these projects be implemented, if feasible. The purpose of the CEQA process is to inform the South Coast AQMD Governing Board, public agencies, and interested parties of potential adverse environmental impacts that could result from implementing the proposed project and to identify feasible mitigation measures or alternatives, when an impact is significant.

Public Resources Code Section 21080.5 allows public agencies with regulatory programs to prepare a plan or other written documents in lieu of a Negative Declaration or Environmental Impact Report (EIR) once the Secretary of the Resources agency has certified the regulatory program. The South Coast AQMD's regulatory program was certified on March 1, 1989 [CEQA Guidelines Section 15251(l)]. In addition, the South Coast AQMD adopted Rule 110 – Rule Adoption Procedures to Assure Protection and Enhancement of the Environment, which implements the South Coast AQMD's certified regulatory program. Under the certified regulatory program, the South Coast AQMD typically prepares an Environmental Assessment (EA) to evaluate the environmental impacts for rule projects proposed for adoption or amendment.

PAR 1111 proposes to: 1) expand rule applicability to include previously unregulated wall furnaces and floor furnaces~~, and commercial furnaces~~ with a rated heat input capacity ~~up to 2,000,000~~ less than 175,000 British Thermal Units per hour (Btu/hr); and 2) establish ~~four~~ three categories for the applicable units, each with zero-NOx emission limits for new installations based

on future effective dates. PAR 1121 proposes to include zero-NOx emission limits for new installations based on future effective dates. PAR 1111 and PAR 1121 propose to: 1) differentiate the zero-NOx emission compliance dates for units installed in new or existing buildings; 2) provide Zero-NOx Manufacturer (ZEM) alternative compliance option that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances ~~alternative compliance options for emergency replacement and installations requiring specific type of construction~~; 3) introduce informative materials, labeling, recordkeeping, and reporting requirements; 4) provide an exemption from zero-NOx emission requirements for mobile homes in ~~a~~ master-metered mobile home parks, existing mobile homes, and units for new buildings with building permit issued prior to the date of rule adoption; and 5) update and clarify rule language. Replacements of furnaces and water heaters are expected to occur at the end of the existing equipment's useful life, although some replacements could occur prior to the end of useful life with the availability of incentive funding. Upon full implementation by 2061~~, emission reductions of NOx up to 7.7 tons per day by 2055 for~~ PAR 1111 and PAR 1121 are expected to reduce NOx emissions by up to 4.05 tpd, and 2.07 tpd ~~2.3 tons per day~~, respectively. ~~by 2045 for PAR 1121, are expected~~. The ~~Draft~~ Final SEA concluded that significant and unavoidable adverse environmental impacts may occur for the topics of air quality due to construction activities, and energy due to the change in operational electricity and interim natural gas demand needed to produce electricity until renewable energy resources are available to satisfy the electricity demand. No other significant adverse impacts were identified.

The goal of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ in the 2022 AQMP is to reduce NOx emissions from residential ~~and commercial~~ heating sources. These control measures committed to: 1) developing rules to require zero-NOx emission heating units for installations in both new and existing residences ~~and commercial buildings;~~ 2) allowing low NOx technologies as a transitional alternative when installing a zero-NOx emission unit is determined to be infeasible; and 3) providing incentive funds to facilitate the transition to zero-NOx emission technologies and promotion of further emission reductions earlier than required. The Final Program EIR for the 2022 AQMP[6], which was certified by the South Coast AQMD Governing Board on December 2, 2022, determined that implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ has the potential to generate adverse environmental impacts to four topic areas: air quality and GHG emissions, energy, noise, and solid and hazardous waste. More specifically, the Final Program EIR for the 2022 AQMP evaluated the impacts from installation and operation of replacement zero-NOx emission and low NOx technologies potentially resulting in construction air quality and GHG emissions, operational air quality and GHG emissions from production of electricity, increased electricity and natural gas demand, construction noise, and generation of solid waste from construction and disposal of old equipment. The Final Program EIR for the 2022 AQMP also determined that implementation of the other control measures in the 2022 AQMP had the potential to generate adverse environmental impacts to the topic areas of hazards and hazardous materials, and hydrology and water, in addition to the four topic areas previously stated. For the entirety of all of the control measures which comprise the 2022 AQMP, the analysis in the Final Program EIR for the 2022 AQMP concluded that significant and unavoidable adverse environmental impacts were expected to occur after implementing mitigation measures for the following environmental topic areas: 1) air quality during construction; 2) energy due to increased electricity, natural gas, and hydrogen demand; 3) hazards and hazardous materials due to accidental release of ammonia, natural gas via pipeline, and liquified natural gas via on-road trucks; 4) hydrology (water demand and water supply) and water quality; 5) construction noise

[6] South Coast AQMD, Final Program Environmental Impact Report for the 2022 Air Quality Management Plan, December 2022. https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-final-peir.pdf

and vibration at roadways; and 6) solid and hazardous waste from construction and early retirement of equipment. Since significant adverse environmental impacts were identified, mitigation measures were identified and applied. However, the Final Program EIR for the 2022 AQMP concluded that the 2022 AQMP would have significant and unavoidable adverse environmental impacts even after mitigation measures were identified and applied. As such, mitigation measures were made a condition of project approval and a Mitigation, Monitoring, and Reporting Plan was adopted. Findings were made and a Statement of Overriding Considerations was prepared and adopted.

When comparing the types of activities and associated environmental impacts with implementing Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ that were previously analyzed in the Final Program EIR for the 2022 AQMP, to the currently proposed changes associated with the NOx limits and compliance dates presented in PAR 1111 and PAR 1121, the types of physical changes are expected to be similar and will cause similar secondary adverse environmental impacts for the same environmental topic areas that were identified and analyzed in the Final Program EIR for the 2022 AQMP. However, regarding the scope of the affected equipment universe, Control Measures R-CMB-02 ~~and C-CMB-02~~ were estimated to affect two million residential space heaters ~~and 200,000 commercial space heaters~~, whereas PAR 1111 is estimated to affect over five million space heaters. Similarly, Control Measure R-CMB-01 was estimated to affect two million residential water heaters, whereas PAR 1121 is estimated to affect over five million water heaters. Thus, while the proposed project, PAR 1111 and PAR 1121, is expected to have similar secondary adverse environmental impacts for the environmental topic areas of construction air quality and GHG emissions, operational air quality and GHG emissions from the production of electricity, increased electricity and natural gas demand, construction noise, and generation of solid waste from construction and disposal of old equipment that were previously analyzed in the Final Program EIR for the 2022 AQMP, the impacts will be increased. The Final Program EIR for the 2022 AQMP relative to the implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ concluded less than significant impacts to operational air quality, greenhouse gas emissions, noise, and solid and hazardous waste and the analysis in this SEA confirms that these impacts will remain the same if PAR 1111 and PAR 1121 are implemented. In addition, the Final Program EIR for the 2022 AQMP concluded that the implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ will have potentially significant adverse air quality impacts from construction and energy impacts from electricity and natural gas demand and the analysis in this SEA determined that these impacts will be made more severe if PAR 1111 and PAR 1121 are implemented.

Therefore, the proposed project contains new information of substantial importance which was not known and could not have been known at the time the Final Program EIR for the 2022 AQMP was certified [CEQA Guidelines Section 15162(a)(3)]. Moreover, the analysis indicates that the type of CEQA document appropriate for the proposed project is a Subsequent Environmental Assessment (SEA), which contains the environmental analysis required by CEQA Guidelines Section 15187 and tiers off of the Final Program EIR for the 2022 AQMP. Thus, this SEA is a subsequent document to the Final Program EIR for the 2022 AQMP.

Because this is a subsequent document, the baseline is the project analyzed in the Final Program EIR for the 2022 AQMP. The SEA is a substitute CEQA document prepared in lieu of a Subsequent EIR with significant impacts [CEQA Guidelines Section 15162], pursuant to the South Coast AQMD's Certified Regulatory Program [CEQA Guidelines Section 15251(1)]; codified in South Coast AQMD Rule 110. The SEA is also a public disclosure document intended to: 1)

provide the lead agency, responsible agencies, decision makers, and the general public with information on the environmental impacts of the proposed project; and 2) be used as a tool by decision makers to facilitate decision making on the proposed project.

Thus, the South Coast AQMD, as lead agency for the proposed project has prepared this SEA with significant impacts. In addition, since significant adverse impacts have been identified, an alternatives analysis is required and has been included in this SEA.

The Draft SEA ~~is being~~ has been released and circulated for a 46-day public review and comment period from September 27, 2024 to November 12, 2024. ~~Any~~ Three comments on the analysis presented in the ~~this~~ Draft SEA were received during the public comment period, which are ~~will be~~ responded to and included in ~~an~~ Appendix B of ~~the~~ this Final SEA.

The Final Program EIR for the 2022 AQMP (State Clearinghouse (SCH) No. 2022050287) upon which this SEA relies and the adopted Findings, Statement of Overriding Considerations and Mitigation, Monitoring, and Reporting Plan, are incorporated by reference pursuant to CEQA Guidelines Section 15150 and is available from the South Coast AQMD's website at:

> **December 2022 Final Program EIR for the 2022 AQMP (including Appendices):**
> https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-final-peir.pdf
>
> **Findings, Statement of Overriding Considerations, and Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP**
> https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-attachment1toresolution.pdf

The above documents may also be obtained from the South Coast AQMD's Public Information Center by calling (909) 396-2039 or by email PICrequests@aqmd.gov, or by contacting Lisa Tanaka O'Malley ~~Derrick Alatorre~~ - Deputy Executive Officer/Public Advisor, South Coast AQMD, 21865 Copley Drive, Diamond Bar, CA 91765, (909) 396-3327 ~~(909) 396-2432~~, PublicAdvisor@aqmd.gov.

South Coast AQMD staff has reviewed the modifications made to PAR 1111 and PAR 1121 after the release of the Draft SEA for public review and comment and concluded that none of the revisions constitute significant new information, because: 1) no new significant environmental impacts would result from proposed project; 2) there is no substantial increase in the severity of an environmental impact; 3) no other feasible project alternative or mitigation measure was identified that would clearly lessen the environmental impacts of the project and was considerably different from others previously analyzed; and 4) the Draft SEA did not deprive the public from meaningful review and comment. In addition, revisions to the proposed project and analysis in response to verbal or written comments during the rule development process would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the Draft SEA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Therefore, the Draft SEA has been revised to include the aforementioned modifications such that it is now the Final SEA.

Prior to making a decision on the adoption of the proposed project, the South Coast AQMD Governing Board must review and certify the Final SEA, including responses to comments, as

providing adequate information on the potential adverse environmental impacts that may occur as a result of adopting PAR 1111 and PAR 1121.

1.2 PREVIOUS CEQA DOCUMENTATION

South Coast AQMD rules, as ongoing regulatory programs, have the potential to be revised over time due to a variety of factors (e.g., regulatory decisions by other agencies, new data, lack of progress in advancing the effectiveness of control technologies to comply with requirements in technology forcing rules, new more stringent national ambient air quality standards, etc.). Further, the development of new and amended rules occurs in response to control measures in adopted AQMPs.

Rule 1111 was adopted by the South Coast AQMD Governing Board in December 1978 to reduce NOx emissions from fan-type central furnaces. Rule 1111 has been amended nine times with the most recent amendment in September 2023. Rule 1121 was also adopted by the South Coast AQMD Governing Board in December 1978, to reduce NOx emissions from natural gas-fired residential water heaters. Rule 1121 has been amended three times with the most recent amendment in September 2004.

PAR 1111 and PAR 1121 have been developed to implement Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ from the 2022 AQMP. PAR 1111 proposes to: 1) expand rule applicability to include previously unregulated wall furnaces and floor furnaces~~, and commercial furnaces~~ with a rated heat input capacity ~~up to~~ ~~2,000,000~~ less than 175,000 British Thermal Units per hour (Btu/hr); and 2) establish three ~~four~~ categories for the applicable units, each with zero-NOx emission limits for new installations based on future effective dates. PAR 1121 proposes to include zero-NOx emission limits for new installations based on future effective dates. PAR 1111 and PAR 1121 propose to: 1) differentiate the zero-NOx emission compliance dates for units installed in new or existing buildings; 2) provide Zero-NOx Manufacturer (ZEM) alternative compliance option that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances ~~alternative compliance options for emergency replacement and installations requiring specific type of construction~~; 3) introduce informative materials, labeling, recordkeeping, and reporting requirements; 4) provide an exemption from zero-NOx emission requirements for mobile homes in ~~a~~ master-metered mobile home parks, existing mobile homes, and units for new buildings with building permit issued prior to the date of rule adoption; and 5) update and clarify rule language. Replacements of furnaces and water heaters are expected to occur at the natural turnover that often means the end of the existing equipment's useful life although some replacements could occur prior to the end of useful life with the availability of incentive funding. Upon full implementation by 2061, ~~emission reductions of oxides of nitrogen (NOx) up to 7.7 tons per day by 2055 for~~ PAR 1111 and PAR 1121 are expected to reduce NOx emissions by up to 4.05 tpd, and 2.07 tpd ~~2.3 tons per day~~, respectively. ~~by 2045 for PAR 1121, are expected.~~ The environmental impacts of the control measures in the 2022 AQMP, including Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02,~~ were evaluated in the Final Program EIR for the 2022 AQMP. This SEA relies on the environmental analysis conducted in the December 2022 Final Program EIR for Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~, which are the basis for the currently proposed amendments to Rule 1111 and Rule 1121. As allowed by CEQA Guidelines Sections 15152, 15162, and 15385, this SEA tiers off of the Final Program EIR for the 2022 AQMP, which is summarized below:

Final Program Environmental Impact Report for the 2022 Air Quality Management Plan (SCH No. 2022050287); December 2022: The 2022 AQMP set forth policies and measures to achieve federal and state ambient air quality standards in the region. In accordance with the U.S EPA strengthening the NAAQS for ground-level 8-hour ozone in 2015, by lowering the primary and secondary 8-hour ozone standard to 70 parts per billion, the 2022 AQMP identified control measures and strategies to bring the South Coast Air Basin and the Coachella Valley into attainment with this standard by 2037. The 2022 AQMP control measures and strategies were developed to achieve this NAAQS by focusing on reducing NOx which are precursors to the formation of ozone and other air pollutants. The 2022 AQMP was comprised of the following control measures which address stationary point and area and mobile sources: 1) the South Coast AQMD's Stationary and Mobile Source Control Measures; 2) control measures identified in the 2022 State Strategy for the State Implementation Plan by the California Air Resources Board; and 3) approved Regional Transportation Plan/Sustainable Communities Strategy and Transportation Control Measures provided by the Southern California Association of Governments. The 2022 AQMP also included emission inventories, the most current air quality data, updated growth projections, new modeling techniques, demonstrations of compliance with state and federal Clean Air Act requirements, and an adoption and implementation schedule for the control strategies. The 2022 AQMP is designed to protect and improve public health for those living, working, and visiting the region within South Coast AQMD's jurisdiction. The 2022 AQMP was estimated to reduce NOx emissions by approximately 124 tons per day beyond implementation of existing regulations. The Final Program EIR for the 2022 AQMP identified the following environmental topic areas would have significant and unavoidable adverse impacts: 1) air quality during construction; 2) energy due to increased electricity, natural gas, and hydrogen demand; 3) hazards and hazardous materials due to accidental release of ammonia, natural gas via pipeline, and liquified natural gas via on-road trucks; 4) hydrology (water demand and water supply) and water quality; 5) construction noise and vibration at roadways; and 6) solid and hazardous waste from construction and early retirement of equipment.

The Final Program EIR for the 2022 AQMP was certified by the South Coast AQMD Governing Board in December 2022 and identified potentially significant impacts, mitigation measures were made a condition of approval of the 2022 AQMP and were adopted. Since mitigation measures were adopted for the 2022 AQMP, a Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP, pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097 was also required and adopted. Further, because the Final Program EIR concluded that the 2022 AQMP will have potentially significant and unavoidable adverse impacts on the environment, Findings were made pursuant to CEQA Guidelines Section 15091, and a Statement of Overriding Considerations pursuant to CEQA Guidelines Section 15093 was adopted.

The 2022 AQMP, along with the December 2022 Final Program EIR for the 2022 AQMP and its corresponding Findings, Statement of Overriding Considerations, and Mitigation, Monitoring, and Reporting Plan, upon which the analysis of this SEA for PAR 1111 and PAR 1121 relies, are incorporated by reference pursuant to CEQA Guidelines Section 15150 and are available from the South Coast AQMD's website at:

December 2022 Final Program EIR for the 2022 AQMP:
Master webpage: https://www.aqmd.gov/home/research/documents-reports/lead-agency-scaqmd-projects/south-coast-aqmd-projects---year-2022

December 2022 Final Program EIR for the 2022 AQMP (including Appendices): https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-final-peir.pdf

Findings, Statement of Overriding Considerations, and Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP: https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-attachment1toresolution.pdf

2022 AQMP: https://www.aqmd.gov/home/air-quality/air-quality-management-plans/air-quality-mgt-plan

Copies of these documents may also be obtained from:

Lisa Tanaka O'Malley ~~Derrick Alatorre~~, Deputy Executive Officer/Public Advisor
South Coast AQMD 21865 Copley Drive, Diamond Bar, CA 91765
Phone: (909) 396-3327 ~~(909) 396-2432~~
Email: publicadvisor@aqmd.gov

1.3 INTENDED USES OF THIS DOCUMENT

In general, a CEQA document is an informational document that informs a public agency's decision-makers and the public generally of potentially significant adverse environmental effects of a project, identifies possible ways to avoid or minimize the significant effects, and describes reasonable alternatives to the project [CEQA Guidelines Section 15121]. A public agency's decision-makers must consider the information in a CEQA document prior to making a decision on the project. Accordingly, this SEA is intended to: a) provide the South Coast AQMD Governing Board and the public with information on the environmental effects of the proposed project; and b) be used as a tool by the South Coast AQMD Governing Board to facilitate decision-making on the proposed project.

Additionally, CEQA Guidelines Section 15124(d)(1) requires a public agency to identify the following specific types of intended uses of a CEQA document:

1. A list of the agencies that are expected to use the SEA in their decision-making;
2. A list of permits and other approvals required to implement the project; and
3. A list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies.

In addition to the South Coast AQMD's Governing Board which will consider the SEA for the proposed project in their decision-making, the California Air Resources Board (CARB), a state agency, and the U.S. EPA, a federal agency, will be reviewing PAR 1111 and PAR 1121 and all supporting documents, including the SEA, as part of the process for considering the inclusion of PAR 1111 and PAR 1121 into the SIP. Moreover, PAR 1111 and PAR 1121 are not subject to any other related environmental review or consultation requirements.

To the extent that local public agencies, such as cities, county planning commissions, et cetera, are responsible for making land use and planning decisions related to projects that must comply with the requirements in the proposed project, they could possibly rely on this SEA during their

decision-making process. Similarly, other single purpose public agencies approving projects at facilities complying with the proposed project may rely on this SEA.

1.4 AREAS OF CONTROVERSY

CEQA Guidelines Section 15123(b)(2) requires a public agency to identify the areas of controversy in the CEQA document, including issues raised by agencies and the public. Over the course of developing PAR 1111 and PAR 1121, the predominant concerns expressed by representatives of industry and environmental groups, either in public meetings or in written comments, regarding the proposed project are highlighted in Table 1-1.

Table 1-1
Areas of Controversy

	Area of Controversy	Topics Raised by the Public	South Coast AQMD Evaluation
1.	Grid	Electrical generation may not be able to meet the demands of the millions of electrical appliances required by these proposed amended rules.	• While peak load causes more concern for the grid, implementing PAR 1111 and PAR 1121 would not have as much impact on the peak load during summer as on the annual total load. PAR 1111 units <u>for space heating</u> will be expected to operate during winter, while peak electricity demand for California occurs during summer. <u>Heat pump HVAC provide cooling in summer that are more efficient than conventional AC (powered by electricity) and can relieve summer peak electricity demanding for cooling</u>. ~~PAR 1121 units will be expected to operate year-round but will consume less electricity than PAR 1111 units.~~ In the Pathway to 2045 document[7], SCE expected a 60 percent increase in electricity load and 40 percent increase in peak load by 2045, with building electrification responsible for 15 percent of load by 2045. • California is expected to add 18,000 MW of electricity generation capacity by 2028, which is the estimated peak demand increase from all electrical appliances, including PAR 1111 and PAR 1121 units, and the transportation sector by 2040. • The local and state utility agencies are developing programs and policies to address grid reliability. For example, in 2021, the CPUC created new programs and modified existing programs to reduce energy demand and increase energy supply during critical hours of the day.[8] Per Senate Bill 350 (De León, 2015), the CPUC developed an integrated resource planning process to ensure that California's electric sector meets its greenhouse gas reduction goals while maintaining reliability at the lowest possible costs.[9] • <u>The proposed ZEM alternative compliance option will allow the sales of both NOx-emitting and zero-NOx emission units. This alternative compliance option provides a gradual transition and more time for the grid infrastructure advancement.</u> • Staff will continue to monitor any issue related to grid reliability during the rule implementation and technology check-in by ~~June 2027~~ <u>the third quarter of 2028</u> and report the progress to the Stationary Source Committee.

[7] SCE, Pathway 2045, <u>https://www.edison.com/our-perspective/pathway-2045</u>
[8] California Public Utilities Commission, CPUC Ensures Electricity Reliability During Extreme Weather for Summers 2022 and 2023, <u>https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-ensures-electricity-reliability-during-extreme-weather-for-summers-2022-and-2023</u>
[9] California Public Utilities Commission, CPUC Approves Long Term Plans To Meet Electricity Reliability and Climate Goals, <u>https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-approves-long-term-plans-to-meet-electricity-reliability-and-climate-goals</u>

Table 1-1 (continued)
Areas of Controversy

	Area of Controversy	Topics Raised by the Public	South Coast AQMD Evaluation
2.	Electrical panel upgrade	Many homes will need to do expensive electrical panel upgrades to use zero-NOx emission units.	• For PAR 1111, most homes (876%) in the South Coast AQMD currently have existing air conditioning units, so converting to a Heating, Ventilation, and Air Conditioning (HVAC) heat pump would have similar electrical requirements. Thus, for the majority of homes equipped with existing air conditioning units, an electrical panel upgrade will not be needed. • Further, for the homes that do not have existing air conditioning units, depending on the year when the structure was built, the building code typically requires some redundancy (e.g., extra capacity in amperage) in the electrical panel. For these reasons, across-the-board electrical panel upgrades may be uncommon. • For PAR 1121, some zero-NOx emission compliant units, such as 120V heat pump water heaters, do not require a dedicated circuit on the electrical panel, so the unit can be installed on an existing circuit without requiring any upgrades. • For homes that do require an electrical panel upgrade in order to install equipment in response to PAR 1111 and PAR 1121, the cost would be spread across multiple projects: water heater, space heater, and transportation. • The proposed ZEM alternative compliance option will allow the sales of both NOx-emitting and zero-NOx emission units. Consumers may choose NOx-emitting units when the cost of installing zero-NOx emission units is a concern to them.
~~3.~~	~~Increased size of zero-emission units~~	~~Heat pumps, especially heat pump water heaters, require larger footprint than their natural gas-fired equivalents and need more space for air flow~~	~~• While heat pump water heaters may be slightly larger than natural gas tank-type water heaters, most closets sized for a natural gas tank-type water heater will fit a heat pump water heater with little to no modification.~~ ~~• In the cases when a construction is required to expand the space or relocate the equipment, PAR 1111 and PAR 1121 contain provisions which will allow for the use of a temporary rental of a natural gas tank-type unit for up to 24 months so that hot water will be available while construction is occurring~~

Table 1-1 (continued)
Areas of Controversy

	Area of Controversy	Topics Raised by the Public	South Coast AQMD Evaluation
3. ~~4.~~	Mobile Homes: Electrical Capacity	Mobile homes do not have the electrical capacity to support zero-NOx emission appliances for space and water heating.	• The utilities supplied to a master-metered mobile home are restricted to a single meter. Some mobile home parks have a direct utility service, where a resident can potentially upgrade their electrical panel to support zero-NOx emission appliances. • An increase in electrical demand for a master-metered mobile home may require extensive construction and can be cost-prohibitive for the property owner and residents. • Compliance dates for PAR 1111 mobile home furnaces in existing buildings and PAR 1121 mobile home water heaters in existing buildings are later than all other furnaces and water heaters. • PAR 1111 and PAR 1121 include a provision that exempts master-metered mobile homes. The California Public Utilities Commission is working on converting 50% of master-metered homes to direct utility service by 2030. When the master-metered homes are converted to a direct utility service, they are no longer exempt from the rules.
4. ~~5.~~	Cost of Adoption	1) Operating costs of zero-NOx emission appliances is more costly than their natural gas counterpart 2) Capital costs of zero-NOx emission appliances are higher than their natural gas counterpart	• PAR 1111 and PAR 1121 use the California Energy Commission's (CEC) Integrated Energy Policy Report (IEPR) released in January 2024. The report projects a natural gas rate increase of 50% and an electricity increase of 21%. These rates are used to calculate the fuel switching costs for both rules, which results in cost savings over their respective equipment lifetimes. • The replacement costs for all equipment categories are less than the cost-effectiveness threshold of $349,000 per ton of NOx reduced. Furthermore, capital costs are expected to drop as deployment of the zero-NOx emission technology increases. • In addition, there are federal, state, and local incentive funding specifically to incentivize the switch from combustion to heat pump technologies. South Coast AQMD is also developing the Go Zero Incentive Program to help lower the cost and to provide centralized information for the availability of incentive and financing opportunities offered by other agencies and organizations.
5.	Consumer choice	The rules will require consumers to replace their existing gas appliances with electric appliances	• The rules only apply to appliances being sold, and does not require the replacement of existing appliances • The Zero-NOx Manufacturer (ZEM) alternative compliance option allows NOx emitting appliances to continue to be sold albeit with a mitigation fee

Table 1-1 (concluded)
Areas of Controversy

	Area of Controversy	Topics Raised by the Public	South Coast AQMD Evaluation
6.	Mitigation fee	Mitigation fees associated with ZEM alternative compliance option cause affordability concern	• Staff proposed low mitigation fees to address affordability concern • Higher fees only apply for units sold above the manufacturer targets • Fees help fund Go Zero incentive program to lower cost of compliant installations, which will have 75% of funds allocated to residents who need the most help.
7.	Mitigation fee structure	Environmental stakeholders advocating to increase the mitigation fees for appliances sold over the sales targets to encourage the manufacturers to meet the sales targets	• Proposed tiered fees would be more complicated for manufacturers to implement • Current mitigation fee structure intended to strike balance between affordability and encouraging sales target goals.

Pursuant to CEQA Guidelines Section 15131(a), "[e]conomic or social effects of a project shall not be treated as significant effects on the environment." CEQA Guidelines Section 15131(b) states further, "[e]conomic or social effects of a project may be used to determine the significance of physical changes caused by the project." Physical changes that may be caused by the proposed project have been evaluated in Chapter 4 of this Draft SEA. No direct or indirect physical changes resulting from economic or social effects have been identified as a result of implementing PAR 1111 and PAR 1121.

1.5 EXECUTIVE SUMMARY

CEQA Guidelines Section 15123 requires a CEQA document to include a brief summary of the proposed actions and their consequences. In addition, areas of controversy must also be included in the executive summary (see preceding discussion). This SEA consists of the following chapters: Chapter 1 – Executive Summary; Chapter 2 – Project Description; Chapter 3 – Existing Setting; Chapter 4 – Environmental Impacts; Chapter 5 – Alternatives; Chapter 6 – References; Chapter 7 – Acronyms; and various appendices. The following subsections briefly summarize the contents of Chapters 1 through 5.

Summary of Chapter 1 – Executive Summary
Chapter 1 includes an introduction of the proposed project and a discussion of the legislative authority that allows the South Coast AQMD to amend and adopt air pollution control rules, identifies general CEQA requirements and the intended uses of this CEQA document, and summarizes the remaining four chapters that comprise this SEA.

Summary of Chapter 2 – Project Description
In the 2022 AQMP, Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ committed to achieving NOx emission reductions of 1.25 tpd and 1.17 tpd~~, and 0.21 tpd~~ by 2037 as part of a Basin-wide effort to meet the NAAQS for ozone, and proposed to 1) develop rules to require zero-NOx emission heating units for installations in both new and existing residences ~~and commercial buildings~~; 2) allow low NOx technologies as a transitional alternative when installing a zero-NOx emission unit is determined to be infeasible; and 3) provide incentive funds to facilitate the transition to zero-NOx emission technologies and promote further emission reductions earlier than required. As a result of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~, South Coast AQMD staff has proposed amendments to Rules 1111 and 1121 to introduce zero-NOx emission limits for new installations of residential water heaters and residential ~~and commercial~~ space heaters, implementing Best Available Retrofit Control Technology (BARCT), and to address challenges with installation of zero-NOx emission technology through differentiated compliance dates for new versus existing buildings, alternative compliance options, and exemptions.

PAR 1111 proposes to: 1) expand rule applicability to include previously unregulated wall furnaces~~,~~ and floor furnaces~~, and commercial furnaces~~ with a rated heat input capacity ~~up to 2,000,000~~ less than 175,000 Btu/hr; and 2) establish ~~four~~ three categories for the applicable units, each with zero-NOx emission limits for new installations based on future effective dates. PAR 1121 proposes to include zero-NOx emission limits for new installations based on future effective dates. PAR 1111 and PAR 1121 propose to: 1) differentiate the zero-NOx emission compliance dates for units installed in new or existing buildings; 2) provide a Zero-NOx Manufacturer (ZEM) alternative compliance option that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances ~~alternative compliance options for emergency replacement and installations requiring specific type of construction~~; 3) introduce informative materials, labeling,

recordkeeping, and reporting requirements; 4) provide an exemption from zero-NOx emission requirements for mobile homes in ~~a~~ master-metered mobile home parks, existing mobile homes, and units for new buildings with building permit issued prior to the date of rule adoption; and 5) update and clarify rule language. Replacements of furnaces and water heaters are expected to occur at the end of the existing equipment's useful life although some replacements could occur prior to the end of useful life with the availability of incentive funding. Upon full implementation by 2061, ~~emission reductions of NOx up to 7.7 tpd by 2055 for~~ PAR 1111 and PAR 1121 are expected to reduce NOx emissions by up to 4.05 tpd, and 2.07 ~~2.3~~ tpd, respectively. ~~tpd by 2045 for PAR 1121, are expected.~~

Summary of Chapter 3 – Existing Setting

Pursuant to CEQA Guidelines Section 15125, Chapter 3 – Existing Setting includes a description of the existing environmental setting of the environmental topic areas that are expected to have potentially significant adverse impacts if the proposed project is implemented.

The proposed project is comprised of PAR 1111 and PAR 1121. PAR 1111 is estimated to affect over five million space heaters, whereas PAR 1121 is estimated to affect over five million water heaters. As allowed by CEQA Guidelines Sections 15152, 15162, and 15385, this SEA tiers off of the Final Program EIR for 2022 AQMP.

The environmental setting is the physical environmental conditions as they existed at the time the Notice of Preparation (NOP) and Initial Study (IS) was published, or if no NOP/IS is published, at the time the environmental analysis is commenced [CEQA Guidelines Section 15125]. The NOP/IS for 2022 AQMP was released for public review and comment on May 12, 2022. The Final Program EIR for 2022 AQMP contained an environmental checklist, the same environmental checklist used when preparing a NOP/IS, plus a detailed analysis of the environmental setting and corresponding environmental effects specifically tailored to implementing the 2022 AQMP. When comparing the types of activities and associated environmental impacts with implementing Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ that were previously analyzed in the Final Program EIR for the 2022 AQMP, to the currently proposed changes associated with the NOx limits and compliance dates presented in PAR 1111 and PAR 1121, the types of physical changes are expected to be similar and will cause similar secondary adverse environmental impacts for the same environmental topic areas that were identified and analyzed in the Final Program EIR for the 2022 AQMP. However, regarding the scope of the affected equipment universe, Control Measure~~s~~ R-CMB-02 ~~and C-CMB-02 were~~ was estimated to affect two million residential space heaters ~~and 200,000 commercial space heaters~~, whereas PAR 1111 is estimated to affect over five million space heaters. Similarly, Control Measure R-CMB-01 was estimated to affect two million residential water heaters, whereas PAR 1121 is estimated to affect over five million water heaters. Thus, while the proposed project, PAR 1111 and PAR 1121, is expected to have similar secondary adverse environmental impacts for the environmental topic areas of construction air quality and GHG emissions, operational air quality and GHG emissions from production of electricity, increased electricity and natural gas demand, construction noise, and generation of solid waste from construction and disposal of old equipment that were previously analyzed in the Final Program EIR for the 2022 AQMP, the impacts will be increased.

This SEA analyzes the incremental changes that may occur subsequent to the Final Program EIR for 2022 AQMP if PAR 1111 and PAR 1121 are implemented. In addition, the analysis in this SEA independently considers whether the proposed project would result in new significant impacts for any of the environmental topic areas previously concluded in the Final Program EIR for 2022

AQMP to have either no significant or less than significant impacts (with or without mitigation) and no environmental topic areas as identified as having potentially significant adverse impacts. A description and the basis for this conclusion is included in Chapter 4 of this SEA.

As such, Chapter 3 of this ~~Draft~~ Final SEA contains subchapters devoted to describing the existing setting for air quality and greenhouse gases, and energy which were the environmental topic areas identified as having potentially significant adverse environmental impacts if PAR 1111 and PAR 1121 are implemented.

Summary of Chapter 4 – Environmental Impacts

CEQA Guidelines Section 15126(a) requires a CEQA document to identify and focus on the "significant environmental effects of the proposed project." Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. In addition, CEQA Guidelines Section 15126(b) requires a CEQA document to identify the significant environmental effects that cannot be avoided if the proposed project is implemented. CEQA Guidelines Section 15126(c) also requires a CEQA document to consider and discuss the significant irreversible environmental changes that would be involved if the proposed project is implemented. Further, CEQA Guidelines Section 15126(e) requires a CEQA document to consider and discuss mitigation measures proposed to minimize the significant effects. Finally, CEQA Guidelines Section 15130 requires a CEQA document to discuss whether the proposed project has cumulative impacts. Chapter 4 considers and discusses each of these requirements.

PAR 1111 and PAR 1121 have been developed to reduce NOx emissions by introducing zero-NOx emission limits for new installations of residential water heaters and residential ~~and commercial~~ space heaters and implementing BARCT. Specifically, PAR 1111 proposes to: 1) expand rule applicability to include previously unregulated wall furnaces and floor furnaces~~, and commercial furnaces~~ with a rated heat input capacity ~~up to~~ ~~2,000,000~~ less than 175,000 British Thermal Units per hour (Btu/hr); ~~and~~ 2) establish ~~four~~ three categories for the applicable units, each with zero-NOx emission limits for new installations based on future effective dates~~. PAR 1121 proposes to~~ 3) include zero-NOx emission limits for new installations based on future effective dates. PAR 1111 and PAR 1121 propose to: 1) differentiate the zero-NOx emission compliance dates for units installed in new or existing buildings; 2) provide a Zero-NOx Manufacturer (ZEM) alternative compliance option that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances ~~alternative compliance options for emergency replacement and installations requiring specific type of construction~~; 3) introduce informative materials, labeling, recordkeeping, and reporting requirements; 4) provide an exemption from zero-NOx emission requirements for mobile homes in ~~a~~ master-metered mobile home parks, existing mobile homes, and units for new buildings with building permit issued prior to the date of rule adoption; and 5) update and clarify rule language. Replacements of furnaces and water heaters are expected to occur at the end of the existing equipment's useful life although some replacements could occur prior to the end of useful life with the availability of incentive funding. Upon full implementation by 2061~~, emission reductions of oxides of nitrogen (NOx) up to 7.7 tons per day by 2055 for~~ PAR 1111 and PAR 1121 are expected to reduce NOx emissions by up to 4.05 tpd, and 2.07 tpd ~~2.3 tons per day~~, respectively. ~~by 2045 for PAR 1121, are expected.~~ The ~~Draft~~ Final SEA concluded that significant and unavoidable adverse environmental impacts may occur for the topics of air quality due to construction activities, and energy due to change in operational electricity and interim natural gas demand needed to produce electricity until renewable energy

resources are available to satisfy the electricity demand. No other significant adverse impacts were identified.

As allowed by CEQA Guidelines Sections 15152, 15162, and 15385, this SEA tiers off of the Final Program EIR for 2022 AQMP. As explained in the Summary of Chapter 3, the baseline for the analysis in this SEA is the project analyzed in the Final Program EIR for 2022 AQMP.

This SEA is a comprehensive environmental document that programmatically analyzes potential incremental environmental impacts from implementing the proposed project relative to the existing setting established in the Final Program EIR for 2022 AQMP. The analysis examines the activities that affected facilities would be expected to undertake to comply with PAR 1111 and PAR 1121.

Potential Environmental Impacts Found to Be Significant

This SEA tiers off of the Final Program EIR for 2022 AQMP which concluded that implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ would result in significant and unavoidable impacts in the environmental topic areas of air quality and energy. Given that the types of physical changes resulting from the proposed project are the same as those analyzed in the Final Program EIR for 2022 AQMP, and that only the number of affected units to be replaced has changed (from 2,200,000 to 5,237,000 ~~5,350,000~~ units for PAR 1111 and from 2,000,000 to 5,128,000 units for PAR 1121), the types of impacts to the environmental topic areas will also be the same, only more severe in effect. Therefore, the analysis in this SEA independently considers whether the PAR 1111 and PAR 1121 would result in new significant impacts for any environmental topic areas previously concluded in the Final Program EIR for 2022 AQMP to have significant impacts.

PAR 1111 has been developed to: 1) expand the applicability to include previously unregulated wall furnaces and floor furnaces~~, and commercial~~ furnaces with a rated heat input capacity ~~up to 2,000,000~~ less than 175,000 Btu/hr ~~that are currently unregulated~~; ~~and~~ 2) ~~divide the applicable units into four~~ establish three categories for the applicable units, each with zero-NOx emission limits for new installations based on future effective dates~~, with a later implementation date for mobile home furnaces~~. PAR 1121 proposes to include zero-NOx emission limits for new installations based on future effective dates ~~with a later implementation date for mobile home water heaters~~. Both PAR 1111 and PAR 1121 propose to: 1) differentiate the zero-NOx emission compliance dates for units installed in new or existing buildings; 2) provide a Zero-NOx Manufacturer (ZEM) alternative compliance option that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances ~~alternative compliance options for emergency replacement and installations requiring construction to expand the space to house or relocate a complaint unit and associated equipment, perform service upgrade for necessary power, or for PAR 1111, replace a furnace that does not require he simultaneous replacement of space cooling equipment;~~ 3) introduce informative materials, labeling, recordkeeping, and reporting requirements; 4) provide an exemption from zero-NOx emission requirements for mobile homes in ~~a~~ master-metered mobile home parks, existing mobile homes, and units for new buildings with building permit issued prior to the date of rule adoption; and 5) update and clarify rule language. Replacements of furnaces and water heaters will occur at the end of the current equipment's useful life although a number of replacements could occur prior to the end of useful life with the availability of incentive funding. Upon full implementation by 2061, ~~of~~ PAR 1111 and PAR 1121 are estimated to reduce NOx emissions~~s~~ by up to 4.05 tpd ~~7.7 tpd after full implementation by 2055,~~ and 2.07 ~~2.3~~ tpd ~~after full implementation by 2045~~, respectively.

If PAR 1111 and PAR 1121 are implemented, significant and unavoidable adverse environmental impacts to air quality due to construction activities, and energy due to change in operational electricity and interim natural gas demand needed to produce electricity until renewable energy resources are available to satisfy the electricity demand are expected to occur.

Potential Environmental Impacts Found Not to Be Significant

CEQA requires the SEA to identify the environmental topic areas that were analyzed and concluded to have no impacts or less than significant impacts if the proposed project is implemented. For the environmental topic areas identified as having no impacts, CEQA Guidelines Section 15128 requires the analysis to contain a statement briefly indicating the reasons that various effects of a project were determined not to have significant impacts and were therefore not discussed in detail.

The Final Program EIR for 2022 AQMP concluded that the following environmental topic areas would either have no impacts or less than significant impacts: aesthetics, agriculture and forestry resources, air quality from operation, biological resources, cultural and tribal cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid and hazardous waste, transportation, and wildfire. This subchapter of the SEA identifies and summarizes these previously analyzed environmental topic areas and assesses whether the conclusions for these environmental topic areas would need to be revised if PAR 1111 and PAR 1121 are implemented.

As such, if PAR 1111 and PAR 1121 are implemented, the conclusions of no impact or less than significant impact for all of the environmental topic areas, except for air quality from construction and energy analyzed in the previous section of this chapter, will remain unchanged.

Other CEQA Topics

CEQA documents are also required to consider and discuss the potential for growth-inducing impacts [CEQA Guidelines Section 15126(d)] and to explain and make findings about the project's relationship between short-term and long-term environmental goals [CEQA Guidelines Section 15065(a)(2)]. Additional analysis in Chapter 4 confirms that PAR 1111 and PAR 1121 would not result in irreversible environmental changes or the irretrievable commitment of resources, foster economic or population growth, or the construction of additional housing. Further, implementation of the PAR 1111 and PAR 1121 are not expected to achieve short-term goals to the disadvantage of long-term environmental goals.

Summary Chapter 5 - Alternatives

Since significant impacts to air quality due to construction and energy due to increased electricity and natural gas demand are associated with PAR 1111 and PAR 1121, CEQA Guidelines Section 15126(e) requires a CEQA document to consider and discuss alternatives to the proposed project. The following alternatives to the proposed project were identified and are summarized in Table 1-2: 1) Alternative A – No Project; 2) Alternative B – More Stringent Proposed Project; 3) Alternative C – Less Stringent Proposed Project; and 4) Alternative D – Additional Incentive Funding.

Pursuant to the requirements in CEQA Guidelines Section 15126.6(b) to mitigate or avoid the significant effects that a project may have on the environment, a comparison of the potentially significant adverse air quality and energy impacts from each of the project alternatives for the

individual rule components that comprise PAR 1111 and PAR 1121 is provided in Table 1-3. Aside from air quality impacts due to construction activities and energy impacts due to electricity and natural gas demand, no other potentially significant adverse impacts were identified for the proposed project or any of the project alternatives. The proposed project provides the best balance in achieving the project objectives while minimizing the significant adverse environmental impacts to air quality and energy. Therefore, the proposed project is preferred over the project alternatives.

Table 1-2
Summary of the Proposed Project (PAR 1111 and PAR 1121) and Alternatives

Categories with Proposed Changes	Building Type	Original Rule Concepts Proposed Project: PAR 1111	Revised Rule Concepts Proposed Project: PAR 1111*	Alternative A: No Project	Alternative B: More Stringent Than The Proposed Project	Alternative C: Less Stringent Than The Proposed Project	Alternative D: Additional Incentive Funding*
Residential Fan-Type Central Furnace	New	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026*	*Zero-NOx Emission on and after 1/1/2027*	NOx emission limits would not be implemented. This means the projected reductions in NOx emissions would not be achieved, failing to meet the objectives of PAR 1111 and PAR 1121, which aim to reduce NOx emissions from natural gas-fired residential ~~and commercial~~ water and space heaters. Additionally, this alternative would not align with the 2022 AQMP's goal to reduce NOx emissions and transition to zero-NOx emission technologies wherever possible.	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026 ~~2025~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*
	Existing	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2028*	*Zero-NOx Emission at end of life on and after 1/1/2029*		*Zero-NOx Emission Required ~~by~~ on and after 1/1/2029 ~~2028~~*	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2029 ~~2028~~*	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2029 ~~2028~~*
		0.5% of equipment estimated to be replaced before end of useful lifetime	*0.5% of equipment estimated to be replaced before end of useful lifetime*			*50% of residences will be zero-NOx emission and 50% will be low NOx equipment*	*1% of equipment estimated to be replaced before end of useful lifetime*
Commercial Fan-Type Central Furnace	New	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026*	**Commercial Fan-Type Central Furnace has been completely removed from PAR 1111.**		*~~Zero-Emission at End of Life by 1/1/2025~~*	*~~Zero-Emission at End of Life by 1/1/2026~~*	*~~Zero-Emission at End of Life by 1/1/2026~~*
	Existing	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2028*			*~~Zero-Emission Required by 1/1/2028~~*	*~~Zero-Emission at End of Life by 1/1/2028~~*	*~~Zero-Emission at End of Life by 1/1/2028~~*
		0.5% of equipment estimated to be replaced before end of useful lifetime				*~~50% of buildings will be zero-emission and 50% will be low NOx equipment~~*	*~~1% of equipment estimated to be replaced before end of useful lifetime~~*
Mobile Home Furnace	New	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026*	*Zero-NOx Emission on and after 1/1/2027*		*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026 ~~2025~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*
	Existing	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2030*	*Exempt from Zero-NOx Emission standards in PAR 1111*		*~~Zero-Emission Required by 1/1/2030~~*	*~~Zero-Emission at End of Life by 1/1/2030~~*	*~~Zero-Emission at End of Life by 1/1/2030~~*
		0.5% of equipment estimated to be replaced before end of useful lifetime				*~~50% of buildings will be zero-emission and 50% will be low NOx equipment~~*	*~~1% of equipment estimated to be replaced before end of useful lifetime~~*

Table 1-2 (continued)
Summary of the Proposed Project (PAR 1111 and PAR 1121) and Alternatives*

Categories with Proposed Changes	Building Type	Original Rule Concepts Proposed Project: PAR 1111	Revised Rule Concepts Proposed Project: PAR 1111*	Alternative A: No Project	Alternative B: More Stringent Than The Proposed Project	Alternative C: Less Stringent Than The Proposed Project	Alternative D: Additional Incentive Funding*
Wall Furnaces, Floor Furnaces, and Others	New	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026*	*Zero-NOx Emission on and after 1/1/2027*	NOx emission limits would not be implemented. This means the projected reductions in NOx emissions would not be achieved, failing to meet the objectives of PAR 1111 and PAR 1121, which aim to reduce NOx emissions from natural gas-fired residential ~~and commercial~~ water and space heaters. Additionally, this alternative would not align with the 2022 AQMP's goal to reduce NOx emissions and transition zero-NOx emission technologies wherever possible.	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026 ~~2025~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*
	Existing	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2028*	*Zero-NOx Emission at end of life on and after 1/1/2029*			*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2029 ~~2028~~*	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2029 ~~2028~~*
		0.5% of equipment estimated to be replaced before end of useful lifetime	*0.5% of equipment estimated to be replaced before end of useful lifetime*		*Zero-NOx Emission Required ~~by~~ on and after 1/1/2029 ~~2028~~*	*50% of buildings will be zero-NOx emission and 50% will be low NOx equipment*	*1% of equipment estimated to be replaced before end of useful lifetime*

*In lieu of above new and existing building requirements provided in paragraph (d)(2) of rule language, any a manufacturer of furnaces, other than mobile home furnaces, subject to Rule 1111 may elect to comply with the ZEM alternative compliance option, which sets sales targets for zero-NOx emission and NOx emitting units and associated mitigation fee, for sales on and after 1/1/2027. The ZEM alternative compliance option includes four implementation phases: 1) 30% zero-NOx and 70% low NOx by 2028, 2) 50% zero-NOx and 50% low NOx by 2032, 3) 75% zero-NOx and 25% low NOx by 2035, and 4) 90% zero-NOx and 10% low NOx 2036 and after.

Table 1-2 (concluded)
Summary of the Proposed Project (PAR 1111 and PAR 1121) and Alternatives

Categories with Proposed Changes	Building Type	Original Rule Concepts Proposed Project: PAR 1121	Revised Rule Concepts Proposed Project: PAR 1121**	Alternative A: No Project	Alternative B: More Stringent Than The Proposed Project	Alternative C: Less Stringent Than The Proposed Project	Alternative D: Additional Incentive Funding**
Residential Water Heater	New	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026*	*Zero-NOx Emission by 1/1/2027*	NOx emission limits would not be implemented. This means the projected reductions in NOx emissions would not be achieved, failing to meet the objectives of PAR 1111 and PAR 1121, which aim to reduce NOx emissions from natural gas-fired residential ~~and commercial~~ water and space heaters. Additionally, this alternative would not align with the 2022 AQMP's goal to reduce NOx emissions and transition zero-NOx emission technologies wherever possible.	*Zero-NOx Emission ~~at End of Life~~ by 1/1/2026 ~~2025~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*
	Existing	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2027*	*Zero-NOx emission at end of life on and after 1/1/2029*		*Zero-NOx Emission Required ~~by~~ on and after 1/1/2029 ~~2027~~*	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2029 ~~2027~~*	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2029 ~~2027~~*
		0.5% of equipment estimated to be replaced before end of useful lifetime	*0.5% of equipment estimated to be replaced before end of useful lifetime*			*50% of buildings will be zero-NOx emission and 50% will be low NOx equipment*	*1% of equipment estimated to be replaced before end of useful lifetime*
Mobile Home Water Heater	New	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026*	*Zero-NOx Emission on and after 1/1/2027*		*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026 ~~2025~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*
	Existing	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2030*	*Exempt from Zero-NOx Emission standards set in PAR 1121*		*~~Zero-Emission Required by 1/1/2030~~*	*~~Zero-Emission at End of Life by 1/1/2030~~*	*~~Zero-Emission at End of Life by 1/1/2030~~*
		0.5% of equipment estimated to be replaced before end of useful lifetime				*~~50% of buildings will be zero-emission and 50% will be low NOx equipment~~*	*~~1% of equipment estimated to be replaced before end of useful lifetime~~*

**In lieu of above new and existing building requirements provided in paragraph (d)(2) of rule language, any a manufacturer of Water Heaters, other than Mobile Home Water Heaters, subject to Rule 1121 may elect to comply with the ZEM alternative compliance option, which sets sales targets for zero-NOx emission and NOx emitting units and associated mitigation fee, for sales on and after 1/1/2027. The ZEM alternative compliance option includes four implementation phases: 1) 30% zero-NOx and 70% low NOx by 2028, 2) 50% zero-NOx and 50% low NOx by 2032, 3) 75% zero-NOx and 25% low NOx by 2035, and 4) 90% zero-NOx and 10% low NOx 2036 and after.

Table 1-3
Comparison of Adverse Environmental Impacts of the Proposed Project (PAR 1111 and PAR 1121) and Alternatives

Air Quality & GHGs Impact Areas	Proposed Project: PAR 1111 and PAR 1121	Alternative A: No Project	Alternative B: More Stringent Than The Proposed Project	Alternative C: Less Stringent Than The Proposed Project	Alternative D: Additional Incentive Funding
Construction	**Potentially Significant Air Quality Impacts During Construction** due to: • increase in number of affected units by approximately 2.5 times (From 4.2 million to 10.5 million) • demolition and replacement activities associated with equipment in ~~commercial~~ residential buildings	**No Impacts** Since Alternative A involves no construction activities to transition from existing natural gas-fired equipment to zero-NOx emission units, no impacts to air quality during construction are expected.	**Potentially Significant Air Quality Impacts During Construction** Alternative B will affect the same number of equipment for both existing and new buildings as the proposed project. However, the compliance date for new buildings will occur 12 months earlier than the proposed project, and the compliance dates for existing buildings will require replacement by these dates as opposed to end of useful life after these compliance dates. Alternative B will cause construction to occur in a more condensed timeline, so peak day construction air quality impacts will be increased compared to the proposed project.	**Potentially Significant Air Quality Impacts During Construction** Construction impacts from the installation of low NOx heaters are expected to be similar to zero-NOx emission technology. Alternative C will affect the same number of equipment for both existing and new buildings as the proposed project. Therefore, the construction air quality impacts for Alternative C will be the same as for the proposed project.	**Potentially Significant Air Quality Impacts During Construction** Alternative D introduces funding incentives without altering compliance deadlines or introducing new construction activities. Since the number of affected units remains unchanged, but more units could be replaced sooner than the end of useful life, the construction-related air quality impacts are expected to be greater than those of the proposed project since more replacements could occur on a peak day.

Table 1-3 (concluded)
Comparison of Adverse Environmental Impacts of the Proposed Project (PAR 1111 and PAR 1121) and Alternatives

Energy	Proposed Project: PAR 1111 and PAR 1121	Alternative A: No Project	Alternative B: More Stringent Than The Proposed Project	Alternative C: Less Stringent Than The Proposed Project	Alternative D: Additional Incentive Funding
Electricity Demand	**Potentially Significant Energy Impacts** due to: • ~~34.6~~ 31.6% increase in operational electricity demand compared to the 2018 baseline; and • ~~32.2~~ 30.3% increase in operational electricity compared to 2022 baseline.	**No Impacts** Since PAR 1111 and PAR 1121 would not be implemented under Alternative A, no impacts related to increased electricity demand will occur.	**Potentially Significant Energy Impacts** Compared to proposed project, Alternative B will result in an earlier increase in operational electricity due to earlier installation of zero-NOx emission technologies. Although the same number of equipment units would be replaced under both scenarios, the more condensed timeline under Alternative B would shift the energy demand to an earlier period. As such, operational electricity impacts would remain significant, consistent with the proposed project, but would occur sooner in the implementation schedule. ~~It is anticipated that Alternative B would result in the same significant impacts for operational electricity demand.~~	**Potentially Significant Energy Impacts** Alternative C will result in a potentially significant increase in electricity demand, but to a lesser extent than the proposed project, primarily due to the continued use of gas-fired heaters alongside a portion of new installations of zero-NOx emission technologies.	**Potentially Significant Energy Impacts** Alternative D will result in potentially significant impacts for electricity demand, earlier than the proposed project due to the accelerated deployment of zero-NOx emission technologies due to incentive funding.
Natural Gas Demand	**Potentially Significant Natural Gas Demand Impacts** due to: increased use of natural gas to produce electricity as a result of replacing old equipment with zero-NOx emission technologies.	**No Impacts** Since PAR 1111 and PAR 1121 would not be implemented under Alternative A, no impacts to increased demand for natural gas will occur.	**Potentially Significant Energy Impacts** Compared to proposed project, Alternative B will result in an earlier increase in natural gas use for the production of electricity due to earlier installation of zero- NOx emission technologies. While the total natural gas demand is expected to be similar to the proposed project, the more condensed implementation timeline under Alternative B would shift this demand to an earlier period. Therefore, operational natural gas impacts would remain significant, as with the proposed project, but would occur earlier in the implementation schedule until electricity is supplied by renewable resources. ~~It is anticipated that Alternative B would result in the same significant impacts for operational natural gas demand until electricity is supplied by renewable resources.~~	**Potentially Significant Energy Impacts** Because the same number of units are being replaced in Alternative C compared to proposed project, and all would require natural gas usage in the short-term, it is anticipated that Alternative C would also experience potentially significant impacts related to natural gas demand.	**Potentially Significant Energy Impacts** Alternative D will result in potentially significant impacts for natural gas demand needed for electricity production, earlier than the proposed project due to the accelerated deployment of zero- NOx emission technologies due to incentive funding.

Summary Chapter 6 - References
This chapter contains a list of the references, and the organizations and persons consulted for the preparation of this SEA.

Summary Chapter 7 - Acronyms
This chapter contains a list of the acronyms that were used throughout the SEA and the corresponding definitions.

Appendix A1
This appendix contains the latest version of PAR 1111.

Appendix A2
This appendix contains the latest version of PAR 1121.

Appendix B
This appendix contains comment letters received on the Draft SEA and responses to comments.

CHAPTER 2

PROJECT DESCRIPTION

Project Location

Project Background

Project Objectives

Project Description

Summary of Affected Adhesive and Sealant Categories

Technology Overview

2.1 PROJECT LOCATION

The South Coast AQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (Basin), the Riverside County portion of the Salton Sea Air Basin (SSAB) and the non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin (MDAB). The Basin, a subarea of South Coast AQMD's jurisdiction, is bounded by the Pacific Ocean to the west, the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east and includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. A federal non-attainment area (known as the Coachella Valley Planning Area) is a subregion of Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (see Figure 2-1).

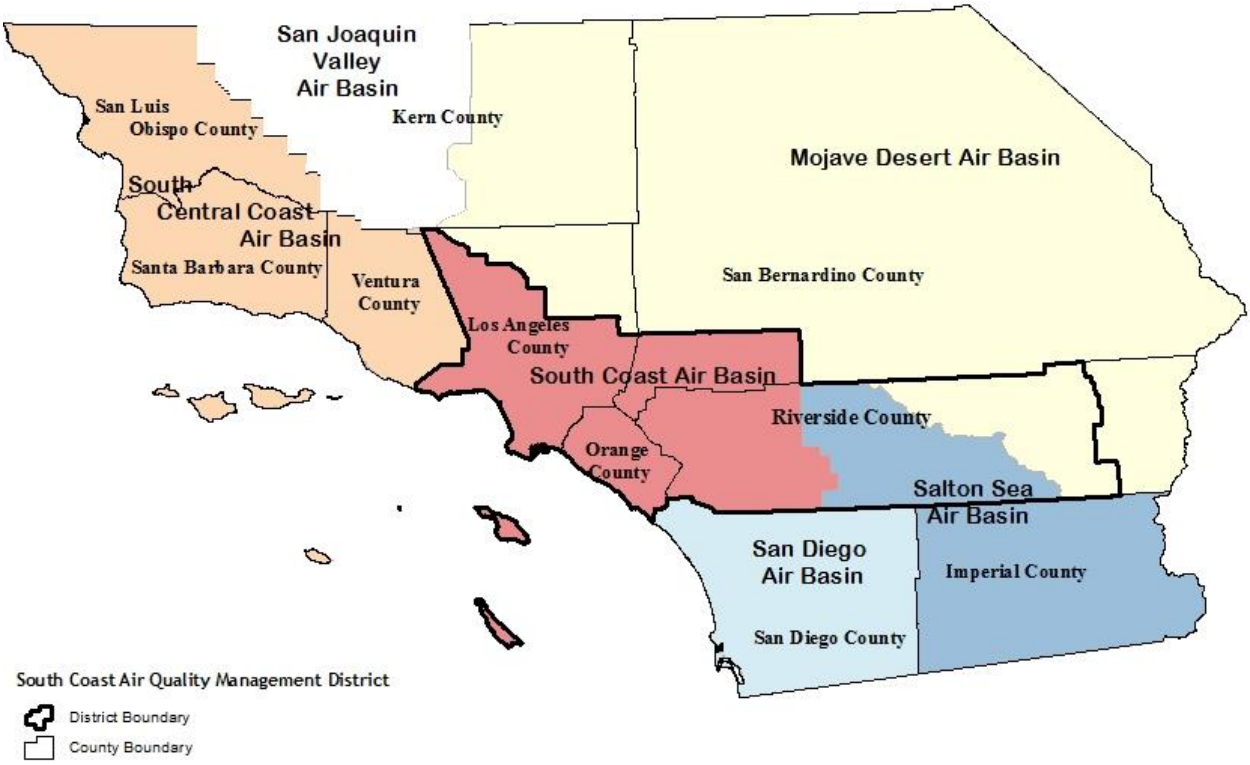

Figure 2-1
Southern California Air Basins and South Coast AQMD's Jurisdiction

2.2 PROJECT BACKGROUND

Rule 1111 regulates NOx emissions from natural gas-fired fan-type central furnaces with rated heat input capacity of less than 175,000 British thermal units per hour (Btu/hr), or for units with combined heating and cooling (package units), a cooling rate of less than 65,000 Btu/hr. The rule

was first adopted in December 1978, and amended in November 2009 to lower the NOx emission limit from 40 to 14 nanograms per Joule (ng/J). The rule was later amended several times to provide an alternative compliance option and extend the option that allows the manufacturer to pay a per-unit mitigation fee, in lieu of meeting the lower NOx emission limit. All furnace types have transitioned to 14 ng/J, except for mobile home furnaces for which the mitigation fee alternative compliance option will end by September 30, 2025.

Rule 1121 regulates NOx emissions from natural gas-fired water heaters with a rated heat input capacity of less than 75,000 Btu/hr. The rule was also first adopted in December 1978. It was amended in 1999 to reduce the NOx emission limit from 40 ng/J stepwise to 10 ng/J, and amended again in 2004 to extend the compliance dates of 10 ng/J limit for some categories. Currently, all Rule 1121 water heaters are meeting the NOx emission limit of 10 ng/J, except for mobile home water heaters that are subject to a NOx emission limit of 40 ng/J.

In the 2022 AQMP, Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ committed to achieving NOx emission reductions of 1.25 tpd and 1.17 tpd, ~~and 0.21 tpd~~ by 2037 as part of a Basin-wide effort to meet the NAAQS for ozone, and proposed to 1) develop rules to require zero-NOx emission heating units for installations in both new and existing residences ~~and commercial buildings~~; 2) allow low NOx technologies as a transitional alternative when installing a zero-NOx emission unit is determined to be infeasible; and 3) provide incentive funds to facilitate the transition to zero-NOx emission technologies and promote further emission reductions earlier than required. As a result of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~, South Coast AQMD staff has proposed amendments to Rules 1111 and 1121 to introduce zero-NOx emission limits for new installations of residential water heaters and residential ~~and commercial~~ space heaters, implementing BARCT, and to address challenges with installation of zero-NOx emission technology through differentiated compliance dates for new versus existing buildings, alternative compliance options, and exemptions. PAR 1111 and PAR 1121 will each affect the manufacturers, distributors, retailers, resellers, and installers of space and water heating systems used in over five million buildings, mostly residential homes. Upon full implementation, PAR 1111 will reduce NOx emissions by 4.05 ~~7.7~~ tpd, and PAR 1121 will reduce NOx emissions by 2.07 ~~2.3~~ tpd.

2.3 PROJECT OBJECTIVES

The main objectives of the proposed project are to: 1) reduce NOx emissions from residential water heaters and residential ~~and commercial~~ space heaters, by proposing NOx limits that represent BARCT for the applicable equipment; 2) address challenges with installation of zero-NOx emission technology through differentiated compliance dates for new versus existing buildings, alternative compliance options, exemptions, and other means; and 3) provide incentive funds to facilitate the transition to zero-NOx emission technologies and promote further emission reductions earlier than required.

2.4 PROJECT DESCRIPTION

PAR 1111 proposes to: 1) expand rule applicability to include previously unregulated wall furnaces and floor furnaces~~, and commercial furnaces~~ with a rated heat input capacity ~~up to~~

~~2,000,000~~ less than 175,000 Btu/hr; ~~and~~ 2) establish ~~four~~ three categories for the applicable units, each with zero-NOx emission limits for new installations based on future effective dates. PAR 1121 proposes to include zero-NOx emission limits for new installations based on future effective dates. PAR 1111 and PAR 1121 propose to: 1) differentiate the zero-NOx emission compliance dates for units installed in new or existing buildings; 2) provide the Zero-NOx Manufacturer (ZEM) alternative compliance option that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances ~~alternative compliance options for emergency replacement and installations requiring specific type of construction~~; 3) introduce informative materials, labeling, recordkeeping, and reporting requirements; 4) provide an exemption from zero-NOx emission requirements for mobile homes in ~~a~~ master-metered mobile home parks, existing mobile homes, and units for new buildings with building permit issued prior to the date of rule adoption; and 5) update and clarify rule language. Replacements of furnaces and water heaters are expected to occur at the end of the existing equipment's useful life although some replacements could occur prior to the end of useful life with the availability of incentive funding. Upon full implementation by 2061, ~~emission reductions of NOx up to 7.7 tpd by 2055 for~~ PAR 1111 and PAR 1121 are expected to reduce NOx emissions by 4.05 tpd and 2.07 ~~2.3~~ tpd, respectively ~~by 2045 for PAR 1121, are expected~~. The ~~Draft~~ Final SEA concluded that significant and unavoidable adverse environmental impacts may occur for the topics of air quality due to construction activities, and energy due to increase in operational electricity and interim natural gas demand needed to produce electricity until renewable energy resources are available to satisfy the electricity demand. No other significant adverse impacts were identified.

The following is a detailed summary of key elements contained in PAR 1111 and PAR 1121. Copies of PAR 1111 and PAR 1121 can be found in Appendix A.

PAR 1111

PAR 1111 reorganizes the rule structure to reflect recently amended and adopted rules and includes new subdivisions. Table 2-1 summarizes the changes to the subdivisions to PAR 1111 from Rule 1111.

Table 2-1: Rule 1111 and PAR 1111 Rule Structure

Subdivision	Rule 1111	PAR 1111
(a)	Purpose and Applicability	Purpose
(b)	Definitions	Applicability
(c)	Requirements	Definitions
(d)	Certification	Requirements
(e)	Identification of Compliant Units	Certification
(f)	Enforcement	~~Identification of Compliant Units~~ Alternative Compliance Options
(g)	Exemptions	~~Alternative Compliance Options~~ Informative Materials, Labeling, Recordkeeping, and Reporting
(h)	(N/A)	~~Labeling, Recordkeeping, and Reporting~~ Exemptions
(i)	~~(N/A)~~Severability	~~Exemptions~~ Severability

PAR 1111 (a) - Purpose
The purpose of PAR 1111 is to reduce NOx emission from NOx-emitting ~~natural gas-fired~~ furnaces used for interior space heating.

PAR 1111 (b) – Applicability
Subdivision (b) is separated into its own subdivision to align with recently amended and adopted rules. PAR 1111 applies to manufacturers, distributors, retailers, resellers, and installers of natural gas-fired furnaces with a rated heat input capacity up to 175,000 ~~2,000,000~~ Btu/hr used for comfort heating or a cooling rate of 65,000 Btu/hr for combination heating and cooling units.

The applicability is expanded from fan-type central furnaces to include floor and wall furnaces. ~~with rated heat input capacity up to 175,000 Btu/hr used for comfort heating or 65,000 Btu/hr for combination heating and cooling units to all natural gas-fired furnaces with a rated heat input capacity of less than or equal to 2,000,000 Btu/hr.~~

The provisions of the rule are ~~primarily~~ enforced through the supply chain (i.e. manufacturers, distributors, retailers, etc.). Resellers and retailers are also added to applicability. Sellers were subject to Rule 1111 but have been removed to avoid redundancy.

PAR 1111 (c) – Definitions
Subdivision (c) was previously subdivision (b) in Rule 1111. Subdivision (c) lists the definitions used in PAR 1111. For all definitions, refer to PAR 1111 released with the staff report.

The following definitions have been added to PAR 1111:

- ~~Commercial Fan-Type Central Furnace~~
- ~~Compliance Portal~~
- Consumer Price Index (CPI)
- Existing Building
- Floor Furnace
- Furnace
- High-Altitude
- Informative Materials
- Install
- Installer
- Master-Metered Mobile Home Park
- New Building
- Non-Condensing Furnace
- Reseller
- Residential Fan-Type Central Furnace
- Wall Furnace
- Zero-NOx Emission Unit

Install, installer, and reseller are defined to clarify who is subject to the rule. Furnace is defined to include ~~commercial fan-type central furnace, floor furnace, non-condensing furnace,~~ residential fan-type central furnace, floor furnace, and wall furnace. Wall and floor furnaces have not been regulated by Rule 1111 or other rules at the South Coast AQMD. Existing building and new

building are defined to differentiate between compliance dates. The term for high-altitude is defined to accommodate the revision and streamlining of the existing high-altitude provisions. Informative materials is defined to clarify the information needed in subdivision (f). Master-metered mobile home parks are defined as installations in master-metered mobile home parks are exempted from Zero-NOx emission standards. Zero-NOx emission unit is defined to clarify what appliances for space heating have zero-NOx emissions, which will be used in the new provision for the manufacturer alternative compliance option. Consumer Price Index (CPI) is defined, and the California annual average increase is used for mitigation fee adjustment as specified in the rule.

The following definitions have been revised in PAR 1111:

- Condensing Furnace
- Downflow Furnace
- Heat Input
- Mobile Home
- Mobile Home Furnace
- NOx Emissions
- Rated Heat Input Capacity
- Weatherized

Condensing furnace, downflow furnace, mobile home furnace, and weatherized are revised to align with the newly added definitions and to clarify which furnaces fall under the different equipment categories. Heat input, NOx emissions and rated heat input capacity are revised to align with amended Rule 1146.2 (Adopted June 7, 2024). Mobile home definition is revised to align with the definitions by California Energy Commission and Federal Department of Housing and Urban Development.

The following definitions have been removed from Rule 1111, as they are obsolete or unnecessary definitions:

- Btu
- Dual Fuel System
- Fan Type Central Furnace
- ~~Heat Pump~~
- Single Firing Rate
- Variable Firing Rate

PAR 1111 (d) – Requirements

Subdivision (d) was previously subdivision (c) in Rule 1111. Paragraph (c)(5) in Rule 1111 regarding mitigation fees was removed from this section and relevant paragraphs were moved to subdivision (~~g~~f) under Alternative Compliance Options for a streamlined rule structure. Subdivision (d) outlines the compliance dates for each equipment category.

Paragraph (d)(1) – Current Rule 1111 Emission Limits

Paragraphs (c)(1) to (c)(3) from Rule 1111 were removed and paragraph (c)(4) was revised for PAR 1111 paragraph (d)(1) to consolidate the existing requirements. Paragraph (d)(1) specifies the current NOx emission limits ~~and compliance dates~~ for residential fan-type furnaces for each equipment category in PAR 1111 Table 1 (presented in Table 2-2).

PAR 1111 Table 1 limits are applicable prior to PAR 1111 Table 2 zero-NOx emission limit compliance date, except for mobile home furnaces in existing buildings. PAR 1111 does not propose zero-NOx emission limit for mobile home furnaces in existing buildings, which will remain subject to their Table 1 limit.

Paragraph (d)(1) states that no person shall manufacture, supply, sell, resell, offer for sale, import, or install for use within the South Coast AQMD, any ~~residential fan-type central~~ following furnace unless the furnace is certified pursuant to subdivision (e) not to exceed the applicable NOx emission limits in Table 1 that are expressed as nanograms of NOx per joule of useful heat delivered to the heated space (ng/J). Paragraph (d)(1) includes that no person shall resell or import within the South Coast AQMD in addition to the previous requirements (i.e. manufacture, supply, sell, offer for sale, or install).

Table 2-2: PAR 1111 Table 1 Residential Fan-Type Central Furnace NOx Limits ~~Emission Limits and Compliance Schedule~~

Equipment Category	NOx Emission Limit (ng/J *)	~~Compliance Date~~
Condensing Furnace	14	~~October 1, 2019~~
Non-Condensing Furnace	14	~~October 1, 2019~~
Weatherized Furnace	14	~~October 1, 2021~~
Mobile Home Furnace	14	~~October 1, 2018~~

Paragraph (d)(2) – PAR 1111 BARCT Emission Limit for New and Existing Buildings
Paragraph (d)(2) sets the updated BARCT emission limits for the applicable equipment categories in PAR 1111 Table 2 (presented in Table 2-3). This paragraph states that ~~no~~ a person shall only manufacture, supply, sell, resell, offer for sale, import, or install, for use in the South Coast AQMD, ~~any furnace that exceeds the Table 2 NOx emission limits by the Table 2 compliance dates.~~ a zero-NOx emission unit by the Table 2 compliance dates, unless the NOx-emitting Furnace is included in the ZEM manufacturer alternative compliance option pursuant to paragraph (f)(2) as indicated in the informative materials for the water heater pursuant to subparagraph (g)(1)(C). The applicable Table 2 compliance dates for new buildings shall be determined based on the construction or alteration completion date. The construction or alteration completion means finishing all the installation to ensure the functionality and aesthetics of the space as specified in the approved building permit. Mobile home furnaces for installation in existing buildings are not subject to zero-NOx emission limit.

Table 2-3: PAR 1111 Table 2 Zero-NOx Emission Limits and Compliance Schedule

Equipment Category	~~NOx Emission Limit (ng/J*)~~	Building Type	Compliance Date
Residential Fan-Type Central Furnace**	0~~.0~~	New	January 1, 2027 ~~2026~~
		Existing	January 1, 2029 ~~2028~~
~~**Commercial Fan-Type Central Furnace**~~	~~0.0~~	~~New~~	~~January 1, 2026~~
		~~Existing~~	~~January 1, 2028~~
Mobile Home Furnace	0~~.0~~	New	January 1, 2027 ~~2026~~
		~~Existing~~	~~January 1, 2030~~
Wall Furnaces, Floor Furnaces, and Others	0~~.0~~	New	January 1, 2027 ~~2026~~
		Existing	January 1, 2029 ~~2028~~

** Includes Condensing, Non-Condensing, and Weatherized Furnaces.

PAR 1111 (e) – Certification

Subdivision (e) provides guidance to manufacturers to certify furnaces. Certification was originally subdivision (d) in Rule 1111.

Paragraph (e)(1) – Testing Requirements

Subdivision (e)(1) was edited for clarity, including the addition of the South Coast AQMD Rule 1111 Nitrogen Oxides Emissions Compliance Testing for Natural Gas-Fired, Fan-Type Central Furnaces certification protocol to the valid operation procedures.[10]

Paragraph (e)(2) – Determining NOx Emissions

Paragraph (e)(2) was edited to clarify the equations to be used to determine the nanograms of NOx per joule of useful heat to the delivered space. Other edits made are to clarify nomenclature.

Paragraph (e)(3) – Applying for Furnace Certification

Reworded source test requirement to better align with the same section in PAR 1121.

Paragraph (e)(4) – Timeline

Added a requirement for the manufacturer to submit the items identified in paragraph (e)(3) ~~(e)(4)~~ no more than 180 days after the date of source test identified in subparagraph (e)(3)(D) ~~(e)(4)(D)~~. This was added to align with the certification requirements of Rule 1121.

[10] South Coast AQMD, Rule 1111 protocol to the valid operation procedures, https://www.aqmd.gov/docs/default-source/laboratory-procedures/methods-procedures/r1111_protocol.pdf

Former PAR 1111 (e) – Identification of Compliant Units

Staff relocated the requirements in existing subdivision (e) and included them in subdivision (g) – Informative Materials, Labeling, Recordkeeping, and Reporting, because the provision were all for labeling requirements

~~**PAR 1111 (f) – Identification of Compliant Units**~~

~~Subdivision (f) outlines the procedure and requirements for identification and verification of compliant units. Subdivision (f) was originally subdivision (e) in Rule 1111. PAR 1111 does not propose any requirement change for this subdivision, except for updating the language and streamlining the structure.~~

> ~~*Paragraph (f)(3) – Consumer Notification Requirement*~~
> ~~If a manufacturer of any mobile home furnace that is distributed or offered for sale into or within the South Coast AQMD elects to comply using the alternative compliance plan pursuant to paragraph (g)(1) in lieu of meeting the 14 ng/J certification limit, the manufacturer shall only distribute or publish informative materials that clearly display "If installed in the South Coast AQMD, this furnace is only allowed to be installed and used in mobile homes and does not meet the South Coast AQMD Rule 1111 NOx emission limit (14 ng/J), and, thus, is subject to a mitigation fee of up to $150." The aforementioned informative materials in subparagraph (f)(3)(A) mean the following: consumer brochures for the furnace; technical specification sheets for the furnace; and the manufacturer's website that promotes, discusses, or lists the furnace. Alternative language can be used in lieu of subparagraph (f)(3)(A), provided that the language similar to the language in subparagraph (f)(3)(A); submitted to the Executive Officer by August 1, 2018; and approved by the Executive Officer no later than August 31, 2018. If the alternative language is not approved, the manufacturer shall use the language in subparagraph (f)(3)(A).~~

PAR 1111 (~~f~~g) – Alternative Compliance Options

Subdivision (~~f~~g) is a new subdivision to address alternative compliance options ~~for rule structure streamlining purpose~~ that includes existing requirements regarding mitigation fees in Rule 1111 paragraph (c)(5) with revision and proposed new alternative compliance option(s). ~~Subdivision (g) addresses alternative compliance options, including mitigation fees and emergency replacements.~~

> *Paragraph (g)(1) – Mitigation Fee Alternative Compliance Option for Mobile Home Furnaces*
> Prior to the applicable Table 2 compliance date, a manufacturer of mobile home furnaces may elect to pay a per unit mitigation fee for selling or enabling distributors, retailers, resellers, or installers to sell mobile home furnaces certified to meet the 40 ng/J NOx emission limit in lieu of the 14 ng/J NOx emission limit. ~~This mitigation fee option ends on September 30, 2025.~~

The manufacturer must comply with the following requirements:

- Pay a per unit mitigation fee of $150 for each mobile home furnace distributed or solid into or within the South Coast AQMD until September 30, 2025;
    - On and after October 1, 2025, the per unit mitigation fee is $100 for each mobile home furnace distributed or sold into or within the South Coast AQMD

- Submit an alternative compliance plan, no later than 60 days prior ~~to the applicable compliance date, for~~ to each 12-month compliance ~~time~~ period ~~after the applicable Table 1 compliance date,~~ that begins on October 1st, during which the manufacturer elects to pay the mitigation fee in lieu of meeting the NOX emission limit;
    - Clauses (f)(1)(B)(i) to (f)(1)(B)(iv) ~~(g)(1)(b)(i) to (g)(1)(b)(iv)~~ detail what should be included with the alternative compliance plan; and
- Submit to the Executive Officer a report signed by the responsible official for the manufacturer no later than 90 days after the end of each 12-month mitigation fee alternate compliance period.~~;~~ The report shall, for the applicable 12-month alternate compliance period, identify~~ing by~~ each model number, and the quantity of mobile home furnaces distributed or sold into or within the South Coast AQMD; and include the ~~a~~ payment of mitigation fees. ~~for the applicable 12-month alternative compliance period for the quantity of applicable mobile home furnaces distributed or sold into or within the South Coast AQMD during the alternative compliance period.~~

Paragraph (f)(2) – Zero-NOx Emission Manufacturer (ZEM) Alternative Compliance Option
In lieu of complying with paragraph (d)(2) a manufacturer of furnaces, other than mobile home furnaces, can elect to comply with the ZEM alternative compliance option. This alternative compliance option allows for the sale of NOx emitting furnaces, including residential fan-type central furnaces certified to emit 14ng/J of NOx or less or wall or floor furnaces, given:

- The manufacturer submits an alternative compliance plan no later than November 1, 2026, detailing the requirements in paragraph (f)(2)(A);
- The manufacturer sells, or enables distributors, retailers, resellers, or installs to sell Zero-NOx emission units into or within the South Coast AQMD at a percentage greater than or equal to the Zero-NOx emission unit sales targets specified in PAR 1111 Table 3 (presented as Table 2-4 in this document);
- Equations are provided for calculating zero-NOx emission unit and furnace sales percentages. Each zero-NOx emission unit that utilizes ductwork to distribute heated air through the home or does not utilize ductwork for heat distribution but is a multiple zone system with one outdoor unit will be counted as one unit for the calculation. Each zero-NOx emission unit that does not utilize ductwork to distribute heated air through the home (e.g., a mini-split) shall be counted as a half unit.
- The manufacturer pays a $100 mitigation fee for each furnace sold in 2027 and adjusted by the CPI annual percent increase for each subsequent year after 2027. If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year; and the manufacturer submits a report and mitigation fee payment pursuant to paragraph (g)(2) no later than 90 days after the end of each calendar year utilizing this alternative compliance option.
- The manufacturer submits a report and mitigation fee payment pursuant to paragraph (g)(2) no later than 90 days after the end of each calendar year utilizing this alternative compliance option.

- The manufacturer complies with the informative material requirements pursuant to paragraph (g)(1)

Table 2-4: PAR 1111 Table 3 ZEM Alternative Compliance Option Targets

Compliance Phase	Phase 1	Phase 2	Phase 3	Phase 4
Calendar Years	2027 - 2028	2029 - 2032	2033-2035	2036 and after
Zero-NOx Emission Unit Sales Target[1]	30 percent	50 percent	75 percent	90 percent
Furnace Sales Target	70 percent	50 percent	25 percent	10 percent

Paragraph (f)(3) – ZEM Alternative Compliance Option Sales Target Deviation
Any furnace manufacturer that elects to comply with the ZEM alternative compliance option and sells more NOx-emitting furnaces than Furnace Sales Target in PAR 1111 Table 3 (presented as Table 2-4 in this document) in one calendar year must pay the per unit mitigation fee outlined in Table 3 for each unit sold above the sales target. The mitigation fee for each furnace sold over target is $500 for the calendar year 2027 and adjusted by the CPI annual percent increase for each subsequent year after 2027. If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year.

Below are some examples for determining the mitigation fee when a manufacturer sold more NOx-emitting furnaces than Furnace Sales Target.

Example 1:
From January 1, 2027, to December 31, 2027, a manufacturer sold 1,000 units with sales for NOx emitting furnaces and zero-NOx emission units 800 (80 percent) and 200 (20 percent) respectively. Since the 2027 NOx-emitting furnaces sales were over the 70 percent furnace sales target, the mitigation fee should be calculated as below:

- Number of NOx-emitting furnaces within the target = 1,000 x 70% =700
- Mitigation fee for units within the target per PAR 1111 subparagraph (f)(2)(F) = $100 x 700 = $70,000
- Mitigation fee for furnaces sold over target = $500 x (800 - 700) = $50,000
- Total mitigation fee this manufacture should pay for 2027 = $70,000 + $50,000 = $120,000

Example 2:
From January 1, 2028, to December 31, 2028, a manufacturer sold 1,000 units with sales for NOx emitting furnaces and zero-NOx emission units 750 (75 percent) and 250 (25 percent) respectively.

Since the 2028 NOx-emitting furnaces sales were over the furnace sales target that is 70 percent, the mitigation fee should be calculated as below:

- Number of NOx-emitting furnaces within the target = 1,000 x 70% =700
- Since it is after 2027, the mitigation fee rates should be CPI adjusted. Assuming California CPI annual percent increase for 2028 is 2.8 percent, within target mitigation fee rate is adjusted to $100 x (1+2.8%) =$102.8; over target mitigation fee rate is adjusted to $500 x (1+2.8%) = $514.0 • Mitigation fee for units within the target per PAR 1111 subparagraph (f)(2)(F) = $102.8 x 700 = $71,960
- Mitigation fee for furnaces sold over target = $514 x (750-700) = $25,700
- Total mitigation fee this manufacture should pay for 2028 = $71,960 + $25,700 = $97,660

Example 3:
From January 1, 2029, to December 31, 2029, a manufacturer sold 1,000 units with sales for NOx emitting furnaces and zero-NOx emission units 600 (60 percent) and 400 (40 percent) respectively.

Since the 2029 NOx-emitting furnaces sales were over the furnace sales target that is 50 percent, the mitigation fee should be calculated as below:

- Number of NOx-emitting furnaces within the target = 1,000 x 50% =500
- Since it is after 2027, the mitigation fee rates should be CPI adjusted. Assuming California CPI annual percent increase is 2.8 percent for 2028 and 3.5 percent for 2029, we will use 3.0 percent for 2029 CPI adjustment since it is higher than 3.0 percent. Within target mitigation fee rate is adjusted to $100 x (1+2.8%)(1+3.0%) =$105.9; over target mitigation fee rate is adjusted to $500 x (1+2.8%)(1+3.0%) = $529.4
- Mitigation fee for units within the target per PAR 1111 subparagraph (f)(2)(F) = $105.9 x 500 = $52,950
- Mitigation fee for furnaces sold over target = $529.4 x (600-500) = $52,940
- Total mitigation fee this manufacture should pay for 2028 = $52,950 + $52,940 = $105,890

~~*Paragraph (g)(2) – Alternative Compliance Option for Emergency Replacements*~~

~~Paragraph (g)(2) provides a new alternative compliance option for emergency replacements when zero-emission requirements become effective for residential fan-type central furnaces; and commercial fan-type central furnaces, floor furnaces, and wall furnaces. After the applicable Table 2 compliance date, if a furnace requires a short-term replacement due to a sudden unit failure and an electrical upgrade is required to increase the power supply capacity to operate a furnace that complies with Table 2 emission limits, a manufacturer, distributor, retailer, reseller, or installer may do one of the options stated in subparagraph (g)(2)(A) and (g)(2)(B).~~

~~For residential fan-type central furnaces, a manufacturer, distributor, retailer, reseller, or installer may elect to offer a furnace for rent that complies with Table 1 emission limits for up~~

~~to six months prior to installing a furnace that complies with Table 2 emission limits provided the manufacturer, distributor, retailer, reseller, or installer report the date the temporary furnace was rented through the compliance portal no later than 72 hours after the date the temporary unit was rented.~~

~~For commercial fan-type central furnaces, floor furnaces, and wall furnaces, a manufacturer, distributor, retailer, reseller, or installer may elect to offer a furnace for rent for up to six months prior to installing a furnace that complies with Table 2 emission limits provided the manufacturer, distributor, retailer, reseller, or installer report the date the temporary furnace was rented through the compliance portal no later than 72 hours after the date the temporary unit was rented. Different from residential fan-type central furnaces, commercial fan-type central furnaces, floor furnaces, and wall furnaces for rent would not be subject to Table 1 emission limits, as they were not previously regulated to meet those limits.~~

~~*Paragraph (g)(3) – Alternative Compliance Option for Construction*~~
~~Paragraph (g)(3) provides a new alternative compliance option for construction in existing buildings. After the applicable Table 2 compliance date, if an existing building requires construction to expand the space designed to house or relocate the compliance equipment, perform a utility upgrade, or replace a furnace that does not require the simultaneous replacement of space cooling equipment as specified in clause (g)(3)(A), a manufacturer, distributor, retailer, reseller or installer may elect to offer a natural gas-fired furnace for rent for up to 24 months prior to complying with Table 2 emission limits, provided all the conditions in clause (g)(3)(B) are met. Clause (g)(3)(B) specifies that the manufacturer, distributor, retailer, reseller or installer who elects to use this alternative compliance option shall report the date the temporary furnace was rented through the compliance portal no later than 72 hours after the date the temporary unit was rented, comply with the labeling specified requirements, and comply with Table 1 emission limits if the furnace for rent is a residential fan-type central furnace.~~

PAR 1111 (g~~h~~) – <u>Information Materials,</u> Labeling, Recordkeeping, and Reporting

Subdivision (g~~h~~) is a new subdivision that details the <u>information materials</u>, labeling, recordkeeping, and annual reporting requirements. <u>Information materials and</u> ~~L~~<u>l</u>abeling requirements are important tools for enforcement, especially when some units distributed to the market can only be installed under certain conditions. While manufacturers ship units into many markets, to ensure the labels are only included on units sold into or within the South Coast AQMD, they may elect to send a sticker or label to their distributors so they can be applied at the point of sale.

<u>*Paragraph (g)(1) –Informative Materials for Furnaces*</u>

<u>Three types of NOx-emitting furnaces are subject to this provision for informative materials, which are:</u>

- <u>Any mobile home furnace that is for distribution or sale inside of the South Coast AQMD that is using an alternative compliance plan in lieu of meeting the 14 ng/J certification limit;</u>

- Any furnace that is for distribution or sale inside of the South Coast AQMD for installation at high-altitude in a downflow configuration pursuant to paragraph (h)(3); and
- Any furnace sold under the ZEM alternative compliance option pursuant to paragraph (f)(2) in lieu of complying with paragraph (d)(2).

Those furnaces that are for distribution or sale inside of the South Coast AQMD shall distribute or publish informative materials that clearly display the language outlined in paragraph (g)(1). Informative materials include: the consumer brochure for the furnace, technical specification sheet for the furnace, and the manufacturer's website that promotes, discusses, or lists the furnace. The manufacturer may use alternative language to the language in subparagraph (g)(1)(A), (g)(1)(B), or (g)(1)(C), provided that the language is similar, and is approved.

Paragraph (g)(2) – Reporting and Recordkeeping Requirements for ZEM Alternative Compliance Option

The manufacturer of a furnace supplied or offered for use within the South Coast AQMD in accordance with the ZEM alternative compliance option shall submit to the Executive Officer a report, signed by the responsible official for the manufacturer no later than 90 days after the end of each calendar year using the alternative compliance option. The report shall include the model number and quantity of zero-NOx emissions units and furnaces distributed or sold into or within the South Coast AQMD for the applicable calendar year.

The manufacturer shall also maintain records for at least five years, including, but not limited to, the information listed in clause (g)(2)(B)(i).

Paragraph (g)(3) ~~(h)(1)~~ – ~~Propane Conversion Kit Furnace~~ Labeling and Reporting for Propane Conversion Kit Furnace

This provision is an existing requirement. The manufacturer, distributor, or installer of any furnace that elects to use the exemption in paragraph (h)(1) ~~(i)(1)~~ for furnaces to be installed with a propane conversion kit must clearly display on the shipping carton or the name plate of the furnace "This furnace is to be installed for propane firing only. Operating in natural gas mode is in violation of the South Coast AQMD Rule 1111.". They must also submit a report by March 1st of the following calendar year to the Executive Officer, which consists of, but is not limited to, the quantity of propane conversion kits for furnaces distributed or sold for use into the South Coast AQMD for the applicable compliance plan period, and the quantity of propane conversion kits for furnaces distributed or sold for use into the South Coast AQMD during the 12-month period of July 1 to June 30, prior to the applicable compliance date.

~~*Paragraph (h)(2) – Recordkeeping and Labeling for Limited High-Altitude Furnace Exemption*~~

~~The manufacturer, distributor, or installer of any furnace that elects to use the exemption in paragraph (i)(2), which exempts downflow furnaces with a rated heat input capacity of less than 175,000 Btu/hr or condensing or non-condensing furnaces with a rated heat input capacity greater than or equal to 100,000 Btu/hr that are installed in elevations at or above 4,200 feet above sea level, must record the information stated in subparagraphs (h)(2)(A). Labeling requirements are also specified in subparagraph (h)(2)(B) for those units.~~

Paragraph (g~~h~~)(4~~3~~) – New and Existing Building Labeling Requirements
A manufacturer can elect to comply with paragraph (d)(2) directly or through alternative compliance option by paragraph (f)(2). This provision specifies labeling requirement for any manufacturer that is not electing to comply using alternative compliance option by paragraph (f)(2). As specified in paragraph (d)(2), the manufacturer will be subject to the zero-NOx emission compliance date for new buildings on January 1, 2027, for existing buildings on January 1, 2029, except for mobile home furnaces.

PAR 1111 ~~is~~ proposes~~ing~~ a labeling requirement for the period between the new building compliance date and existing building compliance date for each ~~equipment category~~ furnace, except for mobile home furnaces.

~~Any furnace that complies with the Table 1 emission limits, but does not comply with the Table 2 emission limits, pursuant to the Table 3 (presented in Table 2-4) labeling schedule and is supplied or offered for sale for use within the South Coast AQMD, shall prominently displace the statement "If Installed in South Coast AQMD: 1) After January 1, 2026, shall not be sold for installation in new buildings 2) After January 1, 2028, only for installation in mobile homes; and 3) After January 1, 2030, not compliant for use and installation in South Coast AQMD." The dates for the labeling requirement start date and end date align with the compliance dates in Table 2 for new and existing buildings respectively.~~
Subparagraph (g)(4)(A) specifies the labeling language. Subparagraph (g)(4)(B) allows manufacturers flexibility in the labeling by posting alternative language as long as the language is similar to subparagraph (g)(4)(A) and approved.

Clause (g)(4)(B)(ii) requires the manufacturer to use the language in subparagraph (g)(4)(A) if the alternative language is not approved.

~~Table 2-4: PAR 1111 Table 3 Labeling Schedule~~

~~Furnace's Compliance Schedule~~	**~~Labeling Requirements~~**	
	~~Start Date~~	~~End Date~~
~~Mobile Home Furnaces~~	~~January 1, 2026~~	~~January 1, 2030~~
~~All Other Furnaces~~	~~January 1, 2026~~	~~January 1, 2028~~

~~*Paragraph (h)(4) – Furnaces for Rent Only*~~
~~Furnaces available for rent according to the alternative compliance options (g)(2) and (g)(3) must display the statement "If Installed or used in South Coast AQMD: This unit is for rent only." This paragraph provides a means of enforcing the temporary use of natural gas furnaces.~~

~~*Paragraph (h)(5) – Annual Reporting Requirement*~~
~~On or after the Table 2 compliance dates for existing buildings, manufacturers of natural gas-fired furnaces distributed or solid for use into the South Coast AQMD shall submit a report by March 1st of the following calendar year to the Executive Officer, which includes: name of the product manufacturer, list of the product models, the applicable equipment category in Table 2, the provisions of this rule that each model complies, and number of units and rated heat input capacity of each model that was sold into or within the South Coast AQMD.~~

Paragraph (g~~h~~)(5) – Identification of Furnaces Complying with Subdivisions (d) and (e)
This provision is an existing requirement, as paragraph (e)(1) in current rule. It requires manufacturers of NOx emitting furnaces to display the model number, heat input capacity, applicable NOx emission limit, and date of manufacturer or date code.

Paragraph (g~~h~~)(6) – Identification of Non-Certified Furnaces
This provision is an existing requirement, as paragraph (e)(2) in current rule. It requires any non-certified Furnace shipped to a location in the South Coast AQMD for distribution or sale outside of the South Coast AQMD shall have a label on the shipping container identifying the Furnace as not certified for use in the South Coast AQMD.

PAR 1111 (h~~i~~) – Exemptions
Subdivision (h~~i~~) was previously subdivision (g) in Rule 1111. After rule structure streamlining and removal of obsolete paragraphs, subdivision (h) specifies exemptions for propane-fire furnaces, zero-NOx emission limit, and downflow furnaces for high-altitude installations. ~~Subdivision (i) specifies the exemptions to PAR 1111. Exemptions (g)(1), (g)(2), (g)(3), and (g)(5) were removed, while portions of (g)(4) and sections (g)(7) through (g)(10) were moved to alternative compliance options.~~

Paragraph (h~~i~~)(1) – Propane-Fired Furnaces
This is an existing exemption in Rule 1111 paragraph (g)(4). ~~t~~The manufacturer of any natural gas-fired furnace that is not certified to meet the 14 ng/J of NOx emission limit and is to be installed with a propane conversion kit for propane firing only in the South Coast AQMD, is exempt from subdivisions (d) and (e), provided that the labeling and recordkeeping requirements in paragraph (g)(3) ~~(h)(1)~~ are met. ~~This is an existing exemption in Rule 1111 paragraph (g)(4).~~ Its labeling and reporting requirements under the same paragraph have been moved to PAR 1111 paragraph (g)(3) ~~(h)(1)~~ for a streamlined rule structure.

~~*Paragraph (i)(2) – Downflow and Large Residential Furnaces*~~
~~Until January 1, 2028, downflow furnaces with a rated heat input capacity less than 175,000 Btu/hr, and condensing and non-condensing furnaces with a rated heat input capacity of greater than or equal to 100,000 Btu/hr, either of which are installed at elevations at or above 4,200 feet above sea level as a replacement for an existing furnace are exempt from paragraph (d)(1), given that the recordkeeping and labeling requirements in (h)(2) are followed. After January 1, 2028, this exemption will be phased out, those furnaces for installation at high-altitude shall also meet the zero-emission standard pursuant to (d)(2).~~

Paragraph (h)(2) ~~(i)(3)~~ – Exemption from Zero-NOx Emission Limit ~~Master-Metered Mobile Home Exemption~~
Three types of NOx-emitting furnaces are subject to this provision for exemption from zero-NOx emission limit, which are:

- Mobile home furnaces in compliance with paragraph (d)(1) for installation in existing buildings;

- Mobile home furnaces in compliance with paragraph (d)(1) for installation or use in new buildings or existing buildings located in master-metered mobile home parks, which are mobile home parks that take electricity through a master meter and then distribute it to park residents through their own system; and

- Furnaces in compliance with paragraph (d)(1) that will be installed or used in new buildings with building permit issued prior to [Date of Adoption] by the appropriate enforcement agency.

Mobile home furnaces in existing mobile homes are exempt from zero-NOx emission requirements due to unique challenges on zero-NOx emission implementation for mobile homes as discussed in Chapter 2 of the Draft Staff Report.

With the consideration that master-metered mobile homes may currently not have sufficient electrical service to install-emission appliances, subparagraph (h)(2)(B) ~~this provision~~ provides them an exemption from zero-NOx emission requirements. The CPUC Mobile Home Park Utility Conversion Program plans to convert 50 percent of mobile home park spaces to a direct utility service by 2030.[11] When mobile homes are converted, they are no longer be exempt by this provision.

Due to potentially long timelines between building permit approval and actual installation of a furnace, subparagraph (h)(2)(C) exempts installations in new buildings if the furnace permit was granted prior to the date of rule adoption. The building permit must be issued by the appropriate enforcing agency according to the California Building Code, either city, county, or state. For example, if a building is in the process of being constructed and the building owner obtains a permit from the city to install a furnace that complies with the current Rule 1111 NOx limit of 14 ng/J, but the furnace is not installed until after the PAR 1111 zero-emission effective date of January 1, 2027, the furnace would be exempt from the zero-emission limit and allowed to be installed.

Paragraph (h)(3) – Downflow furnaces for High Altitude

Existing Rule 111 paragraph (i)(3) provides an exemption from 14 ng/J NOx limit for downflow furnaces rated less than 175,000 Btu/hr and condensing or non-condensing furnaces greater than 100,000 Btu/hr installed at high-altitude. As suggested by stakeholders of high-altitude communities, staff will retain the downflow furnace exemption in PAR 1111 for high-altitude installation. Downflow furnaces certified to meet the 40 ng/J NOx limit are exempted from 14 ng/J NOx and zero-NOx emission standards. Large condensing or non-condensing furnaces greater than 100,000 Btu/hr for high-altitude installation are no longer exempted, effective at the date of rule adoption.

PAR 1111 (i) – Severability

Subdivision (i) was added regarding rule implementation if a lawsuit would be filed after the rule adoption. If any provision is invalidated by a judicial order, such order will not affect the implementation of the remainder of the rule according to this rule provision.

[11] https://www.cpuc.ca.gov/regulatory-services/safety/mhp/mobilehome-park-utility-upgrade-program

PAR 1121

PAR 1121 reorganizes the rule structure to reflect recently amended and adopted rules and includes new subdivisions. Table 2-5 summarizes the changes to the subdivisions in PAR 1121 from Rule 1121.

Table 2-5: Rule 1121 and PAR 1121 Rule Structure

Subdivision	Rule 1121	PAR 1121
(a)	Applicability	Purpose
(b)	Definitions	Applicability
(c)	Requirements	Definitions
(d)	Certification	Requirements
(e)	Mitigation Fee	Certification
(f)	Enforcement	Alternative Compliance Options
(g)	Exemptions	Informative Materials, Labeling, Recordkeeping, and Reporting
(h)	Final Progress Report	Exemptions
(i)	Program Administration	~~(N/A)~~ Severability

PAR 1121 (a) – Purpose

The purpose of PAR 1121 is to reduce NOx emission from NOx-emitting ~~natural gas-fired~~ water heaters. Subdivision (a) is a new subdivision added to align with recently amended and adopted rules to standardize the rule structure.

PAR 1121 (b) – Applicability

Subdivision (b) was previously subdivision (a) in Rule 1121. PAR 1121 applies to manufacturers, distributors, retailers, resellers, and installers of NOx-emitting natural gas-fired water heaters with a rated heat input capacity less than 75,000 Btu/hr.

The provisions of the rule are primarily enforced through the supply chain (i.e. manufacturers, distributors, retailers, installers, etc.). Resellers are also added to applicability since they are part of the supply chain.

PAR 1121 (c) – Definitions

Subdivision (c) was previously subdivision (b) in Rule 1121. Subdivision (c) lists the definitions used in PAR 1121. For all definitions, refer to PAR 1121 released with the staff report.

The following definitions have been added to PAR 1121:

- Consumer Price Index (CPI)
- Compliance Portal
- Existing Building
- Informative Materials
- Install
- Installer
- Master-Metered Mobile Home Parks
- Mobile Home
- New Building

- Parts Per Million by Volume
- Reseller
- Responsible Officials
- Standard Conditions
- Zero-NOx Emission Units

Install, installer, and reseller are defined to clarify who is subject to the rule. Existing building, mobile home, and new building are defined to differentiate between compliance dates. The term Informative materials is defined to clarify the information needed in subdivision (g). Master-metered mobile home parks are defined as installations in master-metered mobile home parks are exempted from Zero-NOx emission standards. Zero-NOx emission unit is defined to clarify what appliances for space heating have zero-NOx emissions, which will be used in the new provision for manufacturer alternative compliance option. The term responsible official is also needed for the new provision for manufacturer alternative compliance option. Consumer Price Index (CPI) is defined, and the California annual average is used for mitigation fee adjustment as specified in the rule.

The following definitions have been revised in PAR 1121:

- Heat Input
- Heat Output
- Independent Testing Laboratory
- Mobile Home Water Heater
- NOx Emissions
- Protocol
- Rated Heat Input Capacity
- Recreational Vehicle
- Water Heater

Heat input, heat output, rated heat input capacity, and recreational vehicle are revised to align with their definitions in Rule 1146.2, which was amended on June 7, 2024. Independent testing laboratory, NOx emissions, protocol, and rated heat input capacity are revised for clarity. Water heater is revised to ensure this term includes mobile home water heaters. Mobile home definition is revised to align with the definitions by California Energy Commission and Federal Department of Housing and Urban Development.

The following definitions are considered obsolete or unnecessary and have been removed from Rule 1121:

- Btu
- Direct Vent Water Heater
- Mitigation Fee
- Power Vent Water Heater
- Power Direct Vent Water Heater

PAR 1121 (d) – Requirements

Subdivision (d) was previously subdivision (c) in Rule 1121. Paragraphs (c)(1) to (c)(8) in Rule 1121 were removed and the relevant equipment and NOx emission limits are summarized in paragraph (d)(1).

Paragraph (d)(1) – Current Rule 1121 Emission Limits

Paragraph (d)(1) specifies the current NOx emission limits for water heaters and mobile home water heaters in PAR 1121 Table 1 (presented in Table 2-6).

Paragraph (d)(1) states that no person shall manufacture, supply, sell, resell, offer for sale, import, or install, for use in the South Coast AQMD, any water heater unless the water heater is certified pursuant to subdivision (e) and does not exceed the Table 1 NOx limit, expressed by ng/J or ppmv. Paragraph (d)(1) includes that no person shall supply, resell, or import within the South Coast AQMD in addition to the previous requirements (i.e. manufacture, sell, offer for sale, or install).

Table 2-6: Rule 1121 Table 1 Emission Limits

Equipment	NOx Emission Limits	
	ng/J	ppmv
Water Heater*	10	15
Mobile Home Water Heater	40	55

* Excluding Mobile Home Water Heater

Paragraph (d)(2) – PAR 1121 BARCT Emission Limit for New and Existing Buildings

Paragraph (d)(2) sets the updated BARCT emission limits for water heaters and mobile home water heaters as shown in PAR 1121 Table 2 (presented in table 2-7). This paragraph specifies that ~~no~~ a person shall only manufacture, supply, sell, resell, offer for sale, import, or install a water heater for use in the South Coast AQMD a zero-NOx emission unit by ~~that exceeds~~ the Table 2 compliance dates, unless the NOx-emitting Water Heater is included in the zero-NOx emission manufacturer alternative compliance option pursuant to paragraph (f)(1) as indicated in the Informative Materials for the Water Heater pursuant to paragraph (g)(2). ~~NOx emission limits~~. The applicable PAR 1121 Table 2 compliance dates for New Building types shall be determined based on the construction or alteration completion date. Mobile home water heaters for installation in existing buildings are not subject to zero-NOx emission limit. They will continue to comply with paragraph (d)(1) Table 1 NOx limit.

Table 2-7: PAR 1121 Zero-NOx Emission Limits and Compliance Schedule

Equipment Category	~~NOx limit (ng/J)~~	Building Type	Compliance Date
Water Heater*	~~0.0~~	New	January 1, 2027 ~~2026~~
	~~0.0~~	Existing	January 1, 2029 ~~2027~~
Mobile Home Water Heater	~~0.0~~	New	January 1, 2027 ~~2026~~
	~~0.0~~	~~Existing~~	~~January 1, 2030~~

* Excluding Mobile Home Water Heater

PAR 1121 (e) – Certification
Subdivision (e) provides guidance to manufacturers to certify water heaters. Subdivision (e) was originally subdivision (d) in Rule 1121. Obsolete language, which are paragraphs (d)(4), (d)(5), and (d)(6) in Rule 1121, were removed from this subdivision.

Paragraph (e)(1) – Tests by Independent Testing Laboratory
Contains revisions to defined terms and clarification that natural gas-fired water heaters and water heaters designed to be fired with natural gas are subject to certification. Certification is based on emissions tests conducted by independent testing laboratories in accordance with the protocol.

The manufacturer shall obtain confirmation that each model of water heater complies with the applicable requirements of paragraph (d)(1) from an independent testing laboratory, prior to applying for certification for a natural gas-fired water heater or a water heater designed to be fired with natural gas. This confirmation shall be based on emission tests conducted pursuant to the protocol of a randomly selected unit of each model.

Paragraph (e)(2) – Applying for Water Heater Certification
Paragraph (e)(2) remains mostly unchanged with an update to the reference in subparagraph (e)(2)(A).

When applying for certification of water heaters, the manufacturer shall submit to the Executive Officer the following: a statement that the model is in compliance with paragraph (d)(1) signed and dated by the manufacturer, attesting to the accuracy of all statements; general information, including name and address of manufacturer, brand name, trade name, and model number as it appears on the water heater rating plate; a description of each model being certified,[1,] and a source test report verifying compliance with paragraph (d)(1) for each model to be certified. The source test report shall be prepared by the confirming independent testing laboratory and contain all elements identified in the protocol for each unit tested.

Paragraph (e)(3) – Timeline
When applying for certification of water heaters, the manufacturer shall submit the items identified in paragraph (e)(2) no more than 180 days after the date of the source test identified in subparagraph (e)(2)(D).

PAR 1121 (f) – Alternative Compliance Options
Subdivision (f) is a new subdivision that details the alternative compliance options.

Paragraph (f)(1) –<u>Zero-Emission Manufacturer (ZEM) Alternative Compliance Option</u> ~~Alternative Compliance Option for Emergency Replacements~~
~~If a water heater requires a short-term replacement due to a sudden water heater failure after the applicable Table 2 compliance dates for zero-emission limits and an electrical upgrade is required to increase the power supply capacity to operate a water heater that complies with the zero-emission limits, a manufacturer, distributor, retailer, or installer may elect to offer a water heater for rent that complies with the PAR 1121 Table 1 emission limits for up to six~~

~~months prior to installing a water heater that complies with the zero-emission limits. The manufacturer, distributor, retailer, reseller, or installer must report the date the temporary water heater was rented through the compliance portal no later than 72 hours after the date the temporary mobile home water heater was rented and comply with the labeling requirement in paragraph (g)(2).~~

In lieu of complying with paragraph (d)(2) a manufacturer of water heaters, other than mobile home water heaters, can elect to comply with the ZEM alternative compliance option. This alternative compliance option allows for the sale of NOx emitting water heaters certified to emit 10 ng/J of NOx (or 15 ppmv) or less, given:

- The manufacturer submits an alternative compliance plan no later than November 1, 2026, detailing the requirements in subparagraph (f)(1)(A);
- The manufacturer sells, or enables distributors, retailers, resellers, or installs to sell Zero-NOx emission units into or within the South Coast AQMD at a percentage greater than or equal to the Zero-NOx emission unit sales targets specified in PAR 1121 Table 3 (presented as Table 3-4 in this Staff Report);
- The manufacturer pays a $50 mitigation fee for each NOx-emitting water heater sold for the calendar year 2027 and adjusted by the CPI annual percent increase for each subsequent year after 2027. If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year; and
- The manufacturer submits a report and mitigation fee payment pursuant to paragraph (g)(2) no later than 90 days after the end of each calendar year utilizing this alternative compliance option.

Table 2-8: PAR 1111 Table 3 ZEM Alternative Compliance Option Targets

Compliance Phase	Phase 1	Phase 2	Phase 3	Phase 4
Calendar Years	**2027-2028**	**2029-2032**	**2033-2035**	**2036 and after**
Zero-NOx Emission Unit Sales Target	30 percent	50 percent	75 percent	90 percent
NOx-emitting Water Heater Sales Target	70 percent	50 percent	25 percent	10 percent

Paragraph (f)(2) – ZEM Alternative Compliance Option Sales Target Deviation

Any water heater manufacturer that elects to comply with the ZEM alternative compliance option and sells more NOx-emitting water heaters than water heater sales target in PAR 1121 Table 3 (presented as Table 3-4 in this Staff Report) in one calendar year must pay the per unit mitigation fee outlined in Table 3 for each unit sold above the sales target. The mitigation fee for each water heater sold over target is $250 for the calendar year 2027 and adjusted by the CPI annual percent increase for each subsequent year after 2027. If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year.

Below are two examples for determining the mitigation fee when a manufacturer sold more NOx-emitting water heaters than water heater sales target.

Example 1: From January 1, 2027, to December 31, 2027, a manufacturer sold 1,000 units with sales for NOx emitting water heaters and zero-NOx emission unit and 800 (80 percent) and 200 (20 percent) respectively.

Since the 2027 NOx-emitting water heater sales were over the water heaters sales target that is 70 percent, the mitigation fee should be calculated as below:

- Number of NOx-emitting water heaters within the target = 1000 x 70%=700
- Mitigation fee per PAR 1121 subparagraph (f)(1)(F) = $50 x 700 = $35,000
- Mitigation fee for water heaters sold over target = $250 x (800-700) = $25,000
- Total mitigation fee this manufacture should pay for 2027 = $35,000 + $25,000 = $60,000

Example 2: From January 1, 2028, to December 31, 2028, a manufacturer sold 1,000 units with sales for NOx emitting water heaters and zero-NOx emission units 750 (75 percent) and 250 (25 percent) respectively. Since the 2028 NOx-emitting water heater sales were over the water heater sales target that is 70 percent, the mitigation fee should be calculated as below:

- Number of NOx-emitting water heaters within the target = 1,000 x 70% =700
- Since it is after 2027, the mitigation fee rates should be CPI adjusted. Assuming California CPI annual percent increase for 2028 is 2.8 percent
- Mitigation fee rate for water heaters sold within the target is adjusted to $50 x (1+2.8%) =$51.4 per water heater
- Mitigation fee rate for water heaters sold over the target is adjusted to $250 x (1+2.8%) = $257.0 per water heater
- Mitigation fee for water heaters within the target per PAR 1111 subparagraph (f)(1)(F) = $51.4 x 700 = $35,980
- Mitigation fee for water heaters sold over target = $257.0 x (750-700) = $12,850
- Total mitigation fee this manufacture should pay for 2028 = $35,980+ $12,850= $48,830

Example 3: From January 1, 2029, to December 31, 2029, a manufacturer sold 1,000 units with sales for NOx emitting water heaters and zero-NOx emission units 600 (60 percent) and 400 (40 percent) respectively. Since the 2029 NOx-emitting water heater sales were over the water heater sales target that is 50 percent, the mitigation fee should be calculated as below:

- Number of NOx-emitting water heater within the target = 1,000 x 50% =500
- Since it is after 2027, the mitigation fee rates should be CPI adjusted. Assuming California CPI annual percent increase is 2.8 percent for 2028 and 3.5 percent for 2029,

we will use 2.8 percent for 2028 but 3.0 percent for 2029 CPI adjustment since it is higher than 3.0 percent

- Mitigation fee rate for water heaters sold within the target is adjusted to $50 x (1+2.8%)(1+3.0%) =$52.9 per water heater
- Mitigation fee rate for water heaters sold within the target is adjusted to $250 x (1+2.8%)(1+3.0%) = $264.7 per water heater
- Mitigation fee for units within the target per PAR 1111 subparagraph (f)(1)(F) = $52.9 x 500 = $26,450 • Mitigation fee for water heaters sold over target = $264.7 x (600-500) = $26,470
- Total mitigation fee this manufacture should pay for 2028 = $26,450 + $26,470 = $52,920

~~*Alternative Compliance Option for Construction*~~

~~This provision is to address the space constraints and other limitations for replacing a gas water heater with a zero-emission unit when construction is required in an existing building. This may include expanding the space to accommodate a zero-emission unit with a larger footprint, relocating the zero-emission replacement and associated equipment necessary for operation, or performing a utility upgrade necessary to operate the zero-emission unit. The manufacturer, distributor, retailer, reseller, or installer may elect to offer a gas water heater for rent that complies with Table 1 emission limits for up to 24 months during the construction, provided the specified reporting and labeling requirements are met. The manufacturer, distributor, retailer, reseller, or installer is required to report the date the temporary water heater was rented through the compliance portal no later than 72 hours after the date the water heater was rented and comply with the labeling requirements in paragraph (g)(2).~~

PAR 1121 (g) – Informative Materials Labeling, Recordkeeping, and Reporting

Subdivision (g) is a new subdivision that details the informative materials, labeling, recordkeeping, and reporting requirements. Informative materials and Labeling requirements are important tools for enforcement, especially when some units distributed to the market can only be installed under certain conditions. ~~takes some requirements regarding labeling from subdivision (c) of Rule 1121. Labeling requirements are important tools for enforcement, especially when some units distributed to the market can only be installed under certain conditions.~~ While manufacturers ship units into many markets, to ensure the labels are only included on units sold into or within the South Coast AQMD, they may elect to send a sticker or label to their distributors so they can be applied at the point of sale.

Paragraph (g)(1) –Informative Materials for Water Heaters

Two types of NOx-emitting water heaters are subject to this provision for informative materials, which are:

- Any mobile home water heater that is for existing building or any mobile homes in a master metered mobile home park; and
- Any water heater sold under the ZEM alternative compliance option pursuant to paragraph (f)(1) in lieu of complying with paragraph (d)(2).

Those water heaters that are for distribution or sale inside of the South Coast AQMD shall distribute or publish informative materials that clearly display the language outlined in paragraph (g)(1). Informative materials include: the consumer brochure for the water heater, technical specification sheet for the water heater, and the manufacturer's website that promotes, discusses, or lists the water heater. The manufacturer may use alternative language to the language in subparagraph (g)(1)(A) or (g)(1)(B), provided that the language is similar and is approved.

Paragraph (g)(2) – Reporting and Recordkeeping Requirements for ZEM Alternative Compliance Option

The manufacturer of a water heater supplied or offered for use within the South Coast AQMD in accordance with the ZEM alternative compliance option shall submit to the Executive Officer a report, signed by the responsible official for the manufacturer no later than 90 days after the end of each calendar year using the alternative compliance option. The report shall include information specified in subparagraph (g)(2)(A) for the applicable calendar year.

The manufacturer shall also maintain records for at least five years, including, but not limited to, the information listed in subparagraph (g)(2)(B).

Paragraph (g)(3) – New and Existing Building Labeling Requirements

A manufacturer can elect to comply with paragraph (d)(2) directly or through alternative compliance option by paragraph (f)(1).

This provision specifies labeling requirement for any manufacturer that is not electing to comply using alternative compliance option by paragraph (f)(1). As specified in paragraph (d)(2), the manufacturer will be subject to the zero-NOx emission compliance date for new buildings on January 1, 2027, for existing buildings on January 1, 2029, except for mobile home water heaters.

PAR 1121 proposes a labeling requirement for the period between the new building compliance date and existing building compliance date for each water heater, except for mobile water heaters.

Subparagraph (g)(3)(A) specifies the labeling language. Subparagraph (g)(3)(B) allows manufacturers flexibility in the labeling by posting alternative language as long as the language is similar to subparagraph (g)(3)(A) and approved.

Clause (g)(3)(B)(ii) requires the manufacturer to use the language in subparagraph (g)(3)(A) if the alternative language is not approved.

~~*Paragraph (g)(1) – Labeling Water Heaters for Installation and Use in Existing Buildings*~~

~~PAR 1121 is proposing a labeling requirement for the period between the new building compliance date and existing building compliance date for each equipment category. Pursuant to the labeling schedule in PAR 1121 Table 3 (presented in Table 2-8), any water heater that is supplied or offered for sale for use in the South Coast AQMD prior to the applicable zero-~~

~~emission compliances dates that complies with the PAR 1121 Table 1 NOx emission limits, but not the zero-emission limits, shall prominently display the statement:~~

~~"If Installed in South Coast AQMD: 1) After January 1, 2026, shall not be sold for installation in new buildings 2) After January 1, 2027, only for installation in mobile homes; and 3) After January 1, 2030, not compliant for use and installation in South Coast AQMD."~~

~~Table 2-8: PAR 1121 Table 3 Labeling Schedule~~

~~Equipment~~	**~~Labeling Requirement~~**	
	~~Start Date~~	~~End Date~~
~~Water Heater*~~	~~January 1, 2026~~	~~January 1, 2027~~
~~Mobile Home Water Heater~~	~~January 1, 2026~~	~~January 1, 2030~~

~~* Excluding Mobile Home Water Heater~~

~~*Paragraph (g)(2) – Labeling Rental Units for Alternative Compliance*~~
~~This paragraph specifies the labeling requirement for any water heater supplied or offered for rent for use in accordance with an alternative compliance option in subdivision (f). Those water heaters shall prominently display the statement "If Installed or used in South Coast AQMD: This unit is for rent only."~~

Paragraph (g)(4~~3~~) – Shipping Carton and Name Plate Labeling
The manufacturer of any water heater manufactured for sale in the South Coast AQMD shall clearly display the following on the shipping carton and name plate of the water heater: model number, date of manufacture, and certification status.

~~*Paragraph (g)(4) – Annual Reporting Requirement*~~
~~On and after the Table 2 compliance dates for existing buildings, manufacturers of natural gas-fired water heaters or water heaters designed to be fired with natural gas shall submit a report by March 1st of the following calendar year to the Executive Officer. The report shall include the following: name of the product manufacturer; list of the product model(s); the applicable equipment category in Table 2; the provision of this rule that each model complies; and number of units and rated heat input capacity of each model that was sold for use in the South Coast AQMD.~~

PAR 1121 (h) – Exemptions
Subdivision (h) details the exemptions to the rule. This subdivision was previously subdivision (g) in Rule 1121. While paragraphs (h)(1) and (h)(2) are existing provisions, PAR 1121 proposes new exemptions in paragraph~~s~~ (h)(3) ~~and (h)(3)~~.

Paragraph (h)(1) – Recreational Vehicle Exemption
PAR 1121 shall not apply to water heaters used in recreational vehicles.

Paragraph (h)(2) – Rule 1146.2 Exemption
PAR 1121 shall not apply to water heaters subject to Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters.

Paragraph (h)(3) – Exemption from Zero-NOx Emission Limit

Three types of NOx-emitting water heaters are subject to this provision for exemption from zero-NOx emission limit, which are:

- Mobile home water heaters in compliance with paragraph (d)(1) for installation in existing mobile homes;
- Mobile home water heaters in compliance with paragraph (d)(1) for installation or use in new buildings or existing buildings located in master-metered Mobile Home parks, which are Mobile Home parks that take electricity through a master meter and then distribute it to park residents through their own system; and
- Water heaters in compliance with paragraph (d)(1) that will be installed or used in new buildings with building permit issued prior to [Date of Adoption] by the appropriate enforcement agency.

Mobile home water heaters in existing mobile homes are exempt from zero-NOx emission requirements due to unique challenges on zero-NOx emission implementation for mobile homes as discussed in Chapter 2.

With the consideration that master-metered mobile homes may currently not have sufficient electrical service to install-emission appliances, subparagraph (h)(3)(B) provides them an exemption from zero-NOx emission requirements. The CPUC Mobile Home Park Utility Conversion Program plans to convert 50 percent of mobile home park spaces to a direct utility service by 2030.[12] When mobile homes are converted, they are no longer be exempt by this provision.

Due to potentially long timelines between building permit approval and actual installation of a water heater, subparagraph (h)(3)(C) exempts installations in new buildings if the water heater permit was granted prior to the date of rule adoption. The building permit must be issued by the appropriate enforcing agency according to the California Building Code, either city, county, or state. For example, if a building is in the process of being constructed and the building owner obtains a permit from the city to install a water heater that complies with the current Rule 1121 Table 1 NOx emission limit, but the water heater is not installed until after the PAR 1121 zero-emission effective date of January 1, 2027, the water heater would be exempt from the zero-emission limit and allowed to be installed.

PAR 1111 (i) – Severability

Subdivision (i) was added regarding rule implementation if a lawsuit would be filed after the rule adoption. If any provision is invalidated by a judicial order, such order will not affect the implementation of the remainder of the rule according to this rule provision.

[12] Mobilehome Park Utility Conversion Program. https://www.cpuc.ca.gov/regulatory-services/safety/mhp/mobilehome-park-utility-upgrade-program

~~*Paragraph (h)(3) – Master-Metered Mobile Home Park Exemption*~~

~~The requirements specified in paragraph (d)(2) shall not apply to mobile home water heaters for installation in a master-metered mobile home park. Master-metered mobile home parks may not have sufficient power delivered to the entire mobile home park; therefore, the mobile homes located on that property may not have sufficient power to install equipment that complies with the zero-emission limits. The CPUC plans to convert 50 percent of master-metered mobile home parks to a direct utility service[13] by 2030, wherein the mobile home would no longer be subject to the exemption in paragraph (h)(3). Over time, staff anticipates all master-metered mobile home parks will be converted to direct utility service, at which time, they will be able to install zero-emission water heaters.~~

2.5 SUMMARY OF AFFECTED INDUSTRIES

PAR 1111 affects manufacturers, distributors, retailers, resellers, and installers of natural gas-fired furnaces for space heating with a rated heat input capacity less than ~~or equal to 2,000,000~~ 175,000 Btu/hr ~~used for interior space heating~~, or for combination heating and cooling units, a cooling rate of less than 65,000 Btu/hr. There are no OEMs of gas-fired furnaces located in the South Coast AQMD; however, these companies maintain regional sales offices and distribution centers in the South Coast AQMD with supply chains to support their products. The units affected by the proposed rule are mostly used in residential ~~and commercial~~ buildings for space heating.

The following table shows the North American Industry Classification System (NAICS) for the industries affected by PAR 1111. Staff estimated a total of 5,237,000 ~~5,300,000~~ units in the South Coast AQMD are regulated by PAR 1111.

Table 2-9: PAR 1111 Affected Industries

Affected Industry	NAICS Code
Heating Equipment (except Warm Air Furnaces) Manufacturing	333414
Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	333415
Motor and Generator Manufacturing	335312
Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	423610
Heating, Ventilation, and Air Conditioning (HVAC) Equipment Merchant Wholesalers	423730
Household Appliances, Electric Housewares, and Consumer Electronics Merchant Wholesalers	423620
Installers	238

PAR 1121 affects manufacturers, distributors, retailers, resellers, and installers of natural gas-fired water heaters with a rated heat input capacity less than 75,000 Btu/hr. There are no OEMs of gas-fired water heaters located in the South Coast AQMD; however, these companies do maintain regional sales offices and distribution centers in the region, and the supply chains to support their products. The units affected by the proposed rule are mostly used in residential buildings for domestic hot water needs.

The following table shows the NAICS for the industries affected by PAR 1121. Staff estimated a total of 5,128,000 ~~5,100,000~~ units in the South Coast AQMD are regulated by PAR 1121.

Table 2-10: PAR 1121 Affected Industries

Affected Industry	NAICS Code
Hot Water Heating System Installation	238220
Water Heater Controls Manufacturing	334512
Water Heaters, Gas and Electric, Merchant Wholesaler	423720
Major Household Appliance Manufacturing	335220
Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	423610
Household Appliances, Electric Housewares, and Consumer Electronics Merchant Wholesalers	423620
Installers	238

2.6 TECHNOLOGY OVERVIEW

Zero-Emission Technology and Emerging Technology

Zero-emission technologies such as heat pumps, electric resistance, and fuel cell technologies were explored as part of the BARCT assessment, all of which are proven technologies that have been in operation for decades. Staff conducted internet searches and met with stakeholders to gather more information on zero-emission technologies and emerging technology.

Space Heating

Heat Pump Technology for Heating, Ventilation, and Air Conditioning

Common zero-emission heating technology includes heat pumps. This technology can be over three times more efficient than conventional appliances and can be used for water heating, space heating, and cooling.

Unlike natural gas fired furnaces that generate heat directly, heat pumps use the principle of energy transfer to transport energy from an outside medium (such as the ground or outside air) to the interior, using a refrigerant cycle. Heat pumps typically consist of an indoor unit and an outdoor unit. Compared to traditional furnaces, heat pumps have the additional benefit of cooling. Different types of heat pumps cater to various HVAC needs, each offering unique advantages. The indoor unit of ducted heat pumps are integrated into a ductwork system, distributing heated or cooled air throughout a building. They are ideal for houses with pre-existing central heating and cooling but require installation of a ducting system for houses that do not. On the other hand, ductless mini-split heat pumps operate without ducts, using individual air handing units mounted inside individual rooms for zonal heating and cooling. These units offer more flexibility in temperature control and installation, making them suitable for spaces lacking ductwork or requiring independent temperature control. Window heat pumps are compact units designed to fit into

windows, offering localized heating and cooling for single rooms or small areas. They are easy to install and provide immediate temperature control but are less efficient compared to their ducted or ductless system counterparts.

All air-source heat pumps draw heat from the outside air, which means they will gradually lose performance as the outside temperature drops. Ground-source heat pumps, on the other hand, have refrigerant lines underground to take advantage of the ground's relatively constant temperature. This provides consistent high performance but requires significantly higher installation costs.

Electric Resistance Technology for Space Heating
Electric resistance furnaces use resistance elements, such as heating coils or strips to warm the air, which can then be used in conjunction with air handlers, ductworks, and thermostats to deliver controlled heat through a residential or commercial space. This technology converts nearly all incoming electricity and converts it to heat directly. Some heat pumps have an electric resistance element used for backup heating since a heat pump's efficiency may decrease due to extreme cold conditions or inadequate spacing.

Electric resistance heaters have fewer requirements for installations compared to natural gas fired heaters, as they do not require a flue or venting system. This allows electric resistance to be installed in a wide range of indoor spaces and is suitable for spaces where natural gas availability is limited or undesirable.

Electric resistance wall heaters are mounted directly onto walls and use electric resistance coils to warm the surrounding air. This warm air then rises naturally, creating convection currents that circulate through the room, gradually raising the ambient temperature. Similarly, electric resistance floor heaters use the same principle, but are generally installed along the baseboards of walls. Both wall and floor heaters are often used in residential ~~and commercial~~ space~~s~~ where localized space heating is needed and oftentimes, where a central heating system is not sufficient or not practical.

However, electric resistance furnaces are not as efficient as heat pumps since they convert electricity to heat in a nearly one-to-one ratio.

Solar Technology for Heating, Ventilation, and Air Conditioning
Solar heating technology collects thermal energy from the sun to heat space or water. Active and passive solar heating are the two most common types of solar heating. Active solar air heating systems use solar collectors to heat air, which is then circulated through the home using fans or ducts. This method is often used in conjunction with a traditional heating system to provide supplemental heat. Solar technology is commonly used to generate electricity for storage or to power an existing HVAC system. Due to the reliance on available sunlight, solar HVAC systems may need to have a back-up system when sunlight is not available. Solar HVAC systems are commonly coupled with mini split heat pumps, leveraging the use of a renewable energy source to power the HVAC system. Passive solar heating systems rely on building design elements, such as windows, walls, and floors, to collect, store, and distribute the solar energy naturally.

Mobile Homes
Mobile home furnaces have specific design and size requirements that are different from those of a traditional home furnace. There are various zero-emission technologies for mobile home space heating, including solar, electric resistance, and heat pumps. Heat pump technologies include

ductless mini-split, package, central air, and geothermal systems that have high energy efficiency and are gaining more popularity. Package heat pump systems do not have the concern of physical design for space and air flow as they do not require a separate indoor unit. Packaged heat pump systems combine the heating and cooling components into one outdoor unit and connect to the home's ductwork to distribute warm or cool air throughout the living space.

Water Heating

Heat Pump Technology for Water Heating

Common zero-emission heating technology includes heat pumps. This technology can be over three times more efficient than conventional appliances and can be used for water heating, space heating, and cooling.

Unlike natural gas-fired water heaters that generate heat directly, heat pump water heaters use the principle of energy transfer to transport energy from the surrounding air to the water, using a refrigerant cycle. The most common type of heat pump water heaters (HPWH) are integrated HPWHs, where the heat pump and storage tank are in a single unit. These are ideal for smaller spaces where installation flexibility is limited, as these offer the convenience of a "drop-in" replacement. Additionally, there are split system HPWHs, where the heat pump unit is separated from the water storage tank. This allows the heat pump unit to be installed in a less-obtrusive area, such as outdoors or a basement, whereas the storage tank can be installed in a different location indoors. In split systems, the heat pump takes heat from where the heat pump unit is installed. The split system, however, is not a "drop-in" replacement for a conventional tank-type water heater and may necessitate higher upfront costs for installation.

Two of the most common types of integrated HPWHs, 240-volt (240V) and 120-volt (120V), are differentiated by the power supply required to operate. 240V HPWHs generally are hybrid electric water heaters, where the heat pump water heater can use a back-up heating element to accommodate for high water usage to increase the recovery rate. Compared to 120V HPWHs, 240V HPWHs have a higher efficiency, but require a power supply that may not be available for all installations. 120V HPWHs offer a solution for a wider range of installations, but they do not have a back-up heating element which results in a slower recovery rate.

120V HPWHs can reduce costs and installation complexity that customers may face when retrofitting a HPWH, compared to 240V HPWHs. New Buildings Institute (NBI) worked closely with 120V HPWH manufacturers and utilities in California on a statewide 120V HPWH field validation program from 2021 to 2023. NBI installed 120V HPWHs for 32 customers in most climate zones across California.[14] Based on the study findings, they saved between $800 and $15,000 per household compared to 240V HPWH installation, primarily due to the minimal electrical interventions. These are very low amperage draw water heaters, they were pulling 4-6 amps of current during the monitoring period, despite being rated for 15 amps. From the installer feedback, 120V HPWHs were also faster to install, making them ideal for emergency replacements. 120V HPWHs were introduced to the market in 2022. Currently, there are two manufacturers (i.e., Rheem & A. O. Smith) with 120V HPWHs commercially available with sizes ranging from 40 to 80 gallons. More manufacturers are expected to commercialize 120V HPWHs. This type of HPWH can plug into a standard wall outlet (shared circuit ≥ 15 amps) and can be

[14] NbI New Buildings Institute Plug-In Heat Pump Water Heater Field Study Findings & Market Commercialization Recommendations. https://newbuildings.org/wp-content/uploads/2023/07/PlugInHeatPumpWaterHeaterFieldStudyFindingsAndMarketCommercializationRecommendations_NBI202308.pdf

installed like a standard gas water heater. Due to its slower heat recovery rate and lower first hour ratings compared to its gas-fired counterpart, manufacturers recommend upsizing for similar hot water availability, which means a larger footprint is required. For example, for A.O. Smith products, the HPWH replacement typically is 4-6" larger in diameter and 3-8" taller. Another installation consideration is about ventilation. For a small space not meeting the air flow criteria, louvered door and inlet/outlet ducting may be considered.

The split system HPWH offers a solution for small spaces. This technology is widely used in industrial and residential water heating applications in countries like Japan and Australia and are now gaining more adoption in the California market. The $SANCO_2$ Heat Pump Water Heater system has been observed in use for multifacility retrofit projects including the South Coast AQMD Multifamily Affordable Housing Electrification Project.[15, 16] Manufacturers are also developing 120V split system HPWHs that minimize the need for electrical upgrades. EmberH2O Heat Pumps also have a 120V split system heat pump water heater.[17] The Hot Water Innovation Prize intends to reward manufacturers that develop innovative split system HPWHs and bring the technology to market.[18]

Multi-function heap pumps (MFHP) are another emergency technology that uses one efficient compressor and outdoor heat exchanger coil to provide space cooling, space heating, and domestic hot water heating. For retrofits in buildings with existing air conditioning, this means that full size capacity air-to-air MFHP can utilize existing air conditioning electrical circuits without modification. For buildings that do not have air conditioning, the air-to-air MFHP is less likely to trigger the need for a service breaker panel or service wire upgrade compared to the typical separate heat pump HVAC and standalone HPWH products. Harvest Thermal[19] and Villara Aqua ThermAire[20] are market available MFHP products and more developments are underway[21].
Some stakeholders have expressed concerns over how well heat pumps will operate in colder climates, such as the high-altitude locations within the South Coast AQMD. There are heat pump products available in the market that can operate at low temperatures, and the Northwest Energy Efficiency Alliance's Qualified Products List includes HPWH products that are energy efficient in cold climates and products that can produce hot water via heat pump at negative 25 degrees Fahrenheit. Cold climate heat pumps can pull heat from the air even at sub-zero temperatures and are utilized in colder climates in the U.S. and abroad. Maine has one of highest per capita heat-pump adoption rates, outpacing Scandinavian countries, with rebates incentivizing installation of approximately 116,000 heat pumps in a state that has fewer than 600,000 occupied housing units. Heat pump technology is also being adopted in states such as Vermont and Alaska, and according to the International Energy Agency, 60 percent of Norway's buildings are fitted with a heat pump.

Electric Resistance Technology for Water Heating
Electric resistance water heating relies on electric heating elements immersed in a storage water tank to generate heat. These heating elements are submerged in water in the storage water tank and

[15] ECO2 Systems Product Information. https://eco2waterheater.com/product-info/
[16] South Coast AQMD's Governing Board Agenda. https://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2019/2019-jan4-002.pdf
[17] The next generation of Heat Pump Water Heaters. https://embertec.com/heat-pump(-water-heaters/
[18] Hot Water Innovation prize. https://partners.hotwatersolutionsnw.org/hot-water-innovation-prize
[19] Harvest. https://www.harvest-thermal.com/
[20] AquathermAire-One-Sheet. https://villara.com/wp-content/uploads/2024/03/1.22-AquathermAire-One-Sheet.pdf
[21] Residential-Multi-Function-Heat-Pumps-Product-Search_Final-Report.https://calnext.com/wp-content/uploads/2023/02/ET22SWE0021_Residential-Multi-Function-Heat-Pumps-Product-Search_Final-Report.pdf

heat the water by converting the incoming electricity to heat. This technology converts nearly all incoming electricity and converts it to heat directly.

Thermostats monitor the water temperature inside the tank and cycle the heating elements on and off, as needed, to maintain a set temperature. Electric resistance water heaters are generally less efficient than heat pump water heaters, as it can only convert electricity to heat at a one-to-one ratio. Some heat pumps have an electric resistance element used for backup heating since a heat pump's efficiency may decrease due to extreme cold conditions or inadequate spacing.

Solar Technology for Water Heating

Solar thermal hot water systems include conventional-sized systems and consist of flat plate collectors, a controller, pump, and storage. The solar thermal collectors absorb sunlight and transfer the heat to the water or heat transfer fluid. Solar water heating can be active, by using pumps to circulate water, or passive, by relying on natural convection. Solar water heating is advantageous in warmer climates, as it depends on the availability of sunlight to function. Because of this, the use of a back-up water heater, be it a gas-fired, electric resistance, or a HPWH, may be required.

Mobile Homes

Mobile home natural gas water heaters generally have lower capacity and are compatible for natural gas and propane use. Similar to mobile home space heating systems, mobile home water heaters need to be approved by HUD for safety standards. Considering the limited space of manufactured homes, HUD requirements limit the options of water heater replacement in a mobile home. Some common zero-emission mobile home water heaters include electric tankless water heaters and electric storage water heaters. Manufacturers are also providing HPWHs that are HUD approved for mobile home installation. For example, Clayton Homes eBuilt shows a Rheem ProTerra heat pump water heater[22]. Some manufacturers have stated that they will continue their heat pump development to further address space constraints for some existing mobile homes as the market grows.

Fuel Cell Technology for Water Heating

Residential fuel cells that provide combined heat and power (referred to as micro-CHPs) are commercially available in Japan and Europe. Most available micro-CHPs use natural gas, which is reformed into hydrogen gas and carbon dioxide (CO_2). The hydrogen is then sent to the fuel cell, which produces electricity and heat as a byproduct, producing zero NOx. This heat can be used to fulfill heating needs, including hot water and space heating. The same unit can use piped or bottled hydrogen gas, which also makes it an option to decarbonize home heating. However, most units also have a natural gas-fueled "top-up boiler" which provides additional needed heat at peak load.
In Japan, micro-CHPs have been heavily subsidized by the government under the Ene-Farm project, which is part of the larger "Hydrogen Society" policy to move Japan's infrastructure to hydrogen as a renewable fuel source. Japan has by far the largest market penetration of micro-CHPs, with 465,000 systems installed by 2022, though this amount was substantially fewer than the Japanese government's target of 1.4 million systems by 2020.

In Europe, adoption has been much lower. Two pilot projects, Ene-field and its successor PACE, have only installed 3,500 micro-CHPs, with the majority installed in Germany. According to representatives of So Cal Gas, many of the Japanese and European manufacturers of micro-CHPs

[22] Clayton Homes eBuilt. https://www.claytonbuilt.com/ebuilt

are reluctant to bring them to the US market since they would need to make modifications to the units to meet UL certification requirements. Staff was unable to locate any micro-CHPs available for sale in the United States.

Fuel cells have a broad range of applications from multi-megawatt systems to small units and continue to expand with emerging technologies.[23] Cost and durability are still critical challenges, and studies have indicated price ranges between $4,000 to $20,000 per kilowatt (kW). Natural gas fuel cells produce some NOx emissions. Fuel cell adoption in California currently is limited; however, fuel cell technology has the potential to replace existing units to meet the zero-emission limits.

[23] U.S. Department of Energy, Multi-Year Research, Development, and Demonstration Plan, https://www.energy.gov/sites/default/files/2017/05/f34/fcto_myrdd_fuel_cells.pdf

CHAPTER 3

EXISTING SETTING

Introduction

Existing Setting

Air Quality and Greenhouse Gas Emissions

Energy

3.0 INTRODUCTION

To determine the significance of the impacts associated with a proposed project, it is necessary to evaluate the proposed project's impacts against the backdrop of the environment as it exists at the time the environmental analysis is commenced. CEQA Guidelines Section 15360 defines environment as "the physical conditions that exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance." [*See also* Public Resources Code Section 21060.5]. Furthermore, a CEQA document must include a description of the physical environment in the vicinity of the proposed project, as it exists at the time the environmental analysis is commenced, from both a local and regional perspective. [CEQA Guidelines Section 15125]. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to provide an understanding of the significant effects of the proposed project and its alternatives.

The following sections summarize the existing setting for Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ in the 2022 AQMP and the existing rules that will be affected by the proposed project (e.g., PAR 1111 and PAR 1121) as well as the regional existing setting for air quality and greenhouse gas emissions, and energy which were the only environmental topics identified that may be adversely affected by the proposed project.

3.1 EXISTING SETTING

In general, Rule 1111 was developed to reduce NOx emissions from space heaters in residential ~~and commercial~~ buildings, and Rule 1121 to reduce NOx emissions from water heaters in residential buildings. Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ in the 2022 AQMP were developed to achieve further NOx reductions from residential ~~and commercial~~ space and water heating sources as part of a Basin-wide plan to meet NAAQS for ozone. The following summarizes the existing setting for Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ as well as the current versions of Rules 1111 and 1121.

Control Measures R-CMB-01 – Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Water Heating and R-CMB-02 – Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Space Heating~~, and C-CMB-02 – Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Commercial Space Heating~~

The 2022 AQMP is the planning document that sets forth policies and measures to achieve federal and state ambient air quality standards in the region. In accordance with the United States Environmental Protection Agency strengthening the NAAQS for ground-level 8-hour ozone in 2015, by lowering the primary and secondary 8-hour ozone standard to 70 parts per billion, the 2022 AQMP identifies control measures and strategies which have been developed to bring the South Coast Air Basin and the Coachella Valley into attainment with this standard by 2037. The 2022 AQMP control measures and strategies were developed to achieve this NAAQS by focusing on reducing emissions of NOx, which are precursors to the formation of ozone, and other air pollutants. The 2022 AQMP is comprised of the following control measures which address stationary point and area and mobile sources: 1) the South Coast AQMD's Stationary and Mobile Source Control Measures; 2) control measures identified in the 2022 State Strategy for the State Implementation Plan by the California Air Resources Board; and 3) approved Regional

Transportation Plan/Sustainable Communities Strategy and Transportation Control Measures provided by the Southern California Association of Governments. The 2022 AQMP also includes emission inventories, the most current air quality data, updated growth projections, new modeling techniques, demonstrations of compliance with state and federal Clean Air Act requirements, and an adoption and implementation schedule for the control strategies. The 2022 AQMP is designed to protect and improve public health for those living, working, and visiting the region within South Coast AQMD's jurisdiction. Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ were developed to further reduce NOx emissions from residential building water heating sources regulated by Rule 1121, residential space heating sources regulated by Rule 1111, ~~and commercial spacing heating sources regulated by Rule 1121,~~ respectively, and proposed to 1) develop rules to require zero-NOx emission heating units for installations in both new and existing residences ~~and commercial buildings~~; 2) allow low NOx technologies as a transitional alternative when installing a zero-NOx emission unit is determined to be infeasible; and 3) provide incentive funds to facilitate the transition to zero-NOx emission technologies and promote further emission reductions earlier than required.

Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces

Rule 1111 regulates NOx emissions from natural gas-fired fan-type central furnaces with rated heat input capacity of less than 175,000 British thermal units per hour (Btu/hr), or for units with combined heating and cooling (package units), a cooling rate of less than 65,000 Btu/hr. The rule was first adopted in December 1978, and amended in November 2009 to lower the NOx emission limit from 40 to 14 ng/J. The rule was later amended several times to provide an alternative compliance option and extend the option that allows the manufacturer to pay a per-unit mitigation fee, in lieu of meeting the lower NOx emission limit. All furnace types have transitioned to 14 ng/J, except for mobile home furnaces for which the mitigation fee alternative compliance option will end by September 30, 2025.

Rule 1121 – Control of Nitrogen Oxides from Residential Type, Natural-Gas-Fired Water Heaters

Rule 1121 regulates NOx emissions from natural gas-fired water heaters with a rated heat input capacity of less than 75,000 Btu/hr. The rule was also first adopted in December 1978. It was amended in 1999 to reduce the NOx emission limit from 40 ng/J stepwise to 10 ng/J and amended again in 2004 to extend the compliance dates of 10 ng/J limit for some categories. Currently, all Rule 1121 water heaters are meeting the NOx emission limit of 10 ng/J, except for mobile home water heaters that are subject to a NOx emission limit of 40 ng/J.

3.2 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Ambient air quality standards have been adopted at the state and federal levels for criteria air pollutants. In addition, both the state and federal government regulate the release of toxic air contaminants and GHG emissions. Projects within South Coast AQMD's jurisdiction are subject to the rules and regulations imposed by the South Coast AQMD as well as regulations adopted by CARB and U.S. EPA. Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized in this section.

3.2.1 CRITERIA AIR POLLUTANTS

South Coast AQMD has the responsibility to ensure that state and federal ambient air quality standards (AAQS or standards) are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter (PM, which includes PM10 and PM2.5), sulfur dioxide (SO2), and lead (Pb). These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are sometimes more stringent than the federal standards, and in the case of PM10 and SO2, far more stringent. However, for ozone, the current 8-hour California Ambient Air Quality Standard (CAAQS) and the 2015 8-hour NAAQS are at an equivalent level and for PM2.5, the current annual CAAQS and the 2012 annual NAAQS are also at an equivalent level. As a result, the South Coast AQMD relies on the same measures to meet both federal and state ozone and PM2.5 standards. California has also established standards for sulfates, visibility reducing particles, hydrogen sulfide, and vinyl chloride. The state and federal standards for each of these pollutants and their effects on health are summarized in Table 3-1.

South Coast AQMD monitors levels of various criteria pollutants at 38 monitoring stations. The 2020 air quality data (the latest data available) from South Coast AQMDs monitoring stations are presented in Tables 3-2 through 3-8 for the individual criteria air pollutants monitored by South Coast AQMD.

Table 3-1
State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	State Standard[a]	Federal Primary Standard[b]	Most Relevant Effects
Ozone (O_3)	1-hour	0.09 ppm (180 μg/m^3)	0.12 ppm	(a) Short-term exposures: 1) Pulmonary function decrements and localized lung edema in humans and animals; and 2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; and (d) Property damage.
	8-hour	0.070 ppm (137 μg/m^3)	0.070 ppm (137 μg/m^3)	
Suspended Particulate Matter (PM10)	24-hour	50 μg/m^3	150 μg/m^3	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; and (b) Excess seasonal declines in pulmonary function, especially in children.
	Annual Arithmetic Mean	20 μg/m^3	No Federal Standard	
Suspended Particulate Matter (PM2.5)	24-hour	No State Standard	35 μg/m^3	(a) Increased hospital admissions and emergency room visits for heart and lung disease; (b) Increased respiratory symptoms and disease; and (c) Decreased lung functions and premature death.
	Annual Arithmetic Mean	12 μg/m^3	12 μg/m^3	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses.
	8-Hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	

Table 3-1 (concluded)
State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	State Standard[a]	Federal Primary Standard[b]	Most Relevant Effects
Nitrogen Dioxide (NO_2)	1-Hour	0.18 ppm (339 μg/m^3)	0.100 ppm (188 μg/m^3)	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration.
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	0.053 ppm (100 μg/m^3)	
Sulfur Dioxide (SO_2)	1-Hour	0.25 ppm (655 μg/m^3)	75 ppb (196 μg/m^3)	Broncho-constriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
	24-Hour	0.04 ppm (105 μg/m^3)	No Federal Standard	
Sulfates	24-Hour	25 μg/m^3	No Federal Standard	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; and (f) Property damage.
Hydrogen Sulfide (H_2S)	1-Hour	0.03 ppm (42 μg/m^3)	No Federal Standard	Odor annoyance.
Lead (Pb)	30-Day Average	1.5 μg/m^3	No Federal Standard	(a) Increased body burden; and (b) Impairment of blood formation and nerve conduction.
	Calendar Quarter	No State Standard	1.5 μg/m^3	
	Rolling 3-Month Average	No State Standard	0.15 μg/m^3	
Visibility Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more due to particles when relative humidity is less than 70 percent.	No Federal Standard	The statewide standard is intended to limit the frequency and severity of visibility impairment due to regional haze. This is a visibility-based standard not a health-based standard. Nephelometry and AISI Tape Sampler; instrumental measurement on days when relative humidity is less than 70 percent.
Vinyl Chloride	24-Hour	0.01 ppm (26 μg/m^3)	No Federal Standard	Highly toxic and a known carcinogen that causes a rare cancer of the liver.

ppb = parts per billion parts of air, by volume
ppm = parts per million parts of air, by volume
μg/m3 = micrograms per cubic meter
mg/m3 = milligrams per cubic meter

[a] The California ambient air quality standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM10, and PM2.5 are values not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

[b] The national ambient air quality standards, other than O_3 and those based on annual averages are not to be exceeded more than once a year. The O_3 standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standards is equal to or less than one.

Carbon Monoxide

CO is a primary pollutant, meaning that it is directly emitted into the air, not formed in the atmosphere by chemical reaction of precursors, as is the case with ozone and other secondary pollutants. Ambient concentrations of CO in the Basin exhibit large spatial and temporal variations due to variations in the rate at which CO is emitted and in the meteorological conditions that govern transport and dilution. Unlike ozone, CO tends to reach high concentrations in the fall and winter months. The highest concentrations frequently occur on weekdays at times consistent with rush hour traffic and late night during the coolest, most stable portion of the day.

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise and electrocardiograph changes indicative of worsening oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes. Reductions in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels. These include preterm births and heart abnormalities.[24,25,26]

On August 12, 2011, U.S. EPA issued a decision to retain the existing NAAQS for CO, determining that those standards provided the required level of public health protection. However, U.S. EPA added a monitoring requirement for near-road CO monitors in urban areas with population of one million or more, utilizing stations that would be implemented to meet the 2010 NO_2 near-road monitoring requirements. The two new CO monitors are at the I-5 near-road site, located in Orange County near Anaheim, and the I-10 near-road site, located near Etiwanda Avenue in San Bernardino County near Ontario, Rancho Cucamonga, and Fontana.

As summarized in Table 3-2, CO concentrations were measured at 23 locations in the South Coast Air Basin and neighboring Salton Sea Air Basin in 2020 but did not exceed the state or federal standards in 2020. The highest 1-hour average CO concentration recorded was 4.5 parts per million (ppm) at the South Central Los Angeles County station, less than the federal and state 1-hour CO standards of 35 ppm and 20 ppm, respectively. The highest 8-hour average CO concentration recorded was 3.1 ppm at the South Central Los Angeles County station, less than the federal and state 8-hour CO standards of 9.0 ppm. All areas within the South Coast AQMD's jurisdiction are in attainment for both the federal and state 1-hour and 8-hour CO standards.

[24] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants. https://www.epa.gov/criteria-air-pollutants, accessed on September 19, 2024.

[25] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf, accessed on September 19, 2024.

[26] South Coast AQMD. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document, accessed on September 19, 2024.

Table 3-2
South Coast AQMD – 2020 Air Quality Data – CO[27]

CARBON MONOXIDE (CO)[a]				
Source Receptor Area No.	**Location of Air Monitoring Station**	**No. Days of Data**	**Max. Conc. in ppm 1-hour**	**Max. Conc. in ppm, 8-hour**
LOS ANGELES COUNTY				
1	Central Los Angeles	359	1.9	1.5
2	Northwest Coastal Los Angeles County	365	2.0	1.2
3	Southwest Coastal Los Angeles County	364	1.6	1.3
6	West San Fernando Valley	363	2.0	1.7
8	West San Gabriel Valley	361	2.6	2.2
9	East San Gabriel Valley 1	349	2.4	2.0
9	East San Gabriel Valley 2	310	2.3	1.9
10	Pomona/Walnut Valley	363	1.5	1.1
11	South San Gabriel Valley	362	3.1	1.7
12	South Central Los Angeles County	364	4.5	3.1
13	Santa Clarita Valley	363	1.2	0.8
ORANGE COUNTY				
16	North Orange County	347	2.1	1.2
17	Central Orange County	361	2.3	1.7
17	I-5 Near Road[##]	359	2.4	2.0
19	Saddleback Valley	366	1.7	0.8
RIVERSIDE COUNTY				
23	Metropolitan Riverside County 1	361	1.9	1.4
23	Metropolitan Riverside County 3	359	1.8	1.5
25	Elsinore Valley	358	0.9	0.7
30	Coachella Valley 1**	365	0.8	0.5
SAN BERNARDINO COUNTY				
32	Northwest San Bernardino Valley	364	1.5	1.1
33	I-10 Near Road[##]	363	1.5	1.2
34	Central San Bernardino Valley 1	358	1.7	1.2
34	Central San Bernardino Valley 2	360	1.9	1.4
DISTRICT MAXIMUM[(b)]			**4.5**	**3.1**
SOUTH COAST AIR BASIN[(c)]			**4.5**	**3.1**
ppm = parts per million of air, by volume		**Salton Sea Air Basin		

[##] Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO_2 are operating near the following freeways: I-5, I-10, CA-60, and I-710.

[a] The federal 8-hour standard (8-hour average CO > 9 ppm) and state 8-hour standard (8-hour average CO > 9.0 ppm) were not exceeded. The federal and state 1-hour standards (35 ppm and 20 ppm) were not exceeded either.

[b] District Maximum is the maximum value calculated at any station in the South Coast AQMD jurisdiction.

[c] Concentrations are the maximum value observed at any station in the South Coast Air Basin. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the South Coast Air Basin.

[27] South Coast AQMD, 2021. "2020 Air Quality - South Coast Air Quality Management District – CO," Historical Air Quality Data for Year 2020 at locations where CO was monitored; http://www.aqmd.gov/docs/default-source/air-quality/historical-data-by-year/aq2020card_final.pdf, accessed on September 19, 2024.

Ozone

Ozone (O_3), a colorless gas with a sharp odor, is a highly reactive form of oxygen. High ozone concentrations exist naturally in the stratosphere. Some mixing of stratospheric ozone downward through the troposphere to the earth's surface does occur; however, the extent of ozone transport is limited. At the earth's surface in sites remote from urban areas ozone concentrations are normally very low (e.g., from 0.03 ppm to 0.05 ppm).

Ozone is highly reactive with organic materials, causing damage to living cells and ambient ozone concentrations in the Basin are frequently sufficient to cause health effects. Ozone enters the human body primarily through the respiratory tract and causes respiratory irritation and discomfort, makes breathing more difficult during exercise, and reduces the respiratory system's ability to remove inhaled particles and fight infection. Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible subgroups for ozone effects. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high ozone communities. Elevated ozone levels are also associated with increased school absences. Ozone exposure under exercising conditions is known to increase the severity of the previously mentioned observed responses. Animal studies suggest that exposures to a combination of pollutants which include ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.[28,29,30]

As summarized in Table 3-3, O_3 concentrations were measured at 29 locations in the South Coast Air Basin and the Coachella Valley portion of the Salton Sea Air Basin in 2020. Maximum ozone concentrations for all areas monitored were below the stage 1 episode level (0.20 ppm) and below the health advisory level (0.15 ppm). All counties in the Basin, as well as the Coachella Valley, exceeded the level of the 2015 federal 8-hour O_3 (0.070 ppm), the state 1-hour O_3 standard (0.09 ppm), and the state 8-hour O_3 standard (0.070 ppm) in 2020. All but one station (Southwest Coast LA County) exceed the former 2008 federal 8-hour O_3 standard (0.075 ppm).

Maximum 1-hour average and 4th highest 8-hour[31] average ozone concentrations were 0.185 ppm and 0.125 ppm, respectively (at the Central LA station and East San Bernardino Valley station, respectively), which are greater than the federal 1-hour and 8-hour ozone NAAQS of 0.12 ppm and 0.070 ppm, respectively. The federal 8-hour standard is met at an air quality monitor when the 3-year average of the annual fourth-highest daily maximum 8-hour average is less than 0.070 ppm. The maximum 1-hour concentration also exceeded the state 1-hour ozone standard of 0.09 ppm. All areas within South Coast AQMD's jurisdiction are in nonattainment for both the federal and state 1-hour and 8-hour ozone standards.

[28] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants https://www.epa.gov/criteria-air-pollutants, accessed on September 19, 2024.

[29] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf, accessed on September 19, 2024.

[30] South Coast AQMD. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document, accessed on September 19, 2024.

[31] The 4th highest 8-hour average concentration is the design value form of 8-hour NAAQS for Ozone.

Table 3-3
South Coast AQMD – 2020 Air Quality Data – O_3[32]

OZONE (O_3)[(a)]										
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. in ppm 1-hr	Max. Conc. in ppm 8-hr	4th High Conc. ppm 8-hr	No. Days Standard Exceeded				
						Federal (ppm)			State (ppm)	
						Old > 0.124 1-hr	Current > 0.070 8-hr*	2008 > 0.075 8-hr	Current > 0.09 1-hr	Current > 0.070 8-hr
LOS ANGELES COUNTY										
1	Central LA	332	0.185	0.118	0.093	1	22	16	14	22
2	Northwest Coastal LA County	357	0.134	0.092	0.078	1	8	5	6	8
3	Southwest Coastal LA County	350	0.117	0.074	0.066	0	2	0	1	2
4	South Coastal LA County 4	332	0.105	0.083	0.071	0	4	2	4	4
6	West San Fernando Valley	345	0.142	0.115	0.097	0	49	23	14	49
7	East San Fernando Valley	359	0.133	0.108	0.102	5	49	33	31	49
8	West San Gabriel Valley	354	0.163	0.115	0.108	9	60	44	41	60
9	East San Gabriel Valley 1	347	0.168	0.125	0.105	11	61	43	53	61
9	East San Gabriel Valley 2	348	0.173	0.138	0.124	17	97	71	76	97
10	Pomona/Walnut Valley	353	0.180	0.124	0.106	10	84	53	51	84
11	South San Gabriel Valley	356	0.169	0.114	0.089	3	23	15	20	23
12	South Central LA County	354	0.152	0.115	0.072	1	4	3	3	4
13	Santa Clarita Valley	348	0.148	0.122	0.106	10	73	56	44	73
ORANGE COUNTY										
16	North Orange County	340	0.171	0.133	0.088	3	23	19	15	23
17	Central Orange County	356	0.142	0.097	0.079	2	15	4	6	15
19	Saddleback Valley	364	0.171	0.122	0.090	1	32	25	20	32
RIVERSIDE COUNTY										
23	Metropolitan Riverside County 1	348	0.143	0.115	0.102	6	81	59	46	81
23	Metropolitan Riverside County 3	350	0.140	0.117	0.103	7	89	62	51	89
24	Perris Valley	358	0.125	0.106	0.097	1	74	48	34	74
25	Elsinore Valley	355	0.130	0.100	0.093	1	52	30	18	52
26	Temecula Valley	364	0.108	0.091	0.084	0	37	20	5	37
29	San Gorgonio Pass	358	0.150	0.115	0.104	3	68	48	29	68
30	Coachella Valley 1**	360	0.119	0.094	0.089	0	49	28	9	49
30	Coachella Valley 2**	358	0.097	0.084	0.081	0	42	17	2	42
SAN BERNARDINO COUNTY										
32	Northwest San Bernardino Valley	360	0.158/	0.123	0.116	15	114	87	82	114
34	Central San Bernardino Valley 1	348	0.151	0.111	0.105	8	89	65	56	89
34	Central San Bernardino Valley 2	359	0.162	0.128	0.122	15	128	110	89	128
35	East San Bernardino Valley	361	0.173	0.136	0.125	16	141	127	104	141
37	Central San Bernardino Mountains	364	0.159	0.139	0.117	7	118	97	69	118
DISTRICT MAXIMUM[(b)]			**0.185**	**0.139**	**0.125**	**17**	**141**	**127**	**104**	**141**
SOUTH COAST AIR BASIN[(c)]			**0.185**	**0.139**	**0.125**	**27**	**157**	**142**	**132**	**157**

ppm = parts per million of air, by volume **Salton Sea Air Basin

[a] The current (2015) O_3 federal standard was revised effective December 28, 2015.

[b] District Maximum is the maximum value calculated at any station in the South Coast AQMD jurisdiction.

[c] Concentrations are the maximum value observed at any station in the South Coast Air Basin. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the South Coast Air Basin.

[32] South Coast AQMD, 2021. 2020 Air Quality, South Coast Air Quality Management District, Historical Air Quality Data for Year 2020 at locations where O_3 was monitored; http://www.aqmd.gov/docs/default-source/air-quality/historical-data-by-year/aq2020card_final.pdf, accessed on September 19, 2024.

Nitrogen Dioxide

NO_2 is a reddish-brown gas with a bleach-like odor. Nitric oxide (NO) is a colorless gas, formed from the nitrogen (N_2) and oxygen (O_2) in air under conditions of high temperature and pressure which are generally present during combustion of fuels; NO reacts rapidly with the oxygen in air to form NO_2. NO_2 is responsible for the brownish tinge of polluted air. The two gases, NO and NO_2, are referred to collectively as NOx. In the presence of sunlight, NO_2 reacts to form nitric oxide and an oxygen atom. The oxygen atom can react further to form O_3, via a complex series of chemical reactions involving hydrocarbons. Nitrogen dioxide may also react to form nitric acid (HNO_3) which reacts further to form nitrates, components of PM2.5 and PM10.

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma and/or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these subgroups. More recent studies have found associations between NO_2 exposures and cardiopulmonary mortality, decreased lung function, respiratory symptoms, and emergency room asthma visits. In animals, exposure to levels of NO_2 considerably higher than ambient concentrations result in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO_2.[33,34,35]

With the revised NO_2 federal standard in 2010, near-road NO_2 measurements were required to be phased in for larger cities. The four near-road monitoring stations are: 1) I-5 near-road, located in Orange County near Anaheim; 2) I-710 near-road, located at Long Beach Blvd. in Los Angeles County near Compton and Long Beach; 3) State Route 60 (SR-60) near-road, located west of Vineyard Avenue near the San Bernardino/Riverside County border near Ontario, Mira Loma, and Upland; and 4) I-10 near-road, located near Etiwanda Avenue in San Bernardino County near Ontario, Rancho Cucamonga, and Fontana.

As summarized in Table 3-4, NO_2 concentrations were measured at 27 locations in the South Coast Air Basin and neighboring Salton Sea Air Basin in 2020 with one station (CA-60 Near Road) exceeding the federal 1-hour standard in 2020. There have been exceedances of the peak 1-hour standard at the I-710 near-road station in 2017, and the CA-60 near-road in 202; however, the 98th percentile value has not exceeded the standard.[36] The highest annual average NO_2 concentration recorded was 29.1 ppb (at the CA-60 Near Road station), which is less than the federal and state annual NO_2 standards of 53 ppb and 30 ppb, respectively. All areas within South Coast AQMD's jurisdiction are in attainment for both the federal and state 1-hour and annual NO_2 standards.

[33] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants, https://www.epa.gov/criteria-air-pollutants, accessed on September 19, 2024.

[34] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf, accessed on September 19, 2024.

[35] South Coast AQMD. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document

[36] South Coast AQMD, 2022. 2022 Draft Air Quality Management Plan, p. 2-49. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/05-ch2.pdf.

Table 3-4
South Coast AQMD – 2020 Air Quality Data – NO_2[37]

NITROGEN DIOXIDE (NO_2)[a]					
Source Receptor Area No.	**Location of Air Monitoring Station**	**No. Days of Data**	**Max. Conc. in ppb 1-hour**	**98th Percentile Conc. in ppb 1-hour [b]**	**Annual Average AAM Conc. ppb**
LOS ANGELES COUNTY					
1	Central LA	364	61.8	54.7	16.9
2	Northwest Coastal LA County	360	76.6	43.9	10.6
3	Southwest Coastal LA County	364	59.7	50.9	9.5
4	South Coastal LA County 4	357	75.3	56.3	12.8
4	I-710 Near Road##	355	90.3	79.1	22.3
6	West San Fernando Valley	365	57.2	50.1	12.1
7	East San Fernando Valley	357	60.4	52.4	14.5
8	West San Gabriel Valley	354	61.2	49.7	13.6
9	East San Gabriel Valley 1	347	64.8	54.1	13.6
9	East San Gabriel Valley 2	366	50.4	41.9	8.5
10	Pomona/Walnut Valley	355	67.9	59.8	18.3
11	South San Gabriel Valley	365	69.2	573.8	17.8
12	South Central LA County	362	72.3	60.5	14.5
13	Santa Clarita Valley	361	46.3	35.9	9.4
ORANGE COUNTY					
16	North Orange County	347	57.2	50.1	12.7
17	Central Orange County	364	70.9	52.1	13.3
17	I-5 Near Road##	365	69.9	52.6	18.8
RIVERSIDE COUNTY					
23	Metropolitan Riverside County 1	359	66.4	54.1	13.6
23	Metropolitan Riverside County 3	352	58.1	49.9	12.3
25	Elsinore Valley	345	43.6	37.9	7.4
29	San Gorgonio Pass	363	51.1	47.1	8.5
30	Coachella Valley 1**	365	47.4	34.3	6.6
SAN BERNARDINO COUNTY					
32	Northwest San Bernardino Valley	364	55.4	44.8	13.9
33	I-10 Near Road##	345	94.2	75.1	28.7
33	CA-60 Near Road##	346	101.6	78.0	29.1
34	Central San Bernardino Valley 1	360	66.4	57.9	18.7
34	Central San Bernardino Valley 2	35	54.0	45.6	14.9
DISTRICT MAXIMUM[(c)]			**101.6**	**86.3**	**29.1**
SOUTH COAST AIR BASIN[(d)]			**101.6**	**86.3**	**29.1**

ppb = parts per billion
AAM = Annual Arithmetic Mean
-- Pollutant not monitored

*Incomplete data
**Salton Sea Air Basin

Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO_2 are operating near the following freeways: I-5, I-10, CA-60, and I-710.

a The NO_2 federal 1-hour standard is 100 ppb and the annual standard is annual arithmetic mean NO_2 > 0.0534 ppm (53.4 ppb). The state 1-hour and annual standards are 0.18 ppm (180 ppb) and 0.030 ppm (30 ppb).

b The design value form of the 1-hour NAAQS is the annual 98th percentile of the daily maximum 1-hour average concentrations.

c District Maximum is the maximum value calculated at any station in the South Coast AQMD jurisdiction.

d Concentrations are the maximum value observed at any station in the South Coast Air Basin. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the South Coast Air Basin.

[37] South Coast AQMD, 2021. 2020 Air Quality, South Coast Air Quality Management District, Historical Air Quality Data for Year 2020 at locations where NO_2 was monitored; http://www.aqmd.gov/docs/default-source/air-quality/historical-data-by-year/aq2020card_final.pdf, accessed on September 19, 2024.

Sulfur Dioxide

SO2 is a colorless gas with a sharp odor. It reacts in the air to form sulfuric acid (H2SO4), which contributes to acid precipitation, and sulfates, which are components of PM10 and PM2.5. Most of the SO2 emitted into the atmosphere is produced by burning sulfur-containing fuels.

Exposure of a few minutes to low levels of SO2 can result in airway constriction in some asthmatics. All asthmatics are sensitive to the effects of SO2. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, is observed after acute higher exposure to SO2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO2. Animal studies suggest that despite SO2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO2 levels. In these studies, efforts to separate the effects of SO2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.[38,39,40]

As summarized in Table 3-5, SO2 concentrations were measured at five locations in 2020. No exceedances of 1-hour federal or state standards of 75 ppb and 250 ppb respectively, for SO2 occurred in 2020 at any of the five locations monitored the Basin. The maximum 1-hour SO2 concentration was 6.0 ppb recorded at the Southwest Coast LA County station. The 99th percentile of 1-hour SO2 concentration was 9.4 ppb recorded at the South Coastal Los Angeles County 3 station. Though SO2 concentrations remain well below the standards, SO2 is a precursor to sulfate, which is a component of fine particulate matter, PM10, and PM2.5. Historical measurements showed concentrations to be well below standards and monitoring has been discontinued at other stations. All areas within South Coast AQMD's jurisdiction are in attainment for both the federal and state 1-hour SO2 standards.

[38] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants, https://www.epa.gov/criteria-air-pollutants, accessed on September 19, 2024.

[39] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf, accessed on September 19, 2024

[40] South Coast AQMD. 2005. May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document, accessed on September 19, 2024

Table 3-5
South Coast AQMD – 2020 Air Quality Data – SO2[41]

SULFUR DIOXIDE (SO2)[a]				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Maximum Conc. ppb, 1-hour	99th Percentile Conc. ppb, 1-hour
LOS ANGELES COUNTY				
1	Central LA	333	3.8	3.3
3	Southwest Coastal LA County	361	6.0	3.3
4	South Coastal LA County 3	--	--	9.4
RIVERSIDE COUNTY				
23	Metropolitan Riverside County 1	356	2.2	1.7
34	Central San Bernardino Valley 1	363	2.5	1.7
DISTRICT MAXIMUM[b]			**6.0**	**3.3**
SOUTH COAST AIR BASIN[c]			**6.0**	**3.3**

ppb = parts per billion -- = Pollutant not monitored

[a] The SO2 federal 1-hour standard is 75 ppb. The state 1-hour and 24-hour standards are 0.25 ppm (250 ppb) and 0.04 ppm (40 ppb), respectively.
[b] District Maximum is the maximum value calculated at any station in the South Coast AQMD jurisdiction.
[c] Concentrations are the maximum value observed at any station in the South Coast Air Basin.

Particulate Matter (PM10 and PM2.5)

Of great concern to public health are particles small enough to be inhaled into the deepest parts of the lung. Respirable particles (particulate matter less than about 10 micrometers in diameter (PM10)) can accumulate in the respiratory system and aggravate health problems such as asthma, bronchitis, and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of particulate matter.

A consistent correlation between elevated ambient fine particulate matter (PM2.5) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks, and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. Studies have reported an association between long-term exposure to air pollution dominated by PM2.5 and increased mortality, reduction in lifespan, and an increased mortality from lung cancer. Daily fluctuations in PM2.5 concentrations have also been related to hospital admissions for acute respiratory conditions, to school and kindergarten absences, to a decrease in respiratory function in normal children, and to increased medication use in children and adults with asthma. Studies have also shown lung function growth in children is reduced with long-term exposure to particulate matter. In addition to children, the elderly and people with preexisting respiratory and/or cardiovascular disease appear to be more susceptible to the effects of PM10 and PM2.5.[42,43,44]

As summarized in Table 3-6, PM10 concentrations were measured at 23 locations in 2020. While the Coachella Valley Portion of the Salton Sea Air Basin is in nonattainment, the South Coast Air Basin has remained in attainment for the federal 24-hour PM10 standard (150 µg/m^3) since 2006,

[41] South Coast AQMD, 2021. 2020 Air Quality, South Coast Air Quality Management District, Historical Air Quality Data for Year 2020 at locations where SO_2 was monitored; http://www.aqmd.gov/docs/default-source/air-quality/historical-data-by-year/aq2020card_final.pdf, accessed on September 19, 2024
[42] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants, https://www.epa.gov/criteria-air-pollutants, accessed on September 19, 2024
[43] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf, accessed on September 19, 2024
[44] South Coast AQMD. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document, accessed on September 19, 2024

and it was not exceeded in 2020. The maximum 24-hour PM10 concentration of 259 µg/m^3 was recorded at the Coachella Valley 3 station, but this high reading was attributed to high winds and is excluded in accordance with the U.S. EPA Exceptional Event Rule. Also, due to rounding considerations, the federal standard is technically 155 µg/m^3. The state 24-hour PM10 (50 µg/m^3) standard was exceeded at several of the monitoring stations. All areas within South Coast AQMD's jurisdiction are in nonattainment for the state 24-hour PM10 standard, which was exceeded at 19 of the monitoring stations in 2020.

The maximum annual average PM10 concentration of 52.2 µg/m^3 was recorded at the Metropolitan Riverside County 3 station. The federal annual PM10 standard has been revoked. The state annual PM10 standard (20 µg/m^3) was exceeded in most stations in each county in the Basin and in the Coachella Valley. All areas within South Coast AQMD's jurisdiction are in nonattainment for the state annual PM10 standard, which was exceeded at most stations in each county in the South Coast Air Basin and in the Coachella Valley in 2020.

On December 14, 2012, U.S. EPA strengthened the annual NAAQS for PM2.5 to 12 µg/m^3 and, as part of the revisions, a requirement was added to monitor near the most heavily trafficked roadways in large urban areas. Particle pollution is expected to be higher along these roadways because of direct emissions from cars and heavy-duty diesel trucks and buses. South Coast AQMD installed the two required PM2.5 monitors at locations selected based upon the heavy-duty diesel traffic, which are: 1) I-710, located at Long Beach Blvd. in Los Angeles County near Compton and Long Beach; and 2) SR-60 or CA-60 near-road, located west of Vineyard Avenue near the San Bernardino/Riverside County border near Ontario, Mira Loma, and Upland.

As summarized in Table 3-7, PM2.5 concentrations were measured at 19 locations in 2020. While the Coachella Valley Portion of the Salton Sea Air Basin is in attainment, the South Coast Air Basin is in nonattainment for federal and state PM2.5 standards. The maximum 98th percentile 24-hour PM2.5 concentration of 34.7 µg/m^3 was recorded at the Metropolitan Riverside County station, less than the federal 24-hour PM2.5 standard of 35 µg/m^3. There is no state 24-hour standard for PM2.5. The maximum annual average PM2.5 concentration of 14.36 µg/m^3 was recorded at the CA-60 Near Road station, greater than the federal and state annual PM2.5 standard of 12 µg/m^3.

Table 3-6
South Coast AQMD – 2020 Air Quality Data – PM10[45]

SUSPENDED PARTICULATE MATTER PM10[a+]						
Source Receptor Area No.	**Location of Air Monitoring Station**	**No. Days of Data**	**Max. Conc. µg/m³, 24-hour**	**No. (%) Samples Exceeding Standard**		**Annual Average AAM Conc.[b] µg/m³**
				Federal > 150 µg/m³, 24-hour	**State > 50 µg/m³, 24-hour**	
LOS ANGELES COUNTY						
1	Central LA	337	77	0	24 (7%)	23.0
3	Southwest Coastal LA County	37	43	0	0	22.3
4	South Coastal LA County 2	42	59	0	2 (5%)	24.9
4	South Coastal LA County 3	12	54	0	2 (17%)	27.8
9	East San Gabriel Valley 1	43	95	0	8 (19%)	37.7
9	East San Gabriel Valley 2	333	105	0	9 (3%)	25.2
13	Santa Clarita Valley	36	48	0	0	22.5
ORANGE COUNTY						
17	Central Orange County	329	120	0	13 (4%)	23.9
19	Saddleback Valley	42	53	0	1 (2%)	16.8
RIVERSIDE COUNTY						
22	Corona/Norco Area	44	100	0	10 (23%)	39.1
23	Metropolitan Riverside County 1	320	104	0	110 (34%)	30.0
23	Metropolitan Riverside County 3	304	124	0	154 (51%)	52.2
24	Perris Valley	37	77	0	6 (16%)	35.9
25	Elsinore Valley	334	84	0	7 (2%)	22.0
29	San Gorgonio Pass	42	46	0	0	19.2
30	Coachella Valley 1**	251	48	0	0	20.4
30	Coachella Valley 2**	317	77	0	8 (3%)	29.1
30	Coachella Valley 3**	320	259	1 (0%)	69 (22%)	38.0
SAN BERNARDINO COUNTY						
32	Northwest San Bernardino Valley	305	63	0	12 (4%)	30.5
34	Central San Bernardino Valley 1	40	61	0	6 (15%)	35.8
34	Central San Bernardino Valley 2	320	80	0	81 (25%)	38.7
35	East San Bernardino Valley	40	57	0	1 (3%)	23.4
37	Central San Bernardino Mountains	40	51	0	1 (3%)	18.1
DISTRICT MAXIMUM[(c)]			**259**	**1**	**154**	**52.2**
SOUTH COAST AIR BASIN[(d)]			**124**	**0**	**173**	**52.2**

µg/m^3= micrograms per cubic meter of air
AAM = Annual Arithmetic Mean
**Salton Sea Air Basin

\+ High PM10 (≥ 155 µg/m³) data recorded in Coachella Valley (due to high winds) and the Basin (due to Independence Day fireworks) are excluded in accordance with the U.S. EPA Exceptional Event Rule.

[a] PM10 statistics listed above are based on combined Federal Reference Method (FRM) and Federal Equivalent Method (FEM) data. Filter-based measurements for PM 10 from March 28, 2020 to June 2, 2020 are not available due to COVID-19 Pandemic.
[b] State annual average (AAM) PM10 standard is > 20 µg/m³. Federal annual PM10 standard (AAM > 50 µg/m³) was revoked in 2006.
[c] District Maximum is the maximum value calculated at any station in the South Coast AQMD jurisdiction.
[d] Concentrations are the maximum value observed at any station in the South Coast Air Basin.

[45] South Coast AQMD, 2021. 2020 Air Quality, South Coast Air Quality Management District, Historical Air Quality Data for Year 2020 at locations where PM10 was monitored; http://www.aqmd.gov/docs/default-source/air-quality/historical-data-by-year/aq2020card_final.pdf, accessed on September 19, 2024

Table 3-7
South Coast AQMD – 2020 Air Quality Data – PM2.5[46]

SUSPENDED PARTICULATE MATTER PM2.5 [a]						
Source Receptor Area No.	**Location of Air Monitoring Station**	**No. Days of Data**	**Max. Conc. µg/m³, 24-hour**	**98th Percentile Conc. in µg/m³ 24-hr**	**No. (%) Samples Exceeding Federal Std > 35 µg/m³, 24-hour**	**Annual Average AAM Conc.[b] µg/m³**
LOS ANGELES COUNTY						
1	Central LA	353	47.30	28.00	2 (1%)	12.31
4	South Coastal LA County 1	117	28.10	26.10	0	11.26
4	South Coastal LA County 2	357	39.00	28.00	1 (0%)	11.38
4	I-710 Near Road##	356	44.00	31.50	2 (1%)	12.93
6	West San Fernando Valley	116	27.60	26.40	0	10.13
8	West San Gabriel Valley	117	34.90	31.20	0	11.06
9	East San Gabriel Valley 1	116	33.00	25.80	0	11.13
11	South San Gabriel Valley	116	35.40	30.50	0	13.22
12	South Central LA County	352	43.20	34.10	7 (2%)	13.57
ORANGE COUNTY						
17	Central Orange County	355	41.40	27.10	1 (0%)	11.27
19	Saddleback Valley	120	35.00	32.70	0	8.81
RIVERSIDE COUNTY						
23	Metropolitan Riverside County 1	357	41.00	29.60	4 (1%)	12.63
23	Metropolitan Riverside County 3	358	38.70	34.70	5 (1%)	14.03
30	Coachella Valley 1**	122	23.90	16.90	0	6.42
30	Coachella Valley 2**	121	25.60	20.20	0	8.41
SAN BERNARDINO COUNTY						
33	CA-60 Near Road##	356	53.10	3.70	4 (1%)	14.36
34	Central San Bernardino Valley 1	117	46.10	27.40	1 (1%)	11.95
34	Central San Bernardino Valley 2	115	25.70	24.70	0	11.66
38	East San Bernardino Mountains	58	24.30	20.40	0	7.62
DISTRICT MAXIMUM[(c)]			**53.1**	**34.1**	**7**	**14.36**
SOUTH COAST AIR BASIN[(d)]			**53.1**	**34.1**	**13**	**14.36**

µg/m³ = micrograms per cubic meter of air
**Salton Sea Air Basin
AAM = Annual Arithmetic Mean

[a] PM2.5 statistics listed above are for the FRM data only with the exception of Central Orange County, I-710 Near Road, Metropolitan Riverside County 1 and 3, CA-60 Near Road, and South Coastal LA Count 2 where FEM PM2.5 measurements are used to supplement missing FRM measurements because they pass the screening criteria for the South Coast AQMD Continuous Monitor Comparability Assessment and Request for Waiver dated July 1, 2021.
[b] Federal and State standards are annual average (AAM) > 12.0 µg/m³.
[c] District Maximum is the maximum value calculated at any station in the South Coast AQMD jurisdiction.
[d] Concentrations are the maximum value observed at any station in the South Coast Air Basin. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the South Coast Air Basin.

Lead

Under the federal Clean Air Act, lead is classified as a "criteria pollutant." Lead causes observed adverse health effects at ambient concentrations. Lead is also deemed a carcinogenic toxic air contaminant (TAC) by the Office of Environmental Health Hazard Assessment (OEHHA). Lead in the atmosphere is a mixture of several lead compounds. Leaded gasoline and lead smelters have been the main sources of lead emitted into the air. Due to the phasing out of leaded gasoline, there was a dramatic reduction in atmospheric lead in the Basin over the past three decades. In fact, there were no violations of the lead standards at South Coast AQMD's regular air monitoring stations from 1982 to 2020, primarily due to the removal of lead from gasoline.

Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central

[46] South Coast AQMD, 2021. 2020 Air Quality, South Coast Air Quality Management District, Historical Air Quality Data for Year 2020 at locations where PM2.5 was monitored; http://www.aqmd.gov/docs/default-source/air-quality/historical-data-by-year/aq2020card_final.pdf, accessed on September 19, 2024

nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures, and death. It appears that there are no direct effects of lead on the respiratory system. Lead can be stored in the bone from early-age environmental exposure, and elevated blood lead levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland), and osteoporosis (breakdown of bone tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of previous environmental lead exposure of their mothers.[47, 48, 49]

As summarized in Table 3-8, South Coast AQMD monitored lead concentrations at eight monitoring stations in 2020. The South Coast Air Basin (Los Angeles County area) is currently in nonattainment for lead. This nonattainment designation was due to the operations of specific stationary sources of lead emissions. The Mojave Desert Air Basin and Salton Sea Air Basin are both in attainment for lead. The South Coast AQMD has petitioned U.S. EPA for a redesignation to attainment for the federal lead standard for the Los Angeles County nonattainment area. Stringent South Coast AQMD rules governing lead-producing sources will help to ensure that there are no future violations of the federal standard. At the time of this report, South Coast AQMD has not yet received a response from U.S. EPA regarding the petition. The current lead concentrations in Los Angeles County are below the federal 3-month rolling average standard of 0.15 µg/m^3. Further, the state 30-day standard of 1.5 µg/m^3 was not exceeded in any areas under the jurisdiction of the South Coast AQMD in 2020.

Sulfates

Sulfates are chemical compounds which contain the sulfate ion and are part of the mixture of solid materials which make up PM10. Most of the sulfates in the atmosphere are produced by oxidation of SO2. Oxidation of sulfur dioxide yields sulfur trioxide (SO_3), which reacts with water to form sulfuric acid, which then contributes to acid deposition. The reaction of sulfuric acid with basic substances such as ammonia yields sulfates, a component of PM10 and PM2.5.

Most of the health effects associated with fine particles and SO2 at ambient levels are also associated with sulfates. Thus, both mortality and morbidity effects have been observed with an increase in ambient sulfate concentrations. However, efforts to separate the effects of sulfates from the effects of other pollutants have generally not been successful.[50,51,52]

As summarized in Table 3-8, South Coast AQMD monitored sulfate at seven monitoring stations in 2020. The state 24-hour sulfate standard of 25 µg/m^3 was not exceeded in the South Coast Air Basin, which is in attainment for sulfate. The Mojave Desert Air Basin and Salton Sea Air Basin are also in attainment for sulfate. There are no federal sulfate standards.

[47] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants, https://www.epa.gov/criteria-air-pollutants, accessed on September 19, 2024

[48] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf, accessed on September 19, 2024.

[49] South Coast AQMD. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document, accessed on September 19, 2024

[50] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants. https://www.epa.gov/criteria-air-pollutants, accessed on September 19, 2024

[51] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf, accessed on September 19, 2024.

[52] South Coast AQMD. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document, accessed on September 19, 2024

Table 3-8
South Coast AQMD – 2020 Air Quality Data – Lead and Sulfates[53]

		LEAD[a++]		SULFATES[b]	
Source Receptor Area No.	**Location of Air Monitoring Station**	**Max. Monthly Average Conc. [m] µg/m³**	**Max. 3-Month Rolling Average [m] µg/m³**	**No. Days of Data**	**Max. Conc. µg/m³, 24-hour**
LOS ANGELES COUNTY					
1	Central LA	0.013	0.011	45	3.3
3	Southwest Coastal LA County	0.008	0.005	--	--
4	South Coastal LA County 2	0.008	0.006	--	--
4	South Coastal LA County 3	--	--	14	2.3
9	East San Gabriel Valley 1	0.010	0.007	45	3.1
11	South San Gabriel Valley	0.012	0.011	--	--
12	South Central LA County	0.010	0.009	--	--
ORANGE COUNTY					
17	Central Orange County	--	--	44	3.3
RIVERSIDE COUNTY					
23	Metropolitan Riverside County 1	0.016	0.010	84	5.2
30	Coachella Valley 2**	--	--	89	2.7
SAN BERNARDINO COUNTY					
34	Central San Bernardino Valley 1	--	--	44	3.0
34	Central San Bernardino Valley 2	0.010	0.09	--	--
DISTRICT MAXIMUM[(c)]		**0.016**	**0.011**		**5.2**
SOUTH COAST AIR BASIN[(d)]		**0.016**	**0.011**		**5.2**

µg/m³ = micrograms per cubic meter of air
-- Pollutant not monitored
** Salton Sea Air Basin

++ Higher lead concentrations were recorded at near-source monitoring sites immediately downwind of stationary lead sources. Maximum monthly and 3-month rolling averages recorded were 0.96 µ/m³ and 0.059 µ/m³.

[a] Federal lead standard is 3-months rolling average > 0.15 µg/m³; state standard is monthly average ≥ 1.5 µg/m³. Lead standards were not exceeded.
[b] State sulfate standard is 24-hour ≥ 25 µg/m³. There is no federal standard for sulfate.
[c] District Maximum is the maximum value calculated at any station in the South Coast AQMD jurisdiction.
[d] Concentrations are the maximum value observed at any station in the South Coast Air Basin. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the South Coast Air Basin.

Vinyl Chloride

Vinyl chloride is a colorless, flammable gas at ambient temperature and pressure. It is also highly toxic and is classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as A1 (confirmed carcinogen in humans) and by the International Agency for Research on Cancer (IARC) as 1 (known to be a human carcinogen).[54] At room temperature, vinyl chloride is a gas with a sickly-sweet odor that is easily condensed. However, it is stored as a liquid. Due to the hazardous nature of vinyl chloride to human health there are no end products that use vinyl chloride in its monomer form. Vinyl chloride is a chemical intermediate, not a final product. It is an important industrial chemical chiefly used to produce polymer polyvinyl chloride (PVC). The process involves vinyl chloride liquid fed to polymerization reactors where it is converted from a monomer to a polymer PVC. The final product of the polymerization process is PVC in either a flake or pellet form. Billions of pounds of PVC are sold on the global market each year. From its flake or pellet form, PVC is sold to companies that heat and mold the PVC into end products such as PVC pipe and bottles.

[53] South Coast AQMD, 2021. 2020 Air Quality, South Coast Air Quality Management District, Historical Air Quality Data for Year 2020 at locations where lead and sulfates were monitored; http://www.aqmd.gov/docs/default-source/air-quality/historical-data-by-year/aq2020card_final.pdf.
[54] International Agency for Research on Cancer. https://monographs.iarc.who.int/monographs-available/, accessed on September 19, 2024.

In the past, vinyl chloride emissions have been associated primarily with sources such as landfills. Risks from exposure to vinyl chloride are considered to be localized impacts rather than regional impacts. Because landfills in the South Coast AQMD are subject to Rule 1150.1 – Control of Gaseous Emissions from Municipal Solid Waste Landfills, which contain stringent requirements for landfill gas collection and control, potential vinyl chloride emissions are expected to be below the level of detection. Therefore, South Coast AQMD does not monitor for vinyl chloride at its monitoring stations.

Volatile Organic Compounds

There are no state or NAAQS for VOCs because they are not classified as criteria pollutants. VOCs are regulated, however, because VOCs are a precursor to the formation of ozone in the atmosphere. VOCs are also transformed into organic aerosols in the atmosphere, contributing to higher PM10 and lower visibility levels.

Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOCs because of interference with oxygen uptake. In general, ambient VOC concentrations in the atmosphere are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis, even at low concentrations. Some hydrocarbon components classified as VOC emissions are thought or known to be hazardous. Benzene, for example, one hydrocarbon component of VOC emissions, is known to be a human carcinogen.

Non-Criteria Pollutants

Although South Coast AQMD's primary mandate is attaining the state and NAAQS for criteria pollutants within the Basin, South Coast AQMD also has a general responsibility pursuant to Health and Safety Code Section 41700 to control emissions of air contaminants and prevent endangerment to public health. Additionally, state law requires South Coast AQMD to implement Airborne Toxic Control Measures (ATCMs) adopted by CARB and to implement the Air Toxics "Hot Spots" Act. As a result, South Coast AQMD has regulated pollutants other than criteria pollutants such as TACs, GHGs, and stratospheric ozone depleting compounds. South Coast AQMD has developed several rules which are designed to control non-criteria pollutants from both new and existing sources. These rules originated through state directives, CAA requirements, or the South Coast AQMD rulemaking process.

In addition to promulgating non-criteria pollutant rules, South Coast AQMD evaluated control measures in the 2016 AQMP and 2022 AQMP as well as existing rules to determine whether they would affect, either positively or negatively, emissions of non-criteria pollutants. For example, rules which target the VOC components of coating materials and that allow for the replacement of the VOC components with a non-photochemically reactive chlorinated substance would reduce the impacts resulting from ozone formation, but could increase emissions of toxic compounds or other substances that may have adverse impacts on human health.

Carcinogenic Health Risks from TACs: One of the primary health risks of concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is a public health concern because it is currently believed by many scientists that there is no 'safe' level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of causing cancer. It is currently estimated that about one in four deaths in the United States is attributable to cancer. The proportion of cancer deaths attributable to air pollution has not been estimated using epidemiological methods.

Non-cancer Health Risks from TACs: Unlike carcinogens, for most non-carcinogens it is believed that there is a threshold level of exposure to the compound below which it will not pose a health risk. California Environmental Protection Agency (CalEPA)'s OEHHA develops Reference Exposure Levels (RELs) for TACs are health-conservative estimates of the levels of exposure at or below which health effects are not expected. The non-cancer health risk due to exposure to a TAC is assessed by comparing the estimated level of exposure to the REL. The comparison is expressed as the ratio of the estimated exposure level to the REL, called the hazard index (HI).

Multiple Air Toxics Exposure Study (MATES): In 1986, South Coast AQMD conducted the first MATES report to determine the risks associated with major airborne carcinogens in the South Coast Air Basin. The most current version (MATES V[55]) consists of a monitoring program, an updated emissions inventory of TACs, and a modeling effort to characterize risk across the South Coast Air Basin. The study focuses on the carcinogenic risk from exposure to air toxics but does not estimate mortality or other health effects from criteria pollutant exposures which are conducted as part of the 2016 AQMP. Two key updates were implemented in MATES V. First, cancer risk estimations now take into account multiple exposure pathways. Previous MATES studies quantified the cancer risks based on the inhalation pathway only; a cumulative cancer risk accounting for inhalation and non-inhalation pathways is approximately 8% higher than the inhalation-only calculation for the MATES V data. Second, along with cancer risk estimates, MATES V includes information on the chronic non-cancer health impacts from inhalation and non-inhalation pathways for the first time. The cumulative chronic hazard index accounting for the inhalation and non-inhalation pathways is approximately twice the inhalation-only calculation for the MATES V data.

3.2.2 GREENHOUSE GAS EMISSIONS

Greenhouse gases (GHGs) trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The latter, anthropogenic sources of GHGs, is the focus of impacts under CEQA. Traditionally, GHGs and other global warming pollutants are perceived as solely global in their impacts, and that increasing emissions anywhere in the world contributes to climate change anywhere in the world. A study conducted on the health impacts of CO2 'domes' that form over urban areas showed that they cause increases in local temperatures and local criteria pollutants, which have adverse health effects.[56]

3.2.2.1 Climate Change

Global climate change is a change in the average weather of the Earth, which can be measured by wind patterns, storms, precipitation, and temperature. Historical records have shown that temperature changes have occurred in the past, such as during previous ice ages. Data indicates that the current temperature record differs from previous climate changes in rate and magnitude.

[55] South Coast AQMD, MATES V, Multiple Air Toxics Exposure Study in the South Coast AQMD, Final Report, August 2021. http://www.aqmd.gov/docs/default-source/planning/mates-v/mates-v-final-report.pdf, accessed on September 19, 2024.

[56] Jacobsen, Mark Z. "Enhancement of Local Air Pollution by Urban CO_2 Domes," Environmental Science and Technology, as described in Stanford University press release on March 16, 2010 available at: https://web.stanford.edu/group/efmh/jacobson/Articles/V/es903018m.pdf, accessed on September 19, 2024.

Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs), comparable to a greenhouse, which captures and traps radiant energy. GHGs are emitted by natural processes and human activities. The accumulation of greenhouse gases in the atmosphere regulates the earth's temperature. Global warming is the observed increase in average temperature of the earth's surface and atmosphere. The primary cause of global warming is an increase of GHGs in the atmosphere. The six major GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbon (PFCs). The GHGs absorb longwave radiant energy emitted by the Earth, which warms the atmosphere. The GHGs also emit longwave radiation both upward to space and back down toward the surface of the Earth. The downward part of this longwave radiation emitted by the atmosphere is known as the "greenhouse effect." Emissions from human activities such as fossil fuel combustion for electricity production and vehicles have elevated the concentration of these gases in the atmosphere.

- **Carbon dioxide (CO_2)** is an odorless, colorless greenhouse gas. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human caused) sources of CO_2 include burning coal, oil, gasoline, natural gas, and wood.
- **Methane (CH_4)** is a flammable gas and is the main component of natural gas.
- **Nitrous Oxide (N_2O)**, also known as laughing gas, is a colorless greenhouse gas. Some industrial processes such as fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions also contribute to the atmospheric load of N_2O.
- **Sulfur hexafluoride (SF_6)** is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.
- **Hydrofluorocarbons (HFCs)** are synthetic man-made chemicals composed of hydrogen, fluorine, and carbon that are used as a substitute for chlorofluorocarbons (whose production was stopped as required by the Montreal Protocol) for use in automobile air conditioners and refrigerants.
- **Perfluorocarbons (PFCs)** are synthetic man-made chemicals composed of fluorine and carbon that are used as a substitute for chlorofluorocarbons in producing aluminum and manufacturing semiconductors.

Scientific consensus, as reflected in recent reports issued by the United Nations Intergovernmental Panel on Climate Change, is that the majority of the observed warming over the last 50 years can be attributable to increased concentration of GHGs in the atmosphere due to human activities. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants. In the past, gradual changes in temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but in a human's lifetime. Industrial activities, particularly increased consumption of fossil fuels (gasoline, diesel, coal, etc.), have heavily contributed to the increase in atmospheric levels of GHGs. The United Nations Intergovernmental Panel on Climate Change constructed several emission trajectories of greenhouse gases needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of greenhouse gases at 400 to 450 ppm carbon dioxide-equivalent (CO_2eq) concentration is required to keep global mean

warming below two degrees Celsius, which has been identified as necessary to avoid dangerous impacts from climate change.[57]

The potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, air quality impacts, and sea level rise. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems (e.g., heat rash and heat stroke). In addition, climate sensitive diseases may increase, such as those spread by mosquitoes and other insects. Those diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding, hurricanes, and wildfires can displace people and agriculture, which would have negative consequences. Drought in some areas may increase, which would decrease water and food availability. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution.[58] Effects of climate change include rising sea levels and changes in snowpack.[59] The extent of climate change impacts at specific locations remains unclear.

Federal, state, and local agencies are working towards more precisely quantifying impacts in various regions. As an example, the California Department of Water Resources is expected to formalize a list of foreseeable water quality issues associated with various degrees of climate change. Once state government agencies make these lists available, they could be used to more precisely determine to what extent a project creates global climate change impacts.

3.2.2.1.1 Statewide Inventory

GHG emissions in the state have been inventoried by CARB. As shown in Figure 3-1, CO_2 accounts for 83 percent of the total 418.2 million metric tons (MT) of CO_2eq emissions in the state in 2019. Figure 3-2 illustrates that transportation (primarily on-road travel) is the single largest source of CO_2 emissions in the state. Upstream transportation emissions from the refinery and oil and gas sectors are categorized as CO_2 emissions from industrial sources and constitute about 50 percent of the industrial source emissions. When these emissions sources are attributed to the transportation sector, the emissions from the transportation sector amount to approximately half of statewide GHG emissions. In addition to transportation, electricity production, and industrial and residential sources also are important contributors to CO_2 emissions. Figures 3-1 and 3-2 show state GHG emission contributions by GHG and sector based on the 2019 Greenhouse Gas Emission Inventory. The emissions presented in Figure 3-2 are depicted by Scoping Plan sector, which includes separate categories for high-global warming potential (GWP) and recycling/waste emissions that are otherwise typically included within other economic sectors.

[57] Intergovernmental Panel on Climate Change (IPCC). 2014. *Fifth Assessment Report: Climate Change 2014*. New York: Cambridge University Press, https://issuu.com/unipcc/docs/syr_ar5_final_full_wcover, accessed on September 19, 2024.

[58] Center for Disease Control. 2016. Climate Change Decreases the Quality of the Air We Breathe. https://www.cdc.gov/climate-health/php/effects/air-pollution.html, accessed on September 19, 2024.

[59] Office of Environmental Health Hazards Assessment, 2018. Indicators of Climate Change in California. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf, accessed on September 19, 2024.

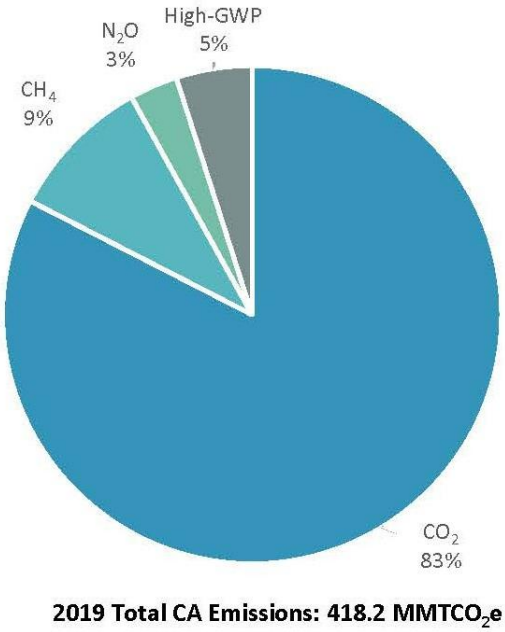

Figure 3-1
2019 Statewide GHG Emission Contributions by GHG[60]

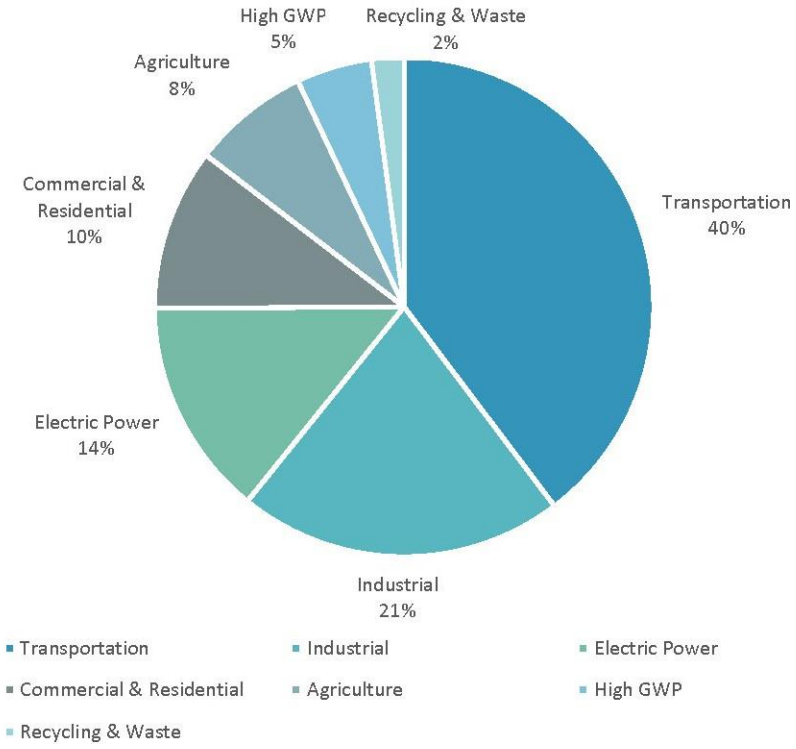

Figure 3-2
2019 Statewide GHG Emission Contributions by Scoping Plan Sector[61]

[60] CARB, 2022. Draft 2022 Scoping Plan Update, Figure 1-7, page 33, https://ww2.arb.ca.gov/sites/default/files/2022-05/2022-draft-sp.pdf, accessed on September 19, 2024.
[61] CARB, 2022. Draft 2022 Scoping Plan Update, Figure 1-8, page 34, https://ww2.arb.ca.gov/sites/default/files/2022-05/2022-draft-sp.pdf, accessed on September 19, 2024.

The GHG emission inventory encompasses emission sources within the state's border, as well as imported electricity consumed in the state. Statewide GHG emissions calculations use many data sources, including data from other state and federal agencies. However, the primary source of data comes from reports submitted to CARB through the CARB Regulation for the Mandatory Reporting of GHG Emissions, which requires facilities and entities with more than 10,000 metric tons of CO_2eq to report emissions directly to CARB. Reported emissions greater than 25,000 metric tons are required to be verified by a CARB-accredited third-part verification body.

3.2.2.2 Regulatory Setting

3.2.2.2.1 Federal

Greenhouse Gas Endangerment Findings: On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding greenhouse gases pursuant to the federal Clean Air Act (CAA) Section 202(a). The Endangerment Finding stated that CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 taken in combination endanger both the public health and the public welfare of current and future generations. The *Cause or Contribute Finding* stated that the combined emissions from motor vehicles and motor vehicle engines contribute to the greenhouse gas air pollution that endangers public health and welfare. These findings were a prerequisite for implementing GHG standards for vehicles. The U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) finalized emission standards for light-duty vehicles in May 2010 and for heavy-duty vehicles in August of 2011. Subsequently, the U.S. EPA rolled back the light duty GHG standards, a decision which is currently under litigation. In August 2021, the U.S. EPA proposed replacement GHG standards for light-duty vehicles and announced plans to reduce GHG emissions from heavy-duty trucks through a series of major rulemakings over the next three years with the first to be finalized in 2022.[62] On March 7, 2022, the U.S. EPA proposed the first step in the U.S. EPA's "Clean Trucks Plan" that would revise existing GHG standards for model year 2027 and beyond trucks in subsectors where electrification is advancing at a more rapid pace. The sectors include school buses, transit buses, commercial delivery trucks, and short-haul tractors.

Renewable Fuel Standard: The Renewable Fuel Standard (RFS) program was established under the Energy Policy Act (EPAct) of 2005 and required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the Energy Independence and Security Act (EISA) of 2007, the RFS program was expanded to include diesel, required that the volume of renewable fuel blended into transportation fuel be increased from nine billion gallons in 2008 to 36 billion gallons by 2022, established new categories of renewable fuel, and required U.S. EPA to apply lifecycle GHG performance threshold standards so that each category of renewable fuel emits fewer greenhouse gases than the petroleum fuel it replaces. In a separate measure, the U.S. EPA will be setting new GHG emission standards for heavy-duty vehicles as soon as model year 2030, which will more comprehensively address the long-term trend towards zero-NOx emission vehicles across the heavy-duty sector.[63]

GHG Tailoring Rule: On May 13, 2010, U.S. EPA finalized the GHG Tailoring Rule to phase in the applicability of the Prevention of Significant Deterioration (PSD) and Title V operating permit

[62] U.S. EPA, 2021. EPA to Overhaul Pollution Standards for Passenger Vehicles and Heavy-Duty Trucks, Paving Way for Zero-Emission Future, News Release, August 5, 2021. https://www.epa.gov/newsreleases/epa-overhaul-pollution-standards-passenger-vehicles-and-heavy-duty-trucks-paving-way, accessed on September 19, 2024.

[63] U.S. EPA, 2022. EPA Proposes Stronger Standards for Heavy-Duty Vehicles to Promote Clean Air, Protect Communities, and Support Transition to Zero-Emissions Future, News Release, March 7, 2022. https://www.epa.gov/newsreleases/epa-proposes-stronger-standards-heavy-duty-vehicles-promote-clean-air-protect, accessed on September 19, 2024.

programs for GHGs. The GHG Tailoring Rule was tailored to include the largest GHG emitters, while excluding smaller sources (restaurants, commercial facilities and small farms). The first phase (from January 2, 2011 to June 30, 2011) addressed the largest sources that contributed 65 percent of the stationary GHG sources. Title V GHG requirements were triggered only when affected facility owners/operators were applying, renewing or revising their permits for non-GHG pollutants. PSD GHG requirements were applicable only if sources were undergoing permitting actions for other non-GHG pollutants and the permitted action would increase GHG emission by 75,000 metric tons of CO_2 equivalent emissions (CO_2eq) per year or more. The Tailoring Rule originally included a second phase for sources that were not otherwise major sources but had the potential to emit 100,000 metric tons of CO_2eq per year. In 2014, the U.S. Supreme Court held that U.S. EPA was limited to phase 1.

GHG Reporting Program: U.S. EPA issued the Mandatory Reporting of Greenhouse Gases Rule (40 CFR Part 98) under the 2008 Consolidated Appropriations Act. The Mandatory Reporting of Greenhouse Gases Rule requires reporting of GHG data from large sources and suppliers under the Greenhouse Gas Reporting Program. Suppliers of certain products that would result in GHG emissions if released, combusted or oxidized; direct emitting source categories; and facilities that inject CO_2 underground for geologic sequestration or any purpose other than geologic sequestration are included. Facilities that emit 25,000 metric tons or more per year of GHGs as CO_2eq are required to submit annual reports to U.S. EPA.

Ozone-Depleting Substances: Under the CAA Title VI, the U.S. EPA is assigned responsibility for implementing programs that protect the stratospheric ozone layer. 40 CFR Part 82 contains U.S. EPA's regulations specific to protecting the ozone layer. These U.S. EPA regulations phase out the production and import of ozone-depleting substances (ODSs) consistent with the Montreal Protocol.[64] ODSs are typically used as refrigerants or as foam-blowing agents. ODS are regulated as Class I or Class II controlled substances. Class I substances have a higher ozone-depleting potential and have been completely phased out in the United States, except for exemptions allowed under the Montreal Protocol. Class II substances are HCFCs, which are transitional substitutes for many Class I substances and are being phased out.

3.2.2.2.2 State

Statewide GHG Reduction Targets

Executive Order S-3-05: In June 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established emission reduction targets. The goals would reduce GHG emissions to 2000 levels by 2010, then to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

Assembly Bill (AB) 32 – Global Warming Solutions Act: On September 27, 2006, AB 32, the California Global Warming Solutions Act of 2006, was signed by Governor Schwarzenegger. AB 32 expanded on Executive Order S-3-05. The California legislature stated that "global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." AB 32 represented the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue

[64] The Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol) is an international treaty designed to phase out halogenated hydrocarbons such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), which are considered ODSs. The Montreal Protocol was first signed on September 16, 1987 and has been revised seven times. The U.S. ratified the original Montreal Protocol and each of its revisions.

of global warming, AB 32 laid out a program to inventory and reduce GHG emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

Consistent with the requirement to develop an emission reduction plan, CARB prepared a Scoping Plan indicating how GHG emission reductions will be achieved through regulations, market mechanisms, and other actions. The 2008 Scoping Plan called for reducing GHG emissions to 1990 levels by 2020. This means cutting approximately 30 percent from business-as-usual (BAU) emission levels projected for 2020, or about 15 percent from 2005 to 2008 levels.[65] However, as of January 1, 2020, SB 32 became the guiding GHG regulation.

Senate Bill (SB) 32 and AB 197: In September 2016, Governor Brown signed Senate Bill 32 and Assembly Bill 197, making the Executive Order goal of reducing GHG emissions to 40 percent below 1990 levels by 2030 into a statewide, mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources. CARB prepared a 2017 Climate Change Scoping Plan Update, which outlines potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017 Scoping Plan establishes a new emission limit of 260 million $MTCO_2eq$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.[66]

California's climate strategy will require contributions from all sectors of the economy, including enhanced focus on zero-NOx emission and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables such as solar roofs, wind, and other types of distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conserve agricultural and other lands. Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the local air districts to tighten criteria air pollutants and TACs emission limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the stringency of the standards for the various strategies covered under the Mobile Source Strategy, which include increasing ZE buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency and utilizes near-zero emission technology and deployment of ZE trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.

[65] California Air Resources Board. 2008, December. Climate Change Scoping Plan, A Framework for Change.
[66] CARB, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on September 19, 2024.

- Post-2020 Cap-and-Trade Program that includes declining caps.
- Continued implementation of SB 375.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.[67]

In addition to the statewide strategies listed above, the 2017 Climate Change Scoping Plan also identified local governments as essential partners in achieving the state's long-term GHG reduction goals and recommended local actions to reduce GHG emissions—for example, statewide targets of no more than six $MTCO_2eq$ or less per capita by 2030 and two $MTCO_2eq$ or less per capita by 2050. CARB recommends that local governments evaluate and adopt robust and quantitative locally appropriate goals that align with the statewide per capita targets and sustainable development objectives and develop plans to achieve the local goals. The statewide per capita goals were developed by applying the percent reductions necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the state's 1990 emission limit established under AB 32. For CEQA projects, CARB states that lead agencies have discretion to develop evidenced-based numeric thresholds (mass emissions, per capita, or per service population) consistent with the Scoping Plan and the state's long-term GHG goals. To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from VMT, and direct investments in GHG reductions within the project's region that contribute potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits.[68]

The Scoping Plan scenario is set against what is called the business-as-usual (BAU) yardstick—that is, what would the GHG emissions look like if the state did nothing at all beyond the existing policies that are required and already in place to achieve the 2020 limit. It includes the existing renewables requirements, advanced clean cars, the LCFS, and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. The known commitments are expected to result in emissions that are 60 million $MTCO_2eq$ above the target in 2030. If the estimated GHG reductions from the known commitments are not realized due to delays in implementation or technology deployment, the post-2020 Cap-and-Trade Program would deliver the additional GHG reductions in the sectors it covers to ensure the 2030 target is achieved.

On May 10, 2022, CARB released the Draft 2022 Scoping Plan Update for public review and assessed progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045. As mentioned in the Executive Summary, the major elements of the Draft 2022 Scoping Plan Update include: 1) "the aggressive reduction of fossil fuels wherever they are currently used in California, building on and accelerating carbon reduction programs that have been in place here for a decade and a half"; and 2) "re-envisioning of our forests, shrublands/chaparral, croplands, wetlands, and other lands (referred to as Natural and Working Lands) to ensure that they play as robust a role as possible in incorporating and storing more carbon

[67] CARB, 2017. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on September 19, 2024.
[68] CARB, 2017. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on September 19, 2024.

in the trees, plants, soil, and wetlands that cover 90 percent of the state's 105 million acres." Specifically, the Draft 2022 Scoping Plan:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 or earlier.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as a driving principle throughout the document.
- Incorporates the contribution of natural and working lands to the state's GHG emissions, as well as its role in achieving carbon neutrality.
- Relies on the most up to date science, including the need to deploy all viable tools to address the existential threat that climate change presents, including carbon capture and sequestration as well a direct air capture.
- Evaluates multiple options for achieving our GHG and carbon neutrality targets, as well as the public health benefits and economic impacts associated with each.[69]

Mobile Sources

AB 1493 Vehicular Emissions: Prior to the U.S. EPA and NHTSA joint rulemaking in 2012, Governor Schwarzenegger signed Assembly Bill AB 1493 (2002). AB 1493 requires that CARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the state."[70] CARB originally approved regulations to reduce GHGs from passenger vehicles in September 2004, with the regulations to take effect in 2009 (see amendments to CCR Title 13 Sections 1900 and 1961, and the adoption of CCR Title 13 Section 1961.1 (13 CCR 1961.1)). California's first request to the U.S. EPA to implement GHG standards for passenger vehicles was made in December 2005 and subsequently denied by the U.S. EPA in March 2008. The U.S. EPA then granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles on June 30, 2009. On April 1, 2010, CARB filed amended regulations for passenger vehicles as part of California's commitment toward the national program to reduce new passenger vehicle GHGs from 2012 through 2016. In 2012, CARB approved the Low-Emission Vehicle (LEV) III regulations which include increasingly stringent emission standards for both criteria pollutants and greenhouse gases for new passenger vehicles of manufacture years 2017 through 2025.[71]

[69] CARB 2022, Draft 2022 Scoping Plan Update, May 10, 2022, Executive Summary, https://ww2.arb.ca.gov/sites/default/files/2022-05/2022-draft-sp.pdf, accessed on September 19, 2024.

[70] California Legislative Information, AB-1493 Vehicular Emissions: Greenhouse Gases, https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200120020AB1493, accessed on September 19, 2024..

[71] CARB, Low-Emission Vehicle Greenhouse Gas Program, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/lev-program/low-emission-vehicle-greenhouse-gas, accessed on September 19, 2024.

Low Carbon Fuel Standard (LCFS): In the 2008 Scoping Plan, CARB identified the LCFS as one of the nine discrete early action GHG reduction measures. The LCFS is designed to decrease the carbon intensity of California's transportation fuel pool and provide an increasing range of low-carbon and renewable alternatives, which reduce petroleum dependency and achieve air quality benefits. CARB approved the LCFS regulation in 2009 and began implementation on January 1, 2011 and has been amended several times since adoption. In 2018, CARB approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero-emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector. The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. The LCFS standards are expressed in terms of the "carbon intensity" of gasoline and diesel fuel and their respective substitutes. The program is based on the principle that each fuel has lifecycle greenhouse gas emissions that include CO_2, CH_4, N_2O, and other GHG contributors. This lifecycle assessment examines the GHG emissions associated with the production, transportation, and use of a given fuel. The lifecycle assessment includes direct emissions associated with producing, transporting, and using the fuels, as well as significant indirect effects on GHG emissions, such as changes in land use for some biofuels. The carbon intensity scores assessed for each fuel are compared to a declining carbon intensity benchmark for each year. Low carbon fuels below the benchmark generate credits, while fuels above the carbon intensity benchmark generate deficits. Providers of transportation fuels must demonstrate that the mix of fuels they supply for use in California meets the LCFS carbon intensity standards, or benchmarks, for each annual compliance period. A deficit generator meets its compliance obligation by ensuring that the amount of credits it earns or otherwise acquires from another party is equal to, or greater than, the deficits it has incurred.

EO S-1-07: Governor Schwarzenegger signed Executive Order S-1-07 in 2007 which established the transportation sector as the main source of GHG emissions in California. Executive Order S-1-07 proclaims that the transportation sector accounts for over 40 percent of statewide GHG emissions. Executive Order S-1-07 also establishes a goal to reduce the carbon intensity of transportation fuels sold in California by a minimum of 10 percent by 2020. Executive Order S-1-07 established the LCFS and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, CARB, the University of California, and other agencies to develop and propose protocols for measuring the life-cycle carbon intensity of transportation fuels. The analysis supporting development of the protocols was included in the State Alternative Fuels Plan adopted by CEC on December 24, 2007 and was submitted to CARB for consideration as an early action item under AB 32. CARB adopted the LCFS on April 23, 2009.

EO B-16-2012: Executive Order B-16-2012 establishes long-term targets of reaching 1.5 million zero-emission vehicles on California's roadways by 2025 and sets zero-emission vehicle purchasing requirements for state government fleets. Executive Order B-16-2012 also sets a target for 2050 to achieve a reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels. In February 2013, an interagency working group developed the "Zero-Emission Vehicle Action Plan," which identified specific strategies and actions that state agencies needed to take to meet the milestones of this Executive Order. The Zero-Emission Vehicle Action Plan states: "*Zero-Emission Vehicles are crucial to achieving the state's 2050 greenhouse gas goal of 80 percent emission reductions below 1990 levels, as well as meeting federal*

air quality standards. Achieving 1.5 million Zero-Emission Vehicles by 2025 is essential to advance the market and put the state on a path to meet these requirements." The 2013 ZEV Action Plan was later updated in 2016 and 2018 to reflect the significant progress in ZEV market and reaffirm California's commitment to ZEVs.

EO N-79-20: On September 23, 2020, Governor Newsom signed Executive Order N-79-20 which included the following goals: 1) 100 percent of in-state sales of new passenger cars and trucks transition to zero-emission vehicles by 2035; 2) 100 percent of drayage trucks transition to zero-emission vehicles by 2035; 3) 100 percent of medium- and heavy-duty vehicles transition to zero-emission vehicles by 2045 for all operations in California, where feasible; and 4) 100 percent of off-road vehicles and equipment to transition to zero-emission vehicles and equipment by 2035, where feasible.

SB 44: The California Legislature passed SB 44, acknowledging the ongoing need to evaluate opportunities for mobile source emissions reductions and requires CARB to update the 2016 Mobile Source Strategy by January 1, 2021, and every five years thereafter. Specifically, SB 44 requires CARB to update the 2016 Mobile Source Strategy to include a comprehensive strategy for the deployment of medium- and heavy-duty vehicles for meeting air quality standards and reducing GHG emissions. It also directs CARB to set reasonable and achievable goals for reducing emissions by 2030 and 2050 from medium- and heavy-duty vehicles that are consistent with the California's overall goals and maximizes the reduction of criteria air pollutants.

SB 375: SB 375, signed into law in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. As part of the alignment, SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) which prescribes land use allocation in that MPO's Regional Transportation Plan (RTP). CARB, in consultation with MPOs, is required to provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned GHG emission reduction targets. If MPOs do not meet the GHG reduction targets, transportation projects located in the MPO boundaries would not be eligible for funding programmed after January 1, 2012.
CARB appointed the Regional Targets Advisory Committee (RTAC), as required under SB 375, on January 23, 2009. The RTAC's charge was to advise CARB on the factors to be considered and methodologies to be used for establishing regional targets. The RTAC provided its recommendation to CARB on September 29, 2009. CARB was required to adopt final targets by September 30, 2010.[72]

CARB is required to update the targets for the MPOs every eight years. CARB adopted revised SB 375 targets for the MPOs in March 2018.[73,74] The updated targets became effective on October 1, 2018. The targets consider the need to further reduce VMT, as identified in the 2017 Scoping

[72] California Air Resources Board 2010, August. Staff Report Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375.
[73] California Air Resources Board, 2018, SB 375 Regional Greenhouse Gas Emissions Reduction Targets https://ww2.arb.ca.gov/sites/default/files/2020-06/SB375_Final_Targets_2018.pdf, accessed on September 19, 2024.
[74] California Air Resources Board, 2018, Updated Final Staff Report: Proposed Update to the SB 375 Greenhouse Gas Emissions Reduction Targets, https://ww2.arb.ca.gov/sites/default/files/2020-06/SB375_Updated_Final_Target_Staff_Report_2018.pdf, accessed on September 19, 2024.

Plan Update (for SB 32), while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005; this excludes reductions anticipated from implementation of state technology and fuels strategies, and any potential future state strategies, such as statewide road user pricing. The targets also call for greater per-capita GHG emission reductions from SB 375 than what were previously in place, which for 2035 translate into targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCS to achieve the SB 375 targets. For the next round of SCS updates, CARB's updated targets for the SCAG region are an eight percent per capita GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent).[75] CARB adopted the updated targets and methodology on March 22, 2018. All SCSs adopted after October 1, 2018, are subject to these revised targets.

SCAG's Regional Transportation Plan / Sustainable Communities Strategy: SB 375 requires each MPO to prepare a sustainable communities strategy in its regional transportation plan. SCAG released the draft 2020-2045 RTP/SCS (Connect SoCal) on November 7, 2019. On September 3, 2020, SCAG's Regional Council unanimously voted to approve and fully adopt the Connect SoCal Plan.[76] In general, the SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled from automobiles and light duty trucks and thereby reduce GHG emissions from these sources.

Connect SoCal focuses on the continued efforts of the previous RTP/SCSs to integrate transportation and land uses strategies in development of the SCAG region through horizon year 2045. Connect SoCal forecasts that the SCAG region will meet its GHG per capita reduction targets of eight percent by 2020 and 19 percent by 2035. Additionally, Connect SoCal also forecasts that implementation of the plan will reduce VMT per capita in year 2045 by 4.1 percent compared to baseline conditions for that year. Connect SoCal includes a "Core Vision" that centers on maintaining and better managing the transportation network for moving people and goods while expanding mobility choices by locating housing, jobs, and transit closer together, and increasing investments in transit and complete streets. SCAG recently prepared its 2024-2050 RTP/SCS (Connect SoCal 2024) for the region, which expanded on the policies, strategies and projects established in Connect SoCal 2020; and the plan was adopted in April 2024.

Adaptation

EO S-13-08: Governor Schwarzenegger signed Executive Order S-13-08 on November 14, 2008 which directed California to develop methods for adapting to climate change through preparation of a statewide plan. Executive Order S-13-08 directed OPR, in cooperation with the Resources Agency, to provide land use planning guidance related to sea level rise and other climate change impacts by May 30, 2009. Executive Order S-13-08 also directed the Resources Agency to develop a state Climate Adaptation Strategy by June 30, 2009 and to convene an independent panel to

[75] California Air Resources Board. 2018, February. Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets. https://ww2.arb.ca.gov/sites/default/files/2020-06/SB375_Updated_Final_Target_Staff_Report_2018.pdf, accessed on June 10, 2022.

[76] Southern California Association of Governments (SCAG). 2020, September. Adopted Final Connect SoCal. https://scag.ca.gov/read-plan-adopted-final-plan, accessed on September 19, 2024.

complete the first California Sea Level Rise Assessment Report. The assessment report was required to be completed by December 1, 2010 and required to meet the following four criteria:

1. Project the relative sea level rise specific to California by considering issues such as coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates;
2. Identify the range of uncertainty in selected sea level rise projections;
3. Synthesize existing information on projected sea level rise impacts to state infrastructure (e.g., roads, public facilities, beaches), natural areas, and coastal and marine ecosystems; and
4. Discuss future research needs relating to sea level rise in California.

Energy

SB 1078, SB 107 and EO S-14-08: SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date from 2017 to 2010. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Portfolio Standard from 20 percent by 2010 to 33 percent renewable power by 2020.

SB X1-2: SB X1-2 was signed by Governor Brown in April 2011. SB X1-2 created a new Renewables Portfolio Standard (RPS), which pre-empted CARB's 33 percent Renewable Electricity Standard. The new RPS applies to all electricity retailers in the state including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. These entities must adopt the new RPS goals of 20 percent of retails sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement by the end of 2020.

SB 1368: SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 required the CPUC to establish a GHG emission performance standard for baseload generation from investor-owned utilities (IOUs) by February 1, 2007. The California Energy Commission (CEC) was also required to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural gas fired power plant. The legislation further required that all electricity provided to California, including imported electricity, must be generated from power plants that meet the standards set by the Public Utilities Commission (PUC) and CEC.

SB 350: Senate Bill 350 (de León) was signed into law September 2015 and establishes tiered increases to the RPS with 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

SB 100: On September 10, 2018, Governor Brown signed SB 100. Under SB 100, the RPS for public-owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. Additionally, SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve

all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

EO B-55-18: Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directed CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2eq from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

AB 2127: This bill was approved in 2018 and requires the California Energy Commission (CEC), working with CARB and the California Public Utilities Commission (CPUC), to prepare and biennially update a statewide assessment of the electric vehicle charging infrastructure needed to support the levels of electric vehicle adoption required for the state to meet its goals of putting at least five million zero-emission vehicles on California roads by 2030 and of reducing emissions of greenhouse gases to 40 percent below 1990 levels by 2030. The bill requires the CEC to regularly seek data and input from stakeholders relating to electric vehicle charging infrastructure.[77]

California Building Code – Building Energy Efficiency Standards: Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The CEC updates building energy efficiency standards in Title 24 (Parts 6 and 11) every three years to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018 and went into effect on January 1, 2020. The 2019 standards move toward cutting energy use in new homes by more than 50 percent and require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements.[78]

In addition, on August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards which went into effect on January 1, 2023. The 2022 Energy Code encourages efficient electric heat pumps, establishes electric-ready requirements for new homes, expands solar photovoltaic and battery storage standards, strengthens ventilation standards, and more. Buildings whose permit applications are submitted on or after January 1, 2023, must comply with the 2022 Energy Code.

[77] California Legislative Information, September 14, 2018, AB-2127 Electric Vehicle Charging Infrastructure: Assessment, https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB2127, accessed on September 19, 2024.

[78] California Energy Commission (CEC). 2018. News Release: Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation. https://www.nytimes.com/2018/05/09/business/energy-environment/california-solar-power.html#:~:text=May%209%2C%202018,watching%20to%20see%20what%20happens.%E2%80%9D, accessed on September 19, 2024.

California Building Code – CALGreen: On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[79] The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011 and were last updated in 2019. The 2019 CALGreen standards became effective January 1, 2020. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

Short-Lived Climate Pollutants

SB 1383: On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and methane. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 required CARB, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030, as specified. On March 14, 2017, CARB adopted the "Final Proposed Short-Lived Climate Pollutant Reduction Strategy," which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s despite the tripling of diesel fuel use. In-use on-road rules are expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

Ozone Depleting Substances (ODSs)

Refrigerant Management Program: As part of implementing AB 32, CARB also adopted a Refrigerant Management Program in 2009. The Refrigerant Management Program is designed to reduce GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal.

HFC Emission Reduction Measures for Mobile Air Conditioning – Regulation for Small Containers of Automotive Refrigerant: The Regulation for Small Containers of Automotive Refrigerant applies to the sale, use, and disposal of small containers of automotive refrigerant with a GWP greater than 150. Emission reductions are achieved through implementation of four requirements: 1) use of a self-sealing valve on the container; 2) improved labeling instructions; 3) a deposit and recycling program for small containers; and 4) an education program that emphasizes best practices for vehicle recharging. This regulation went into effect on January 1, 2010 with a one-year sell-through period for containers manufactured before January 1, 2010. The target recycle rate is initially set at 90 percent and rose to 95 percent beginning January 1, 2012.

[79] The green building standards became mandatory in the 2010 edition of the code.

3.2.2.2.3 South Coast AQMD

The South Coast AQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the South Coast AQMD to consider global impacts in rulemaking and in drafting revisions to the AQMP. In March 1992, the South Coast AQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include support of the adoption of a California GHG emission reduction goal.

Basin GHG Policy and Inventory: The South Coast AQMD has established a policy, adopted by the South Coast AQMD Governing Board at its September 5, 2008 meeting, to actively seek opportunities to reduce emissions of criteria, toxic, and climate change pollutants. The policy includes the intent to assist businesses and local governments implementing climate change measures, decrease the agency's carbon footprint, and provide climate change information to the public.

Policy on Global Warming and Stratospheric Ozone Depletion: The South Coast AQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy targeted a transition away from CFCs as an industrial refrigerant and propellant in aerosol cans. In March 1992, the South Coast AQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives for ODSs:

- Phase out the use and corresponding emissions of CFCs, methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995.
- Phase out the large quantity use and corresponding emissions of HCFCs by the year 2000.
- Develop recycling regulations for HCFCs.
- Develop an emissions inventory and control strategy for methyl bromide.

3.3 ENERGY

This section had been updated from what was originally provided in the Final Program EIR for the 2022 AQMP to incorporate new data.

The goal of the 2022 AQMP is to address the federal 2015 eight-hour ozone standard, to satisfy the planning requirements of the federal CAA by identifying ways to reduce emissions from existing emission sources and promoting the use of the cleanest available new emission sources and technologies. Several of the control measures focus on maximizing the implementation of existing zero-NOx emission and low NOx technologies, recognizing that new zero emissions and ultra-low NOx technologies may still need to be invented or made commercially available in order to achieve the necessary reductions to attain the 70 ppb ozone standard.

In particular, the 2022 AQMP is comprised of an assortment of control measures that are designed to accelerate the replacement of high-emitting mobile sources with low NOx and zero-NOx emission mobile sources; encourage the use of lower-emitting alternative fuels; affect stationary sources at existing and new commercial/industrial facilities and residential developments; develop incentives to remove/replace higher emitting equipment; establish greater control of industrial stationary sources; control indirect sources of emissions; improve energy efficiency; improve detection and procedures; and establish educational and outreach programs.

While the control measures are intended to improve overall air quality in the region, direct or indirect energy impacts associated with their implementation may occur such as increasing energy demand in the region by encouraging the use of more electricity, natural gas, and cleaner, alternative fuels such as hydrogen.

The Initial Study for the 2022 AQMP control measures identified the following as potentially contributing to significant adverse energy impacts: 1) increase in regional energy demand, even after implementing energy efficiency and energy conservation measures, which may result in the need for new or substantially altered power or natural gas utility systems, create significant effects on peak and base period demands for electricity and other forms of energy; 2) increase the use of natural gas and alternative fuels; and 3) consume energy (e.g., gasoline, diesel, and electricity) during construction activities.

This subchapter describes the existing setting related to energy production and demand within California and South Coast AQMD's jurisdiction.

3.3.1 ENERGY REGULATIONS

3.3.1.1 Federal Regulations

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation (U.S. DOT), United States Department of Energy (U.S. DOE), and United States Environmental Protection Agency (U.S. EPA) are three agencies with substantial influence over energy policies and programs. Generally, federal agencies influence transportation energy consumption through: 1) establishing and enforcing fuel economy standards for automobiles and light trucks; 2) funding energy-related research and development projects; and 3) funding transportation infrastructure projects.

Energy Policy and Conservation Act, and CAFE Standards: The Energy Policy and Conservation Act (EPCA) of 1975 established nationwide fuel economy standards in order to conserve oil. Pursuant to this Act, the National Highway Traffic and Safety Administration, part of the U.S. DOT, is responsible for revising existing fuel economy standards and establishing new vehicle fuel economy standards. The Corporate Average Fuel Economy (CAFE) program was established to determine vehicle manufacturer compliance with the government's fuel economy standards. Compliance with CAFE standards are determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. The U.S. EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. The CAFE values are a weighted average of the U.S. EPA's city and highway fuel economy test results. Based on information generated under the CAFE program, the U.S. DOT is authorized to assess penalties for noncompliance. CAFE standards have been established for each model year for passenger cars and light trucks which include fuel economy standards in terms of minimum miles per gallon of gasoline.

Energy Policy Act of 1992 (EPACT92): EPACT92 aims to reduce United States dependence on petroleum and improve air quality by addressing all aspects of energy supply and demand, including alternative fuels, renewable energy, and energy efficiency. EPACT92 established regulations requiring certain federal, state, and alternative fuel provider fleets to build an inventory of alternative fuel vehicles. "Alternative fuels" were defined as: methanol, ethanol, and other alcohols; blends of 85 percent or more of alcohol with gasoline (E85); natural gas and liquid fuels domestically produced from natural gas; propane; hydrogen; electricity; biodiesel (B100); coal-derived liquid fuels; fuels, other than alcohol, derived from biological materials; and P-Series fuels, which were added to the definition in 1999. EPACT92 was amended several times in the Energy Conservation and Reauthorization Act of 1998 and via the Energy Policy Act in 2005, which emphasized alternative fuel use and infrastructure development.

Energy Policy Act of 2005: The Energy Policy Act of 2005 addresses energy efficiency; renewable energy requirements; oil, natural gas, and coal; alternative-fuel use; tribal energy, nuclear security; vehicles and vehicle fuels, hydropower and geothermal energy, and climate change technology. The Act provides revised annual energy reduction goals (two percent per year beginning in 2006), revised renewable energy purchase goals, federal procurement of Energy Star or Federal Energy Management Program-designated products, federal green building standards, and fuel cell vehicle and hydrogen energy system research and demonstration.

Clean Air Act: The federal Clean Air Act (CAA) Section 211(o), as amended by the Energy Policy Act of 2005, requires the Administrator of the U.S. EPA to annually determine a renewable fuel standard (RFS), which is applicable to refiners, importers, and certain blenders of gasoline, and publish the standard in the Federal Register by November 30 of each year. On the basis of this standard, each obligated party determines that the volume of renewable fuel it must ensure is consumed as motor vehicle fuel. This standard is calculated as a percentage, by dividing the amount of renewable fuel that the CAA requires to be blended into gasoline for a given year by the amount of gasoline expected to be used during that year, including certain adjustments specified by the CAA.

Energy Independence and Security Act of 2007 (EISA): The EISA of 2007 was signed into law on December 19, 2007. The objectives of the Act are to move the United States toward greater energy independence and security, increase the production of clean renewable fuels, protect

consumers, increase the efficiency of products, buildings, and vehicles, promote greenhouse gas research, improve the energy efficiency of the Federal government, and improve vehicle fuel economy.

The renewable fuel standard in EISA requires transportation fuel sold in the United States to contain a minimum 36 billion gallons of ethanol per year by 2022, with corn-based ethanol limited to 15 billion gallons. The CAFE standard for light duty vehicles is 35 miles per gallon by 2020. EISA also specifies that vehicle attribute-based standards are to be developed separately for cars and light trucks. EISA creates a CAFE credit and transfer program among manufacturers and across a manufacturer's fleet. It allowed an extension through 2019 of the CAFE credits specified under the Alternative Motor Fuels Act. It established: 1) appliance energy efficiency standards for boilers, dehumidifiers, dishwashers, clothes washers, external power supplies, commercial walk-in coolers and freezers; 2) energy efficiency standards for federal buildings; 3) lighting energy efficiency standards for general service incandescent lighting in 2012; and 4) standards for industrial electric motor efficiency.

Other Federal Energy Acts: The American Recovery and Reinvestment Act of 2009 appropriated nearly $800 billion towards the creation of jobs, economic growth, tax relief, improvements in education and healthcare, infrastructure modernization, and investments in energy independence and renewable energy technologies. The Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010, the American Taxpayer Relief Act of 2012, the Tax Increase Prevention Act of 2014, the Consolidated Appropriations Act of 2016, the Further Consolidated Appropriations Act of 2020, and the Consolidated Appropriations Act of 2021 extended and reinstated a number of alternative fuel tax credits.

Moving Ahead for Progress in the 21st Century (MAP-21): MAP-21 replaces the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) as the nation's surface transportation program and extended the provisions for fiscal year (FY) 2012 with new provisions for FY 2013. MAP-21 funds surface transportation programs, and is intended to create a streamlined, performance-based, and multimodal program to address challenges facing the United States transportation system. These challenges include improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery. MAP-21 addresses economic growth, accessibility, social equity, energy security, and public health by setting transparent performance benchmarks.

National Program for Medium- and Heavy-Duty Engines and Vehicles: The U.S. EPA adopted a national program for medium- and heavy-duty engines and vehicles on August 9, 2011 which established the first fuel efficiency requirements for medium- and heavy-duty vehicles beginning with the model year 2014. In addition, the U.S. DOT's National Highway Traffic Safety Administration finalized standards for medium- and heavy-duty vehicles that would improve fuel efficiency and cut carbon pollution to reduce the impacts of climate change, while bolstering energy security and spurring manufacturing innovation.

U.S. EPA's Final Rule for Phase 2 Greenhouse Gas Emission Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles promotes cleaner, more fuel-efficient trucks by encouraging the development and deployment of new and advanced cost-effective technologies. The vehicle and engine performance standards would cover model years 2018-2027 for certain trailers and model years 2021-2027 for semi-trucks, large pickup trucks,

vans, and all types and sizes of buses and work trucks. The final standards are expected to reduce carbon dioxide emissions by approximately 1.1 billion metric tons, save vehicle owners fuel costs of about $170 billion, and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program.

3.3.1.2 State Regulations

On the state level, the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) are two agencies with authority over different aspects of energy. The CPUC regulates privately-owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. The CEC collects and analyzes energy-related data; forecasts future energy needs; promotes energy efficient and conservation by setting appliance and building energy efficiency standards; supports energy research; develops renewable energy resources, promotes alternative and renewable transportation fuels and technologies; certifies thermal power plants 50 megawatts and larger; and plans for and directs state response to energy emergencies. Some of the more relevant federal and state transportation-energy-related laws and plans are discussed in the following subsections.

California Building Energy Efficiency Standards (Title 24): As the primary energy policy and planning agency, the CEC adopts standards every three years to cost-effectively increase energy efficiency and lower the carbon footprint of buildings. California established statewide building energy efficiency standards following legislative action. The 2019 Building Efficiency Standards are currently in place and became effective on January 1, 2020 for construction of new residential and non-residential buildings, and improved upon the 2016 Energy Standards.

The 2022 Energy Code was adopted in August 2021 and has become effective on January 1, 2023 for new buildings, additions, and alterations, replacing the 2019 Standards. The 2022 Energy Code focuses on four key areas in newly constructed homes and businesses: 1) encourages electric heat pump technology for space and water heating; 2) establishes electric requirements for single-family homes to position owners to use electric heating, cooking, and electric vehicle charging options; 3) expands solar photovoltaic system and battery storage standards to make clean energy available onsite; and 4) strengthens ventilation standards to improve indoor air quality.

California Green (CALGreen) Building Standards Code: CALGreen is a statewide regulatory code for all residential, commercial, hospital, and school buildings and includes both mandatory and voluntary components that can be adopted by local jurisdictions. The code was first adopted in January 2010 and is updated every three years. CALGreen is intended to encourage more sustainable and environmentally friendly building practices, require low emitting substances that do not cause harm to the environment, conserve natural resources, and promote the use of energy-efficient materials and equipment. The code covers sustainable aspects including site selection, stormwater control, water efficiency of fixtures and appliances, electric vehicle charging stations, VOC limits, moisture control, construction waste recycling, indoor air quality, and environmental comfort as part of the mandatory measures. CALGreen became mandatory on January 1, 2011, for new residential and commercial construction, and the 2019 Green Building Standards Code contain the most recent requirements.

AB 1007 – Alternative Fuels Plan: The Alternative Fuels Plan, adopted in 2007 by the State Energy Resources Conservation and Development Commission and CARB as required under state law AB 1007 (Pavley 2005), recommended that the governor set targets on a gasoline gallon

equivalent basis for use of ten different alternative motor fuels in the on-road and off-road sectors by nine percent by 2012, 11 percent by 2017, and 26 percent by 2022. The final Commission report was adopted on December 5, 2007.

AB 2514 – Energy Storage Systems: AB 2514 (Skinner 2010) was amended by AB 2227 (Bradford 2012) to encourage California to incorporate energy storage into the electricity grid. The law required the CPUC to adopt an energy storage system procurement target, if determined to be appropriate, to be achieved by each load-serving entity by December 31, 2015, and a second target to be achieved by December 31, 2020. The law required the governing board of a local publicly-owned electric utility to adopt an energy storage system procurement target, if determined to be appropriate, to be achieved by the utility by October 1, 2014. The law required each load-serving entity and local publicly-owned electric utility to report certain information to the CPUC, for a load-serving entity, or to the CEC, for a local publicly-owned electric utility.

Executive Order B-16-2012: Executive Order B-16-2012 establishes long-term targets of reaching 1.5 million zero-emission vehicles on California's roadways by 2025 and sets zero-emission vehicle purchasing requirements for State Government fleets. Executive Order B-16-2012 also sets a target for 2050 of a reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels. The 2018 Zero Emission Vehicle Action Plan is the most recent plan that outlines the steps that need to be taken to realize these goals.

AB 1493 – Vehicle Climate Change Standards: The Advanced Clean Cars Program under AB 1493 (referred to as Pavley I), requires CARB to develop and adopt standards for vehicle manufacturers to reduce GHG emissions coming from passenger vehicles and light-duty trucks at a "maximum feasible and cost-effective reduction" by January 1, 2005. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" will cover 2017 to 2025. Fleet average emission standards would reach 22 percent reduction by 2012 and 30 percent by 2016.

In January 2012, CARB adopted the Advanced Clean Cars program to extend AB 1493 through model years 2017 to 2025. This program will promote all types of clean fuel technologies such as plug-in hybrids, battery electric vehicles, compressed natural gas (CNG) vehicles, and hydrogen powered vehicles while reducing smog.

Renewables Portfolio Standard: California's renewables portfolio standard (RPS) required retail sellers of electricity to increase their procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of their retail sales are procured from eligible renewable energy resources by 2017. If a seller fell short in a given year, they were required to procure more renewables in succeeding years to make up the shortfall. Once a retail seller reached 20 percent, they need not increase their procurement in succeeding years. RPS was enacted via SB 1078 (Sher 2002), signed in September 2002. The CEC and the CPUC jointly implemented the standard. In 2006, RPS was modified by SB 107 (Simitan 2006), to require retail sellers of electricity to reach the 20 percent renewables goal by 2010. In 2011, RPS was further modified by SB 2 (Atkins 2017) to require retailers to reach 33 percent renewable energy by 2020.

On September 10, 2018, Governor Brown signed SB 100. Under SB 100, the RPS for public-owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. Additionally, SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the SB 100 established an overall state policy that eligible

renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under SB 100, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

AB 327 revised a number of regulations associated with the California Renewables Portfolio Standard Program and how it is implemented by the Public Utilities Commission. Such modifications included revisions to allow higher rates to be charged for electricity and allowing the Public Utilities Commission to procure additional quantities of eligible renewable energy resources to achieve the targets established by the program. Previous laws prohibited the commission from increasing rates and requiring the procurement of eligible renewable energy resources in excess of specified quantities.

California SB 350: SB 350 (de León 2015) was approved on October 7, 2015. The promulgation of SB 350: 1) increased the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030; 2) required the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; 3) provided for the evolution of the Independent System Operator (ISO) into a regional organization; and 4) required the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. An additional objective of SB 350 was to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

Executive Order B-18-12: Executive Order B-18-12 was signed on April 25, 2012, directing state agencies to reduce their grid-based energy purchases by at least 20 percent by 2018, as compared to a 2003 baseline. Pursuant to Executive Order B-18-12, all new state buildings and major renovations beginning design after 2025 shall be constructed as Zero Net Energy facilities with an interim target for 50 percent of new facilities beginning design after 2020 to be Zero Net Energy. State agencies shall also take measures toward achieving Zero Net Energy for 50 percent of the square footage of existing state-owned building areas by 2025 and reduce water use by 20 percent by 2020. Additionally, the following measures relevant to energy are required:

- Any proposed new or major renovation of state buildings larger than 10,000 square feet shall use clean, on-site power generation, such as solar photovoltaic, solar thermal and wind power generation, and clean back-up power supplies, if economically feasible;
- New or major renovated state buildings and build-to-suit leases larger than 10,000 square feet shall obtain Leadership in Energy and Environmental Design (LEED) "Silver" certification or higher, using the applicable version of LEED;
- New and existing buildings shall incorporate building commissioning to facilitate improved and efficient building operation; and,
- State agencies shall identify and pursue opportunities to provide electric vehicle charging stations, and accommodate future charging infrastructure demand, at employee parking facilities in new and existing buildings.

3.3.1.3 Local Regulations

Clean Cities Programs: The U.S. DOE Clean Cities Program promotes voluntary, locally based government/industry partnerships for the purpose of expanding the use of alternatives to gasoline and diesel fuel by accelerating the deployment of alternative fuel vehicles and building a local alternative fuel vehicle refueling infrastructure. The mission of the Clean Cities Program is to advance the nation's energy security by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption. Clean Cities carries out this mission through a network of more than 75 volunteer coalitions, which develops public/private partnerships to promote alternative fuels and vehicles, fuel blends, fuel economy, hybrid vehicles, and idle reduction.

Local Sustainability Programs: In addition to the above, a number of cities have development sustainability programs, some of which are aimed at reducing energy use. For example, the City of Los Angeles has developed a Sustainability Plan that requires that 55 percent of its energy requirements be renewable by 2025, 80 percent by 2036, and 100 percent by 2045.[80]

3.3.2 ENERGY TRENDS AND SETTING

In 2022, 69 percent of the electricity used within California came from in-state sources, while 31 percent was imported into the state. In 2022, the electricity generated in-state totaled approximately 290,000 gigawatt hours (GWh) while imported electricity totaled approximately 90,000 GWh, with 40,000 GWh coming from the Pacific Northwest, and 50,000 GWh coming from the Southwest.[81]

3.3.2.1 Electricity

Power plants in California provided approximately 69 percent of the total in-state electricity demand in 2022 and of this amount, 36 percent came from renewable sources such as biomass, geothermal, small hydro, solar, and wind. In 2022, 61 percent of retail electricity was provided by non-fossil fuel sources, distributed as follows:

- 39.4 percent renewables: solar, wind, geothermal, biomass, and small hydroelectric;
- 10.8 percent large hydroelectric; and
- 10.7 percent nuclear.

In addition, the CPUC has ordered 18,000 MW of new clean resources to come online by 2028 as California moves towards its goal of 100 percent clean electricity by 2045.[82]

Local electricity distribution service is provided to customers within South Coast AQMD's jurisdiction by both Investor-Owned Utilities (IOUs) and Publicly-Owned Utilities (POUs). The two IOUs operating in the region are Southern California Edison (SCE) and San Diego Gas and Electric (SDG&E). SCE is the largest electricity utility within South Coast AQMD's jurisdiction with a service area that covers 50,000 square miles and service to more than 15 million people.

[80] City of Los Angeles, L.A.'s Green New Deal, Sustainability Plan 2019, https://plan.mayor.lacity.gov/.
[81] California Energy Commission-2022 Total System Electric Generation, https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2022-total-system-electric-generation
[82] California Energy Commission 2024, https://content.govdelivery.com/accounts/CNRA/bulletins/39b92e0

SCE provides service to all or nearly all of Orange and San Bernardino Counties, and most of Los Angeles and Riverside Counties. The SCE territory also includes areas outside of South Coast AQMD's jurisdiction region including Ventura, Inyo, Tulare, and Mono County as well as portions of Kern, Fresno, and Tuolumne Counties. In addition, portions of San Bernardino and Riverside Counties are outside the jurisdiction of the South Coast AQMD. SDG&E provides local distribution service to the southern portion of Orange County.[83]

Also in the region, the Southern California Public Power Authority (SCPPA) members consist of the municipal utilities of Anaheim, Azusa, Banning, Burbank, Cerritos, Colton, Glendale, Los Angeles, Pasadena, Riverside, and Vernon, and the Imperial Irrigation District. Together, these municipal utilities deliver electricity to over two million customers that spans an area of 7,000 square miles and has a total population that exceeds five million. The Los Angeles Department of Water and Power (LADWP) is the largest of the publicly-owned electric utility within South Coast AQMD's jurisdiction, serving a population of four million residents over a 473 square mile area.[84]

Table 3-9 shows the amount of electricity delivered in 2020 to residential and non-residential entities in the four counties located within the South Coast AQMD's jurisdiction (e.g., Los Angeles, Orange, Riverside and San Bernardino Counties). Table 3-9 was used in the Final Program EIR for 2022 AQMP to quantify the electricity use in South Coast AQMD.

Table 3-9
2020 Electricity Use by County within South Coast AQMD's Jurisdiction (GWh)

Sector	Los Angeles	Orange	Riverside	San Bernardino	Total
Residential	22,913	7,765	8,843	6,103	45,624
Non-Residential	42,737	11,968	8,015	9,866	72,586
Total	65,650	19,733	16,858	15,969	**118,210**

Source: CEC, 2022a
Note: The data presented is for all of Riverside and San Bernardino Counties, not just those portions of the counties within South Coast AQMD jurisdiction.

Table 3-10 shows the updated amount of electricity delivered in 2022 to residential and non-residential entities in the four counties located within the South Coast AQMD's jurisdiction (e.g., Los Angeles, Orange, Riverside and San Bernardino Counties).

Table 3-10
2022 Electricity Use by County within South Coast AQMD's Jurisdiction (GWh)

Sector	Los Angeles	Orange	Riverside	San Bernardino	Total
Residential	23,256	7,830	9,061	6,302	46,449
Non-Residential	45,230	12,414	8,720	10,328	76,692
Total	68,486	20,244	17,781	16,630	**123,141**

Source: CEC, 2024 https://ecdms.energy.ca.gov/elecbycounty.aspx
Note: The data presented is for all of Riverside and San Bernardino Counties, not just those portions of the counties within South Coast AQMD jurisdiction.

[83] Southern California Edison, https://www.sce.com/about-us/who-we-are/leadership/our-service-territory
[84] Southern California Public Power Authority, Available at: http://www.scppa.org/page/About-Us

3.3.2.2 Natural Gas

Gas supply to Southern California, which encompasses an area larger than South Coast AQMD's jurisdiction, includes sources from California (onshore and offshore), the Southwestern United States, the Rocky Mountains, and Canada, with a number of interstate pipelines that currently transport natural gas. The Southwestern U.S. sources supply most of natural gas demand to South Coast AQMD's jurisdiction (about 37 percent in 2023), followed by the Rocky Mountains (approximately 24 percent in 2023), with most of the remainder from California sources. There are numerous pipelines that transport natural gas into California from the out-of-state sources of natural gas. In addition to traditional sources of gas supply, multiple renewable gas interconnection projects in California are beginning to come online. [California Gas and Electric Utilities, 2024].

Southern California Gas Company (SoCalGas), a gas-only utility, is the primary distributor of natural gas service in South Coast AQMD's jurisdiction, except for the southern portion of Orange County, and portions of San Bernardino County. The SoCalGas distribution network is composed of approximately 51,070 miles of gas mains across a 20,000 square mile service territory. SDG&E provides natural gas service to the southern portion of Orange County. In San Bernardino County, Southwest Gas Corporation provides natural gas service to Big Bear, Victorville, Barstow, and Needles though the latter three cities are outside of South Coast AQMD's jurisdiction. LADWP utilizes natural gas for electricity generation in the City of Los Angeles (California Gas Report 2024). The Long Beach Energy Resources Department provides natural gas service to approximately 500,000 residents and businesses in the cities of Long Beach and Signal Hill, in addition to portions of Los Alamitos, Bellflower, Compton, and other portions of Los Angeles County through over 1,800 miles of gas pipelines.[85] Finally, the City of Vernon provides municipal gas service to its electric power plant which provides electricity within the City of Vernon.

Table 3-11 provides the estimated use of natural gas in California by residential, commercial, and industrial sectors. In 2024, approximately 41 percent of the natural gas consumed in California was for electricity generation purposes, 22 percent was for residential uses, and 18 percent for residential uses.

Table 3-11
California Natural Gas Demand 2024
(Million Cubic Feet per Day - MMcf/day)

Sector	Utility	Non-Utility	Total
Residential	1,063	--	1,063
Commercial	472	--	472
Natural Gas Vehicles	59	--	59
Industrial	894	--	894
Electricity Generation	1,567	455	2,022
Enhanced Oil Recovery (EOR) Streaming	24	56	80
Wholesale / International + Exchange	269	--	269
Company Use and Unaccounted-for	69	--	69
EOR Cogeneration / Industrial	--	3	3
Total	**4,417**	**514**	**4,931**

Source: 2024 California Gas Report - https://www.socalgas.com/sites/default/files/2024-08/2024-California-Gas-Report-Final.pdf

[85] Long Beach Energy Resources Department, https://www.longbeach.gov/energyresources/. Accessed September 12, 2024,

Table 3-12 provides the estimated use of natural gas by counties. Located in the South Coast Air Basin, Los Angeles County is the largest consumer of natural gas in South Coast AQMD's jurisdiction, accounting for approximately 64 percent of the natural gas used. Residential uses consume approximately 46 percent of natural gas, and non-residential uses (industrial, commercial, etc.) consume approximately 54 percent of natural gas use in South Coast AQMD's jurisdiction.

Table 3-12
2022 Natural Gas Use by County within South Coast AQMD's Jurisdiction
(Millions of Therms)

Sector	Los Angeles	Orange	Riverside	San Bernardino	Total
Residential	1,122	351	284	267	2,024
Non-Residential	1,698	221	147	295	2,361
Total	**2,820**	**572**	**431**	**562**	**4,385**

Source: CEC Gas Consumption by County, Available at: https://ecdms.energy.ca.gov/gasbycounty.aspx; Accessed September 9, 2024.
Note: The data presented is for all of Riverside and San Bernardino Counties, not just those portions of the counties within South Coast AQMD jurisdiction.

SoCalGas estimates that total gas demand will decline at an annual rate of 0.7 percent from 2024 to 2040.[86] By comparison, the total gas demand had been projected to decline at an annual rate of 1.5 percent in the 2022 California Gas Report over the same time period. The forecasted deaccelerated decline in throughput demand is being driven by reduced energy efficiency and updated fuel substitution assumptions. Factors that contribute to the overall downward trend are standards created by Title 20 and 24 Codes and Standards and renewable energy goals that impact gas-fired electricity. [California Gas and Utilities Report, 2024]

After closure of the San Onofre Nuclear Generating Station in 2012, California has one operating nuclear power plant, Diablo Canyon. Diablo Canyon in located near San Luis Obispo and can generate approximately 2,160 megawatts of electricity (SCAG 2020). The plant's two units are operating pursuant to a long-term lease extension which allows continued operations through November 2024 for one of the units and August 2025 for the other. Senate Bill 846 required the state to pursue an evaluation assessing the cost, benefits, and possible role of the Diablo Canyon Power Plant in reliability planning efforts. The CEC determined that based on the State's electricity reliability based on forecasted demand and supply, it is prudent for the state to pursue extension of the Diablo Canyon power plant.[87]

3.3.2.3 Renewable Energy

Renewable energy includes geothermal plants, solar, small hydroelectric (under 30 MW), wind, and biomass. In 2022, California produced 96,991 GWh of renewable electricity, 45 percent of

[86] SoCalGas Utility Report. https://www.pge.com/assets/pipeline/docs/library/regulatory/downloads/cgr24.pdf.coredownload.pdf
[87] California Energy Commission, Diablo Canyon, https://www.energy.ca.gov/data-reports/california-energy-planning-library/reliability/diablo-canyon

which was solar, 32 percent wind, 14 percent geothermal, 6 percent biomass, and three percent small hydroelectric.[88]

Geothermal Energy: California contains the largest amount of geothermal electricity generation capacity in the United States. In California 13,462 GWh of electricity was produced by geothermal resources in 2022. The largest concentration of geothermal plants is located north of San Francisco in the Geysers Geothermal Resource Area in Lake and Sonoma Counties.[89]

Solar: Solar electricity production in California falls into two categories: solar thermal, using the concentrated heat of sunlight to heat a fluid to make steam to turn a traditional steam turbine to convert energy to mechanical energy to drive an electric generator making electricity; and solar photovoltaic (PV), the direct conversion of sunlight into electricity. Additionally, the heat from the sun is used in solar thermal systems for hot water in homes and businesses and in heating swimming pools. Most electricity from PV production is not counted into the total electricity production of the utility companies as the solar panels are mounted on individual homes or businesses. Solar thermal facilities are concentrated in the desert areas of the state in the Mojave area. In 2022, solar PV and solar thermal power plants produced 43,906 GWh of energy or 17.8 percent of California's in-state generation portfolio. In California, there are a total of 1.9 million solar projects, with an installed capacity of approximately about 16,996 megawatts.[90]

Hydroelectricity: Hydro facilities in California fall into one of two categories. Facilities smaller than 30 MW capacity are generally considered an eligible renewable energy resource and are referred to as small hydro. These small hydro facilities must be certified for the net MWh to count according to renewable energy portfolio standards. All other hydro facilities are referred to as large hydro and includes projects such as the Folsom Dam, Oroville Dam, and Shasta Dam. In 2022, hydro-produced electricity used by California totaled 29,758 GWh, or 10.36 percent of California's in-state generation portfolio. The amount of hydroelectricity produced varies each year and is largely dependent on snowmelt runoff and rainfall.

Wind Power: In 2022, wind energy generated within California totaled 31,099 GWh or 10.8 percent of California's electricity use[91]. The major wind farms in California, are located in six regions: San Gorgonio, Altamont, East San Diego County, Pacheco, Solano, and Tehachapi passes. The wind farms in the San Gorgonio pass, located in Riverside County, produce electricity to the grid within South Coast AQMD's jurisdiction.

Biomass Electricity: A biomass power plant is the general term for waste-to-energy power plants that burn organic material. They are comprised of four specific types defined by the fuel they burn: Biomass; digester gas (anaerobic digestion); landfill gas; and municipal solid waste. In 2022, biomass-produced electricity in California totaled 6,162 GWh.[92]

[88] California Energy Commission, Estimated Annual RPS-Certified Renewable Energy, https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/clean-energy-serving-california/estimated-annual-rps?utm_medium=email&utm_source=govdelivery

[89] California Energy Commission. California Geothermal Energy. Available online at: https://www.energy.ca.gov/data-reports/california-power-generation-and-power-sources/geothermal-energy, accessed on September 10, 2024

[90] California Energy Commission. California Solar Energy Statistics and Data. Available online at: https://www.californiadgstats.ca.gov/, accessed September 9, 2024.

[91] California Energy Commission. 2022 Total System Electric Generation, https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2022-total-system-electric-generation

[92] Id.

One such facility in Los Angeles County is the Southeast Resource Recovery Facility (SERRF) in Long Beach, California. The facility was operated under a joint powers agreement between the Los Angeles County Sanitation Districts and the City of Los Angeles. Solid waste was sent to the SERRF facility where it was processed (burned) through one of three boilers. The heat generated by burning the refuse converts water flowing through tubes in the boiler to steam. The steam was used to drive the turbine generator producing electricity. The SERRF was shutdown January 31, 2024 and is no longer operating.[93]

Renewable Natural Gas: It is estimated between 70 and 170 billion cubic feet (Bcf) of annual renewable natural gas production is available from anaerobic digestion with potential for an additional 50 to 257 Bcf of annual RNG available from non-combustion gasification (syngas). Studies estimate that anaerobic digestion and gasification are estimated to provide between 148 to 387 Bcf of annual renewable natural gas in California, which would equate to approximately 75 percent of the 2020 residential natural gas demand (California Gas Report, 2024).[94]

3.3.2.4 Transportation Fuels

Petroleum-Based Fuels

In 2023, 13.6 billion gallons of gasoline (non-diesel) were sold in California.[95] In 2023, California reported over 32 million registered on-road vehicles, including light-duty cars (78.9 percent), motorcycles (1.6 percent), light-duty trucks (16 percent), and medium- and heavy-duty trucks (1.6). In 2023, approximately 37,218 gallons of gasoline were sold daily.

Biodiesel and Renewable Diesel Fuels

Biodiesel and renewable diesel fuels are both replacements for diesel fuel. Biodiesel is produced by transesterification of vegetable oils and animal fats. Vegetable oils (mainly soybean oil) are the main feedstocks for U.S. biodiesel production. Other major U.S. biodiesel feedstocks include animal fats from meat processing plants and used/recycled cooking oil and yellow grease from restaurants. Rapeseed oil, sunflower oil, and palm oil are major feedstocks for biodiesel production in other countries. Biodiesel meets the American Society for Testing and Materials (ASTM) specification D6751 and is approved for blending with petroleum diesel/distillate.[96] Biodiesel is generally higher priced than diesel, especially for higher blends of biodiesel. Neat (100 percent) biodiesel is often transported via truck or rail for blending, which adds to the cost of biodiesel.

Renewable diesel and other (non-fuel ethanol) biofuels and biointermediates can be produced from nearly any biomass feedstock, including those used for biodiesel production, through a variety of processes such as hydrotreating, gasification, pyrolysis, and other biochemical and thermochemical technologies. Renewable diesel is a biomass-based diesel fuel similar to biodiesel, but with important differences. Unlike biodiesel, renewable diesel is a hydrocarbon that is chemically equivalent to petroleum diesel and can be used as a drop-in biofuel that does not require blending with petroleum diesel for use. This also means that it could be used in diesel engines without any modifications to the engines and could be transported via existing pipelines. Renewable diesel production uses a hydrogenation process rather than the esterification process used to produce biodiesel. Because renewable diesel is a drop-in fuel, it meets ASTM D975

[93] https://www.lacsd.org/services/solid-waste/facilities/southeast-resource-recovery-facility-serrf, accessed on September 10, 2024.

[94] SoCalGas Utility Report. https://www.pge.com/assets/pipeline/docs/library/regulatory/downloads/cgr24.pdf.coredownload.pdf

[95] California Department of Tax and Fee Administration, Fuel Taxes Statistics and Reports, Motor Vehicle Fuel 10 Year Report. Available online at https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm.

[96] U.S. Energy Information Administration. Biofuels Explained, Biodiesel, Renewable Diesel, and other Biofuels. Available at: https://www.eia.gov/energyexplained/biofuels/biodiesel.php, accessed on May 18, 2022.

specification for petroleum diesel and can be seamlessly blended, transported, and even co-processed with petroleum diesel.[97]

In 2022, the annual biodiesel and renewable diesel production in the U.S. were 1,699 million gallons, and 1,483 million gallons, respectively.[98] California's renewable diesel consumption grew substantially after its Low Carbon Fuel Standards (LCFS) went into effect in 2011. Between 2011 and 2021, consumption few from one million barrels to 28 million barrels per year.[99] As of 2024, there are a number of renewable fuel facilities operating or permitted at existing (or former petroleum) refineries in California, including Chevron El Segundo, Kern Oil and Refining, Bakersfield, Marathon Martinez Refinery, Phillips 66 Rodeo Refinery, and World Energy/Alt Air in Paramount with a published annual production capacity of 459 million gallons per year.[100]

Natural Gas

Approximately five percent of the entire natural gas demand in California is used to fuel natural gas vehicles, in one of two forms: compressed natural gas and liquefied natural gas (California Gas and Utilities, 2024). Liquified natural gas is used less frequently than compressed natural gas, but it may have applications as a fuel for larger trucks where driving range and fuel energy density are important. Due to the low temperature required for liquefied natural gas, pipeline transportation is not practical, and trucks are often used to transport the gas. Compressed natural gas is typically stored at 3,600 pounds per square inch. Natural gas costs are typically lower compared to gasoline on a gasoline gallon equivalent basis, and natural gas generally produces lower greenhouse gas emissions. The biggest barrier to natural gas vehicle growth is the higher incremental cost of a natural gas vehicle compared to a conventional or flex-fuel vehicle. [CEC, 2021].

Electric Charging

California has the most public electric charging stations of any state; however, not all equipment and technologies associated with electric vehicles and electric vehicle support equipment have been standardized. California faces challenges and policy choices, including how best to support charging infrastructure development, where charging stations should be located, and how to support electric vehicle supply equipment expansion compared to vehicle deployment (CEC, 2021). As shown in Table 3.3-5, there are overs 19,000 electric charging stations within the jurisdiction of the South Coast AQMD.

Hydrogen

Hydrogen fuel cell electric vehicles are appealing because their tailpipe emissions are simply water vapor, and hydrogen can be produced from low-carbon energy resources. Fuel-cell electric vehicle refueling times are similar to conventional gasoline refueling times, and hydrogen fuel costs are comparable to gasoline on a per mile basis. Hydrogen challenges include the relatively expensive retail infrastructure cost ($2-3 million per station) and additional production and delivery components associated with the full supply chain, which can also be capital intensive. Although high-volume hydrogen pipelines exist for large volume users, hydrogen distribution for transportation use is typically done through truck delivery. Currently, most hydrogen is produced using a steam methane reforming process with natural gas as the energy feedstock, but future

[97] Id.

[98] Alternative Fuels Data Center (AFDC), U.S. Biodiesel Production, Exports, and Consumption Report and Renewable Diesel Production and Consumption Report, downloaded from https://afdc.energy.gov/data.

[99] U.S Energy Information Administration, 2023. https://www.eia.gov/todayinenergy/detail.php?id=57180#:~:text=California's%20renewable%20diesel%20consumption%20grew,18%20times%20its%20original%20volume.

[100] AFDC, Table of Renewable Fuels Plants in the U.S., available at https://afdc.energy.gov/fuels/renewable-diesel

hydrogen production may be less carbon intensive using water electrolysis and renewable energy. Since 2008, the CEC has invested 242 million to support hydrogen research, development, and deploy projects[101]. The LCFS Hydrogen Refueling Infrastructure predicted that the state would reach a goal of 200 hydrogen stations by 2025 (California Gas and Utilities, 2024).

As presented in Table 3-13, there are over 20,000 alternative fuel stations in in the four counties located within the South Coast AQMD's jurisdiction (e.g., Los Angeles, Orange, Riverside and San Bernardino Counties. Statewide data is also presented in Table 3-13 for context, and over 36 percent of California's alternative fuel stations are in the South Coast AQMD's jurisdiction.

Table 3-13
Alternative Fueling Stations by County within South Coast AQMD's Jurisdiction

Alternative Fuel Type	Number of Stations
Los Angeles County	
Biodiesel	3
Compressed Natural Gas	76
E85 (fuels containing 85% ethanol)	100
Electric Charging	11,819
Hydrogen	16
Liquid Natural Gas	11
Liquid Petroleum Gas	38
Renewable Diesel (R20 and above)	126
Total Alternative Fuel Stations in Los Angeles County	12,189
Orange County	
Biodiesel	1
Compressed Natural Gas	22
E85	56
Electric Charging	4,658
Hydrogen	12
Liquid Natural Gas	1
Liquid Petroleum Gas	21
Renewable Diesel (R20 and above)	54
Total Alternative Fuel Stations in Orange County	4,825

[101] https://www.energy.ca.gov/sites/default/files/2021-06/CEC_Hydrogen_Fact_Sheet_June_2021_ADA.pdf

Table 3-13 (concluded)
Alternative Fueling Stations by County within South Coast AQMD's Jurisdiction

Alternative Fuel Type	Number of Stations
Riverside County	
Biodiesel	4
Compressed Natural Gas	27
E85	47
Electric Charging	1,883
Hydrogen	3
Liquid Natural Gas	4
Liquid Petroleum Gas	21
Renewable Diesel (R20 and above)	43
Total Alternative Fuel Stations in Riverside County	2,932
San Bernardino County	
Biodiesel	13
Compressed Natural Gas	19
E85	47
Electric Charging	1,069
Hydrogen	0
Liquid Natural Gas	5
Liquid Petroleum Gas	5
Renewable Diesel (R20 and above)	44
Total Alternative Fuel Stations in San Bernardino County	1,202
Total Alternative Fuel Stations in South Coast AQMD's Jurisdiction	**20,248**
State of California	
Biodiesel	66
Compressed Natural Gas	297
E85	488
Electric Charging	53,755
Hydrogen	62
Liquid Natural Gas	37
Liquid Petroleum Gas	261
Renewable Diesel (R20 and above)	638
Total Alternative Fuel Stations in California	**55,604**
Source: USDOE Alternative Fuels Data Center - https://afdc.energy.gov/data_download	

CHAPTER 4

ENVIRONMENTAL IMPACTS

Introduction

Potential Significant Environmental Impacts and Mitigation Measures

Air Quality and Greenhouse Gas Impacts

Energy Impacts

Potential Environmental Impacts Found Not to be Significant

Significant Environmental Effects Which Cannot be Avoided

Significant Irreversible Environmental Changes

Potential Growth-Inducing Impacts

Relationship Between Short-Term and Long-Term Environmental Goals

4.0 INTRODUCTION

The CEQA Guidelines require environmental documents to identify significant environmental effects that may result from a proposed project. [CEQA Guidelines Section 15126.2(a)]. Direct and indirect significant effects of a project on the environment should be identified and described, with consideration given to both short- and long-term impacts. The discussion of environmental impacts may include, but is not limited to, the following: resources involved; physical changes; alterations of ecological systems; health and safety problems caused by physical changes; and other aspects of the resource base, including water, scenic quality, and public services. If significant adverse environmental impacts are identified, the CEQA Guidelines require a discussion of measures that could either avoid or substantially reduce any adverse environmental impacts to the greatest extent feasible. [CEQA Guidelines Section 15126.4].

The categories of environmental impacts to be studied in a CEQA document are established by CEQA (Public Resources Code Section 21000 et seq.), and the CEQA Guidelines, as codified in Title 14 California Code of Regulations Section 15000 et seq. Under the CEQA Guidelines, there are approximately 18 environmental categories in which potential adverse impacts from a project are evaluated. The South Coast AQMD, as lead agency, has taken into consideration the Appendix G environmental checklist form, but has tailored the 21 environmental topic areas to emphasize air quality assessment primarily by combining the "air quality" and "greenhouse gas emissions" areas into one section, combining the "cultural resources" and "tribal cultural resources" areas into one section, separating the "hazards and hazardous materials" factor into two sections: "hazards and hazardous materials" and "solid and hazardous waste," and folding the "utilities/service systems" area into other environmental areas such as "energy," "hydrology and water quality" and "solid and hazardous waste." For each environmental topic area, per CEQA Guidelines Section 15064.7(a), "a threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant." The South Coast AQMD has developed unique thresholds of significance for the determination of significance in accordance with CEQA Guidelines Section 15064.7(b).

4.1 POTENTIAL SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This document is a SEA to the Final Program EIR for the 2022 AQMP. The Final Program EIR for the 2022 AQMP determined that implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ has the potential to generate adverse environmental impacts to four topic areas: air quality and GHG emissions, energy, noise, and solid and hazardous waste. More specifically, the Final Program EIR for the 2022 AQMP evaluated the impacts from installation and operation of replacement zero-NOx emission and low NOx technologies potentially resulting in construction air quality and GHG emissions, operational air quality and GHG emissions from production of electricity, increased electricity and natural gas demand, construction noise, and generation of solid waste from construction and disposal of old equipment.

The Final Program EIR for the 2022 AQMP also determined that implementation of other control measures in the 2022 AQMP had the potential to generate adverse environmental impacts to the topic areas of hazards and hazardous materials, and hydrology and water, in addition to the four

topic areas previously stated. For the entire plan, the analysis in the Final Program EIR for the 2022 AQMP concluded that significant and unavoidable adverse environmental impacts were expected to occur after implementing mitigation measures for the following environmental topic areas: 1) air quality during construction; 2) energy due to increased electricity, natural gas, and hydrogen demand; 3) hazards and hazardous materials due to accidental release of ammonia, natural gas via pipeline, and liquified natural gas via on-road trucks; 4) hydrology (water demand and water supply) and water quality; 5) construction noise and vibration at roadways; and 6) solid and hazardous waste from construction and early retirement of equipment. Since significant adverse environmental impacts were identified, mitigation measures were identified and applied. However, the Final Program EIR for the 2022 AQMP concluded that the 2022 AQMP would have significant and unavoidable adverse environmental impacts even after mitigation measures were identified and applied. As such, mitigation measures were made a condition of project approval and a Mitigation, Monitoring, and Reporting Plan was adopted. Findings were made and a Statement of Overriding Considerations was prepared and adopted.

The proposed project is comprised of amendments to Rules 1111 and 1121. Thus, the analysis in this SEA focuses on the physical modifications expected to occur at affected facilities in response to complying with PAR 1111 and PAR 1121 and the corresponding environmental effects.

When comparing the types of activities and associated environmental impacts with implementing Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ that were previously analyzed in the Final Program EIR for the 2022 AQMP, to the currently proposed changes associated with the NOx limits and compliance dates presented in PAR 1111 and PAR 1121, the types of physical changes are expected to be similar and will cause similar secondary adverse environmental impacts for the same environmental topic areas that were identified and analyzed in the Final Program EIR for the 2022 AQMP. However, regarding the scope of the affected equipment universe, Control Measure R-CMB-02 ~~and C-CMB-02 were~~ was estimated to affect two million residential space heaters ~~and 200,000 commercial space heaters~~, whereas PAR 1111 is estimated to affect over five million space heaters. Similarly, Control Measure R-CMB-01 was estimated to affect two million residential water heaters, whereas PAR 1121 is estimated to affect over five million water heaters. Thus, while the proposed project, PAR 1111 and PAR 1121, is expected to have similar secondary adverse environmental impacts for the environmental topic areas of construction air quality and GHG emissions, operational air quality and GHG emissions from the production of electricity, increased electricity and natural gas demand, construction noise, and generation of solid waste from construction and disposal of old equipment that were previously analyzed in the Final Program EIR for the 2022 AQMP, the impacts will be increased. The Final Program EIR for the 2022 AQMP relative to the implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ concluded less than significant impacts to operational air quality, greenhouse gas emissions, noise, and solid and hazardous waste, and the analysis in this SEA confirms that these impacts will remain ~~the same~~ less than significant if PAR 1111 and PAR 1121 are implemented. In addition, the Final Program EIR for the 2022 AQMP concluded that the implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ will have potentially significant adverse air quality impacts from construction and energy impacts from electricity and natural gas demand and the analysis in this SEA determined that these impacts will be ~~substantially~~ made more severe if PAR 1111 and PAR 1121 are implemented.

The environmental impact analysis for the environmental topic areas incorporates a "worst-case" approach. This approach entails the premise that whenever the analysis requires that assumptions

be made, those assumptions that result in the greatest adverse impacts are typically chosen. This method ensures that all potential effects of the proposed project are documented for the decision-makers and the public. Accordingly, the following analyses use a conservative "worst-case" approach for analyzing the potentially significant adverse air quality and energy impacts associated with the implementation of the proposed project.

4.2 AIR QUALITY AND GREENHOUSE GAS IMPACTS

The Final Program EIR for the 2022 AQMP assessed potential adverse air quality and GHG impacts associated with the implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~. The analysis identified significant air quality impacts from construction activities. However, air quality impacts from operational activities were found to be less than significant. Regarding greenhouse gas emissions, the impacts were deemed significant in the short-term but less than significant in the long-term.

4.2.1 Significance Criteria

To determine whether air quality and GHG impacts from adopting and implementing the proposed project are significant, impacts will be evaluated and compared to the significance criteria on the following page. The significance thresholds for criteria pollutant emissions: the mass daily thresholds, were developed in 1993, and a full discussion can be found in the South Coast AQMD CEQA Handbook. Significance thresholds for toxic air contaminants and odor are based on requirements under Rules 1401 and 212, and 402 respectively. In December 2008, the Governing Board approved an interim GHG significance threshold for projects where the South Coast AQMD is the lead agency. There has been ongoing development of the significance thresholds, and detailed discussion is available on the South Coast AQMD website.[102] A discussion regarding feasible mitigation measures is also included in this section. Significance determinations for construction impacts are based on the maximum or peak daily emissions during the construction period, which provides a "worst-case" analysis of the construction emissions. Similarly, significance determinations for operational emissions are based on the maximum or peak daily emissions during the operational phase.

The proposed project will have significant adverse air quality impacts if any one of the thresholds in Table 4-1 are equaled or exceeded.

[102] South Coast AQMD, 1993. http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook.

Table 4-1
South Coast AQMD Air Quality Significance Thresholds

Mass Daily Thresholds [a]		
Pollutant	**Construction** [b]	**Operation** [c]
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to South Coast AQMD Rule 402	
GHG	10,000 MT/yr CO_2eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants[d]		
NO_2 1-hour average annual arithmetic mean	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hour average annual average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation) 1.0 μg/m^3	
$PM_{2.5}$ 24-hour average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation)	
SO_2 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 μg/m^3 (state)	
CO 1-hour average 8-hour average	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average	1.5 μg/m^3 (state) 0.15 μg/m^3 (federal)	

[a] Source: South Coast AQMD CEQA Handbook (South Coast AQMD, 1993)
[b] Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
[c] For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[d] Ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2 unless otherwise stated.
[e] Ambient air quality threshold based on South Coast AQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million μg/m^3 = microgram per cubic meter ≥ = greater than or equal to
MT/yr CO_2eq = metric tons per year of CO_2 equivalents > = greater than

Revision: April 2019

PAR 1111 and PAR 1121 will require zero-NOx emission heating units for installations in both new and existing residences ~~and commercial buildings~~. ~~Alternative compliance options are available for emergency replacements and installations requiring construction to expand the space to house or relocate a compliant unit and associated equipment, perform a service upgrade for necessary power, or replace a furnace that does not require the simultaneous replacement of space cooling equipment.~~

Space and water heating appliances for existing mobile homes and any mobile home in master-metered mobile home parks will be exempt from the zero-NOx emission standards, and mobile home appliances will transition to zero-NOx emission appliances in new mobile homes or when existing mobile homes are replaced with new mobile homes. Downflow space heating furnaces for high-altitude installation are also exempted from zero-NOx emission standards.

A Zero-NOx Manufacturer (ZEM) alternative compliance option is provided that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances. The targets change over time to transition the market to zero-NOx emission appliances. The ZEM alternative compliance option also includes fees for the sale of all NOx-emitting appliances, with higher fees for the NOx-emitting appliances sold over the compliance target. The fees for appliances sold over the targets increase annually to reflect consumer price index.

The alternative compliance options allow time for necessary construction to occur so that the zero-NOx emission heating units can be installed. Expansion of space to house units and service panel upgrades in residences are expected to be accomplished with hand tools, but service panel upgrades in ~~commercial~~ residential buildings are expected to require construction equipment. Replacements of furnaces and water heaters will occur at the end of the current equipment's useful life although a number of replacements could occur prior to the end of useful life due to the availability of incentive funding.

The Final Program EIR for the 2022 AQMP determined that demolition and replacement activities associated with residential control measures were not expected to require construction equipment. Household appliances, water heaters, and heaters are typically maneuvered using hand trucks, so no construction emissions were expected. For larger residential developments (e.g., apartment complexes with central boilers) ~~and commercial developments~~, the need for construction equipment was anticipated to be minimal compared to industrial projects, due to the less extensive nature of the modifications required. The Final Program EIR for the 2022 AQMP therefore estimated construction emissions from a small construction project (one crane operating four hours and one backhoe operating eight hours per day) which showed that a project utilizing minimal construction equipment would not exceed the South Coast AQMD air quality significance thresholds for construction (see Table 4-2 which is a subset of Table 4.2-4 of the Final Program EIR for the 2022 AQMP). Nonetheless, because an individual project could occur concurrently alongside other large construction projects resulting from implementation of other control measures in the 2022 AQMP, the Final Program EIR for the 2022 AQMP concluded significant adverse air quality impacts due to construction.

Table 4-2
Estimated Unmitigated Construction Emissions for Typical Air Pollution Control Equipment Installations and Alternative Fuels Production Facilities

Project Type	Pollutant (lb/day)					
	CO	**VOC**	**NOx**	**SOx**	**PM10**	**PM2.5**
Small Construction Project(1)	2.4	0.03	<0.01	0.0	0.00	0.00
Alternative Fuels Facility Conversion(2)	261.3	53.3	402.0	1.6	138.6	38.1
South Coast AQMD Air Quality Significance Threshold for Construction	**550**	**75**	**100**	**150**	**150**	**55**
Significant?	**NO**	**NO**	**YES**	**NO**	**NO**	**NO**

(1) Calculated using one crane operating four hours and one backhoe operating eight hours per day.
(2) City of Paramount Final Subsequent EIR for the AltAir Renewables Fuels Conversion Project, 2022. Table 4.2.8.

Similar to what was anticipated in the Final Program EIR for the 2022 AQMP regarding implementation of residential ~~and commercial~~ control measures, implementation of PAR 1111 and PAR 1121 is not expected require construction equipment beyond hand tools for installation of zero-NOx emission heaters in residences. Electrical service panel upgrades for residential ~~commercial~~ buildings, if necessary, may require the use of construction equipment according to the existing conditions of the building. Upgrading an electrical panel may need to be accomplished in two steps: work by the utility provider to deliver power from the transformer to the building, and work by the property owner on the electrical panel(s) and building wiring system. As electricity is provided to buildings through overhead or underground lines, work by utility providers in a service upgrade may involve use of a backhoe or crane (both were assumed in the estimation for a small construction project in the Final Program EIR for the 2022 AQMP), and also potentially a forklift, concrete saw, and/or welder. However, the type and complexity of the work that may be conducted by the property owners can widely vary by property. For example, one ~~commercial~~ residential building may only require use of hand tools, while another may require trenching with a backhoe, laying new conduit with a forklift, and back-filling with soil and pouring cement. Multi-story and high-rise buildings will involve more construction compared to a single-story building. Due to the highly variable conditions of ~~commercial~~ residential buildings, it is difficult to form a representative construction scenario.

~~PAR 1111 will affect 200,000 commercial buildings. An SCE report[103] noted that electrical panels installed prior to 1962 were smaller, less than 100 amps. Figures 19 and 61 of the SCE report show that 50 percent and 31 percent of buildings in Los Angeles County and Orange County, respectively, were installed prior to 1962. It is therefore assumed that 40 percent of the 200,000 commercial buildings in the South Coast Basin may require an electrical panel upgrade.~~

If more than 10,000 ~~commercial~~ residential buildings were to undergo the small construction project concurrently, construction air quality emissions would exceed the South Coast AQMD significance threshold for construction (10,000 projects x 0.01 lbs of NOx/project = 100 lbs/day of NOx significance threshold). The number of concurrent projects causing an exceedance of the threshold would be less than 10,000 if the projects incorporated additional construction equipment,

[103] SCE, Building Inventory for Strategic Electrification, Interim Report, 2024. https://www.etcc-ca.com/reports/building-inventory-strategic-electrification

which is likely. **Based upon these considerations, significant adverse air quality impacts relating to construction are expected from implementing the proposed project.**

Project-Specific Mitigation: The Final Program EIR for the 2022 AQMP concluded that construction air quality impacts from implementing 2022 AQMP control measures would be potentially significant. As a result, mitigation measures were required to minimize the significant air quality impacts during construction. Implementation of PAR 1111 and PAR 1121 will result in construction air quality impacts similar to those analyzed in the Final Program EIR for the 2022 AQMP, and the mitigation measures proposed in the Final Program EIR for the 2022 AQMP will also minimize the significant impacts from the proposed project.

AQ-1 Develop a Construction Emission Management Plan to minimize emissions from vehicles including, but not limited to: consolidating truck deliveries so as to minimize the number of trucks on a peak day; scheduling deliveries to avoid peak hour traffic conditions; describing truck routing; describing deliveries including logging delivery times; describing entry/exit points; identifying locations of parking; identifying construction schedule; and prohibiting truck idling in excess of five consecutive minutes or another time-frame as allowed by the California Code of Regulations, Title 13 Section 2485 - CARB's Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. The Construction Emission Management Plan shall be submitted to South Coast AQMD – PRDI/CEQA for approval prior to the start of construction. At a minimum, the Construction Emission Management Plan would include the following types of mitigation measures and Best Management Practices.

AQ-2 Tune and maintain all construction equipment to be in compliance with the manufacturer's recommended maintenance schedule and specifications that optimize emissions without nullifying engine warranties. All maintenance records for each equipment and their construction contractor(s) shall be made available for inspection and remain onsite for a period of at least two years from completion of construction.

AQ-3 Survey and document the construction areas and identify all construction areas that are served by electricity. Onsite electricity, rather than temporary power generators, shall be used in all construction areas that are demonstrated to be served by electricity. This documentation shall be provided as part of the Construction Emissions Management Plan.

AQ-4 Require the use of electric or alternative-fueled (i.e., renewable combustion fuels and hydrogen) construction equipment, if available, including but not limited to, concrete/industrial saws, pumps, aerial lifts, material hoist, air compressors, forklifts, excavator, wheel loader, and soil compactors.

AQ-5 Require all off-road diesel-powered construction equipment rated greater than 50 hp to meet Tier-4 off-road emission standards at a minimum. In addition, if not already supplied with a factory-equipped diesel particulate filter, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel

emissions control strategy for a similarly sized engine as defined by CARB regulations. Construction equipment shall incorporate, where feasible, emissions-reducing technology such as hybrid drives and specific fuel economy standards. In the event that any equipment required under this mitigation measure is not available, the project proponent shall provide documentation in the Construction Emissions Management Plan or associated subsequent status reports as information becomes available.

AQ-6 Require the use of zero-emission (ZE) or near-zero emission (NZE) on-road haul trucks such as heavy-duty trucks with natural gas engines that meet CARB'S adopted optional NO_X emissions standard.

AQ-7 Provide electric vehicle (EV) charging stations or at a minimum, provide the electrical infrastructure and electrical panels which shall be appropriately sized. Electrical hookups should be provided for trucks to plug in any onboard auxiliary equipment.

AQ-8 Provide temporary traffic controls such as a flag person, during all phases of significant construction activity to maintain smooth traffic flow, where necessary.

AQ-9 Provide dedicated turn lanes for the movement of construction trucks and equipment on- and off-site, where applicable.

AQ-10 Clearly identify truck routes with trailblazer signs to guide and ensure that the route shall avoid congested streets and sensitive land uses (e.g., residences, schools, day care centers, etc.), where applicable

AQ-11 Improve traffic flow by signal synchronization, where applicable and ensure that check-in point for trucks is inside the project site.

AQ-12 Ensure that vehicle traffic inside the project site is as far away as feasible from sensitive receptors.

AQ- 13 Restrict overnight truck parking in sensitive land uses by providing overnight truck parking inside the project site.

AQ-14 Design the project such that truck entrances and exits are not facing sensitive receptors and trucks will not travel past sensitive land uses to enter or leave the project site.

AQ-15 Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less.

AQ-16 Prohibit truck idling in excess of five minutes, on- and off-site.

AQ-17 Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the extent practicable.

AQ-18 Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 mph.

AQ-19 Suspend use of all construction activities that generate air pollutant emissions during first stage smog alerts.

AQ-20 Configure construction parking to minimize traffic interference.

AQ-21 Require covering of all trucks hauling dirt, sand, soil, or other loose materials.

AQ-22 Install wheel washers where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site for each trip.

AQ-23 Apply non-toxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for ten days or more).

AQ-24 Replace ground cover in disturbed areas as quickly as possible to minimize dust.

AQ-25 Pave road and road shoulders, where applicable.

AQ-26 Sweep streets at the end of the day with sweepers compliant with South Coast AQMD Rules 1186 and 1186.1 if visible soil is carried onto adjacent public paved roads (recommend water sweepers that utilize reclaimed water).

Remaining Air Quality Impacts from Criteria Pollutants during Construction: Similar to the 2022 AQMP, implementation of these construction mitigation measures for PAR 1111 and PAR 1121 would have ~~to~~ the potential to reduce some pollutants, especially particulates including diesel PM, as well as some NOx and VOC emissions. However, the reason the construction air quality impacts are concluded to be significant is because the NOx emissions substantially exceed the air quality significance threshold for construction. Since the mitigation measures overall primarily target reducing construction PM emissions, even if all the mitigation measures are applied, while some NOx emissions would be reduced to a limited extent, the quantity of potential NOx emissions would not be reduced to less than significant levels. Therefore, the overall construction air quality impacts after mitigation is applied would remain significant.

Project-Specific Air Quality Impacts During Operation

PAR 1111 and PAR 1121 will require zero-NOx emission heating units for installations in both new and existing residences ~~and commercial buildings~~; the rules will affect 5,237,000 ~~5,350,000~~ and 5,128,000 space and water heaters, respectively. ~~Alternative compliance options are available for emergency replacements and installations requiring construction to expand the space to house or relocate a compliant unit and associated equipment, perform a service upgrade for necessary power, or replace a furnace that does not require the simultaneous replacement of space cooling equipment.~~ Space and water heating appliances for existing mobile homes and any mobile home in master-metered mobile home parks will be exempt from the zero-NOx emission standards, and mobile home appliances will transition to zero-NOx emission appliances in new mobile homes or when existing mobile homes are replaced with new mobile homes. Downflow space heating furnaces for high-altitude installation are also exempted from zero-NOx emission standards.

A Zero-NOx Manufacturer (ZEM) alternative compliance option is provided that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances. The targets change over time to transition the market to zero-NOx emission appliances. The ZEM alternative compliance option also includes fees for the sale of all NOx-emitting appliances, with higher fees for the NOx-emitting appliances sold over the compliance target. The fees for appliances sold over the targets increase annually to reflect consumer price index. ~~The alternative compliance options allow time for necessary construction to occur so that the zero-emission heating units can be installed.~~ Replacements of furnaces and water heaters will occur at the end of the current equipment's useful life although a number of replacements (0.5 percent) could occur prior to the end of useful life due to the availability of incentive funding.

The ZEM alternative compliance option provides a transitional approach that allows continued sale of compliant NOx-emitting appliances while the market shifts toward zero-NOx emission technologies. This transition period helps facilitate the necessary infrastructure upgrades, such as expanding installation space or upgrading electrical service panels in residences, to support the installation of zero-NOx emission units. These upgrades are generally expected to be minor and achievable using hand tools.

The Final Program EIR for the 2022 AQMP determined that implementation of control measures such as R-CMB-01 and R-CMB-02~~, and C-CMB-02~~, which convert combustion sources to electric, would result in potential NOx emission reductions, but with a corresponding increased demand for electricity if combustion sources in residential ~~and commercial~~ settings are replaced with electrified equipment. The control measures were evaluated for NOx emission reductions at the regional level using statewide data. Due to a variety of factors such as the number of pieces of equipment, the size of the equipment, and the type of the operations, etc., it was difficult to quantify all potential electricity demand impacts. Nonetheless, for the equipment which had electricity use data available, electricity demand impacts were quantified but these estimates only provided a partial quantification of the overall potential electricity demand impacts from electrified equipment used in residential ~~and commercial~~ settings.

- R-CMB-01 seeks to encourage the deployment of zero-NOx emission water heating units for new and existing residences. The zero-NOx emission water heating units could be all-electric heat pump water heaters, either as stand-alone or in combination with heat pumps used for cooling and heating, thereby increasing electricity demand by an estimated 6,000 gigawatt-hours per year (GWh/yr).
- R-CMB-02 seeks to encourage the deployment of zero-NOx emission space heating units for new and existing residences. The zero-NOx emission space heating units could be all-electric heat pumps that replace natural-gas fired furnaces, thereby increasing electricity demand by an estimated 1,095 GWh/yr.
- ~~C-CMB-02 seeks to deploy zero-emission space heating units for new and existing commercial buildings. The zero-emission space heating units could be all-electric heat pumps that replace natural-gas fired furnaces, thereby increasing electricity demand by an estimated 730 GWh/yr.~~

The Final Program EIR for the 2022 AQMP estimated that Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ would affect approximately 4.2 million units, and that 50 percent of the

equipment would be replaced with zero-emission technology while the remaining 50 percent would utilize low NOx burners; the original rule concept for PAR 1111 and PAR 1121 ~~together are~~ expected to affect over 10 million units, and the analysis in the Draft SEA was based on 100 percent of the units ~~are expected to~~ being replaced with zero-NOx emission technology. However, with the revised rule concept for PAR 1111 and PAR 1121, which allows for the installation of low-NOx emission units, the analysis in this SEA has been updated to reflect four implementation phases corresponding to the compliance sales targets. In Phase 1 (2027-2028), 30 percent of the equipment would be replaced with zero-NOx technology, while the remaining 70 percent would utilize low-NOx units. In Phase 2 (2029-2032), the mix shifts to 50 percent zero-NOx and 50 percent low-NOx. By Phase 3 (2033-2035), 75 percent of equipment replacement is projected to be zero-NOx, with 25 percent low-NOx. Finally, in Phase 4 (2036 and thereafter), 90 percent of the replacement equipment would be zero-NOx, with only 10 percent utilizing low-NOx. ~~Although 0.5 percent of the units are expected to be replaced before the end of their useful life, this SEA has calculated the total estimated electricity use based on the full number of units being replaced to account for the worst-case scenario, representing peak electricity usage when all units are replaced.~~ Table 4-3 presents a summary of the potential electricity use associated with operation of zero-emission technology as analyzed for Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ in the Final Program EIR for the 2022 AQMP (this is subset of Table 4.2-6 of the Final Program EIR for the 2022 AQMP), and for PAR 1111 and PAR 1121.

Table 4-3
Comparison of Potential Increase in Electricity Use

	Control Measure	**Total Number of Affected Units**	**Estimated Electricity Use(1)**	**Estimated Total Electricity Use (Gwh/Yr)**
Final Program EIR for 2022 AQMP	R-CMB-01	Of 2 million water heaters installed, 50% of residences will be zero-NOx emission and 50% will be low NOx ~~space~~ water heaters.(2)	380-500 kWh/month	6,000
	R-CMB-02	Of 2 million space heaters installed, 50% of residences will be zero-NOx emission and 50% will be low NOx space heaters.(3)	1.5 KWh/hr	600
	~~C-CMB-02~~	~~200,000 commercial buildings will convert to zero-emission technology with 50% of applicable sources replaced; mitigation fee for other 50% (1) and (3)~~	~~10 KWh/hr~~	~~400~~
	Total			**~~7,000~~ 6,600**
Revised Rule Concept for PAR 1111 and PAR 1121 (Phase 1)	**Control Measure**	**Total Number of Affected Units**	**Estimated Electricity Use(1)**	**Estimated Total Electricity Use (Gwh/Yr)**
	R-CMB-01	Of 5,128,800 water heaters installed, 30% will be zero-NOx emission and 70% will be low-NOx emission by 2028 (2)	380-500 kWh/month	9,230
	R-CMB-02	Of 5,237,000 space heaters installed; 30% will be zero-NOx emission and 70% will be low-NOx emission by 2028 (3)	1.5 KWh/hr	943
	Total			**10,173**

Table 4-3 (concluded)
Comparison of Potential Increase in Electricity Use

	Control Measure	Total Number of Affected Units	Estimated Electricity Use[1]	Estimated Total Electricity Use (Gwh/Yr)
Revised Rule Concept for PAR 1111 and PAR 1121 (Phase 2)	R-CMB-01	Of 5,128,800 water heaters installed, 50% will be zero-NOx emission and 50% will be low-NOx emission by 2032 [2]	380-500 kWh/month	15,384
	R-CMB-02	Of 5,237,000 space heaters installed; 30% will be zero-NOx emission and 70% will be low-NOx emission by 2032 [3]	1.5 KWh/hr	1,571
	Total			**16,955**
Revised Rule Concept for PAR 1111 and PAR 1121 (Phase 3)	**Control Measure**	**Total Number of Affected Units**	**Estimated Electricity Use[1]**	**Estimated Total Electricity Use (Gwh/Yr)**
	R-CMB-01	Of 5,128,800 water heaters installed, 70% will be zero-NOx emission and 25% will be low-NOx emission by 2035 [2]	380-500 kWh/month	23,076
	R-CMB-02	Of 5,237,000 space heaters installed; 70% will be zero-NOx emission and 25% will be low-NOx emission by 2035 [3]	1.5 KWh/hr	2,357
	Total			**25,433**
Revised Rule Concept for PAR 1111 and PAR 1121 (Phase 4)	**Control Measure**	**Total Number of Affected Units**	**Estimated Electricity Use[1]**	**Estimated Total Electricity Use (Gwh/Yr)**
	R-CMB-01	Of 5,128,800 water heaters installed, 90% will be zero-NOx emission and 10% will be low-NOx emission by 2036 and thereafter[2]	380-500 kWh/month	27,691 ~~30,768~~
	R-CMB-02	Of 5,237,000 ~~5,350,000~~ space heaters installed; 90% will be zero-NOx emission and 10% will be low-NOx emission by 2036 and thereafter[3]	1.5 KWh/hr	2,828 ~~3,210~~
	~~C-CMB-02~~	~~112,435 space heaters in commercial buildings will convert to zero-emission technology.~~	~~10 KWh/hr~~	~~450~~
	Total			**~~34,428~~ 30,518**
	Updated Total for All 2022 AQMP Control Measures			**37,348**

[1] https://www.siliconvalleypower.com/residents/save-energy/appliance-energy-use-chart
[2] For purposes of calculating maximum electricity increases, all new units are assumed to be third-party provided power even though some portion will be solar powered.
[3] Assumes 4 hours of operation on 100 days per year when temperature is below 70° F (refer to Table 4.2-6 of the Final Program EIR for 2022 AQMP).

Since there are critical interdependencies between electricity and the natural gas system reliability in California, natural gas-fired electricity generation has been an integral part of the electricity system, providing baseload power. It has also served as the backstop during drought conditions that reduce the availability of hydroelectric power generation. Thus, over the short-term as more electric residential ~~and commercial~~ equipment is deployed, the demand for electricity will increase resulting in an interim increase of natural gas demand for electricity generation. The role of natural

gas-fired electricity generation in the electricity system is shifting with the addition of large amounts of renewable generation, primarily solar and wind. The large influx of renewable energy on the grid has reduced natural gas-produced electricity from 53 percent of total electric generation in 2010 to 48 percent in 2020. Renewables have displaced a portion of daytime generation previously provided by natural gas, but the intermittency of solar and wind resources necessitates flexible resources that can quickly come on-line when the sun sets, or winds stop blowing. [CEC, 2021]. Therefore, as electricity generation grid transitions to utilizing renewable energy as cleaner alternatives over the long-term, the interim increase in natural gas demand will eventually decrease.

The Final Program EIR for the 2022 AQMP concluded that, as more electric residential ~~and commercial~~ equipment is deployed, the demand for electricity will increase, while the demand for natural gas and its corresponding emissions will decrease over long-term, resulting in an overall net reduction in combustion emissions during operation from residential ~~and commercial~~ equipment. The electrification of residential ~~and commercial~~ equipment was therefore determined to result in a less than significant impact to operational air quality.

The Final Program EIR for the 2022 AQMP concluded that implementation of other control measures relying on electrification, such as those targeting NOx emission reductions from large combustion sources, would result in potentially significant air quality impacts due to an increase in combustion emissions associated with electricity generation. Because PAR 1111 and PAR 1121 will impact a significantly greater number of units compared to what was previously analyzed for Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ in the Final Program EIR for the 2022 AQMP, the proposed project is expected to result in potentially significant air quality impacts due to an increase in combustion emissions associated with electricity generation.

The South Coast AQMD air quality significance thresholds for mass daily emissions of criteria pollutants are in units of pounds per day. PAR 1111 and PAR 1121 quantify NOx emissions reductions in tons per day (2,000 pounds = 1 ton). Therefore, while increased electricity demand may result in potentially significant impacts, a net NOx emission reduction at an order of magnitude greater than any of the adverse air quality impacts is expected, resulting in an air quality benefit. **Thus, operational activities resulting from implementation of PAR 1111 and PAR 1121 are expected to generate less than significant criteria pollutant air quality impacts.**

Project-Specific Mitigation: Since no significant air quality impacts relating to operational activities were identified, no mitigation measures are necessary or required.

Remaining Air Quality Impacts from Criteria Pollutants during Operational Activities: Since no mitigation measures are required, air quality impacts from criteria pollutants during operational activities remain less than significant.

Conclusion - Cumulative Air Quality Impacts: The preceding analysis concluded that air quality impacts from construction activities would be significant from implementing PAR 1111 and PAR 1121, similar to the 2022 AQMP, because exceedances of the South Coast AQMD air quality significance threshold for NOx during construction may be exceeded. In addition, while feasible mitigation measures were identified that may reduce the significant adverse construction air quality impacts for NOx emissions, the mitigation measures are not expected to reduce these construction impacts to less than significant levels. Because the air quality impacts exceed the air

quality significance thresholds for construction, the air quality construction impacts are considered cumulatively considerable.

Cumulative Mitigation: No feasible mitigation measures are available that would eliminate or reduce the cumulatively considerable construction air quality impacts to less than significant levels.

Remaining Cumulative Air Quality Impacts: While air quality impacts from construction activities are cumulatively significant, no feasible mitigation measures have been identified that would eliminate or reduce the significant adverse air quality impacts to less than significant levels. Therefore, the cumulative air quality impacts from construction activities remain significant and unavoidable. The Final Program EIR for the 2022 AQMP also concluded that the 2022 AQMP control measures would result in significant adverse air quality impacts during construction and, when combined with past, present, and reasonably foreseeable activities, in particular with transportation projects projected in the Connect SoCal Plan and the Proposed 2022 State SIP Strategy[104], would contribute to cumulatively considerable impacts to air quality related to criteria pollutant emissions during construction, a significant, unavoidable cumulative impact.

Greenhouse Gas Impacts

PAR 1111 and PAR 1121 will require zero-NOx emission heating units for installations in both new and existing residences. ~~and commercial buildings~~. ~~Alternative compliance options are available for emergency replacements and installations requiring construction to expand the space to house or relocate a compliant unit and associated equipment, perform a service upgrade for necessary power, or replace a furnace that does not require the simultaneous replacement of space cooling equipment.~~ Space and water heating appliances for existing mobile homes and any mobile home in master-metered mobile home parks will be exempt from the zero-NOx emission standards, and mobile home appliances will transition to zero-NOx emission appliances in new mobile homes or when existing mobile homes are replaced with new mobile homes. Downflow space heating furnaces for high-altitude installation are also exempted from zero-NOx emission standards.

A Zero-NOx Manufacturer (ZEM) alternative compliance option is provided that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances. The targets change over time to transition the market to zero-NOx emission appliances. The ZEM alternative compliance option also includes fees for the sale of all NOx-emitting appliances, with higher fees for the NOx-emitting appliances sold over the compliance target. The fees for appliances sold over the targets increase annually to reflect consumer price index.

The ZEM alternative compliance option provides a transitional approach that allows continued sale of compliant NOx-emitting appliances while the market shifts toward zero-NOx emission technologies. This transition period helps facilitate the necessary infrastructure upgrades, such as expanding installation space or upgrading electrical service panels in residences, to support the installation of zero-NOx emission units. These upgrades are generally expected to be minor and achievable using hand tools. ~~The alternative compliance options allow time for necessary~~

[104] California Air Resources Board, 2022 State Strategy for the State Implementation Plan (2022 State SIP Strategy), accessed on September 19, 2024. https://ww2.arb.ca.gov/resources/documents/2022-state-strategy-state-implementation-plan-2022-state-sip-strategy

~~construction to occur so that the zero-emission heating units can be installed. Expansion of space to house units and service panel upgrades in residences are expected to be accomplished with hand tools, but service panel upgrades in commercial buildings are expected to require construction equipment~~. Replacements of furnaces and water heaters will occur at the end of the current equipment's useful life although a number of replacements could occur prior to the end of useful life due to the availability of incentive funding.

In September 2011, the South Coast AQMD Governing Board adopted its Air Quality-Related Energy Policy (AQREP). This policy integrates the topics of energy, air quality, and climate change by explaining how the current dependence upon fossil fuels for energy generation and consumption within South Coast AQMD's jurisdiction results in emissions of criteria pollutants, toxic air contaminants, and GHGs. The South Coast AQMD's AQREP articulates policies and actions to ensure clean air and to meet state and global climate goals by promoting the development of reliable, safe, cost effective, and clean energy.

Any newly adopted programs, as well as those under development as included within the 2022 AQMP, may have impacts that are not yet fully accounted for in future California energy use projections. However, adopting the 2022 AQMP control measures would be expected to not only reduce criteria pollutant emissions, but also provide co-benefits of reducing GHG emissions over the long-term, increasing energy efficiency, while increasing the use of renewable power sources. More specifically, to the extent that the 2022 AQMP control measures reduce or eliminate combustion processes in favor of zero-NOx emission or low NOx technologies, such as through Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~, GHG emission reduction co-benefits would also be expected to occur. Table 4-4 is a subset of Table 4.2-14 of the Final Program EIR for the 2022 AQMP which qualitatively shows the GHG emission impacts of implementing Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~. The relative effects, either an increase (+) or decrease (-)), are presented along with the activities associated with the impact (e.g., construction necessary to implement the control measure).

Table 4-4
Potential Greenhouse Gas Emission Impacts

Control Measure Number	Control Measure Title	Control Methodology	Potential GHG Impact(1)
R-CMB-01	Emission Reduction from Replacement with Zero Emission or Low NOx Appliances – Residential Water Heating	Installation of zero-NOx emission water heaters and low NOx technologies (when zero-NOx emission is infeasible) in new and existing residences.	+ (construction emissions; increase electricity usage) - (reduce GHG emissions; reduction in conventional fuel combustion emissions; increase energy efficiency)
R-CMB-02	Emission Reduction from Replacement with Zero Emission or Low NOx Appliances – Residential Space Heating	Installation of zero-NOx emission space heaters and low NOx technologies (when zero-NOx emission is infeasible) in new and existing residences.	+ (construction emissions; increase electricity usage) - (reduce GHG emissions; reduction in conventional fuel combustion emissions; increase energy efficiency)
~~C-CMB-02~~	~~Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Commercial Space Heating~~	~~Installation of zero-emission space heaters and low NOx technologies (when zero-emission is infeasible) in commercial buildings.~~	~~+ (construction emissions; increase electricity usage)~~ ~~- (reduce GHG emissions; reduction in conventional fuel combustion emissions; increase energy efficiency)~~

(1) + Control measure is expected to result in an increase in GHG emissions
- Control measure is expected to result in a decrease in GHG emissions
~~= Control measure is expected to result in equivalent GHG emissions~~

Because of the qualitative nature of Table 4.2-14 of the Final Program EIR for the 2022 AQMP, it was not possible to show the magnitude of GHG emission effects from implementing 2022 AQMP control measures. For example, a positive effect (i.e., a GHG emission increase) for one control measure may be substantially less than the positive GHG emission effect of a different control measure.

The Final Program EIR for the 2022 AQMP concluded that implementing the 2022 AQMP control measures would ultimately be expected to reduce GHG emissions consistent with the AB 32 scoping plan. Compared to the 2018 baseline for electricity demand, implementation of the 2022 AQMP control measures was expected to increase electricity use by 13,429 GWh[105], approximately an 11 percent increase, by 2037 which will produce approximately 2.18 ~~2.76~~ million metric tons (MMT) of GHG emissions.[106] As shown in Table 4-3, by 2036, implementation of PAR 1111 and PAR 1121 will increase the projected electricity demand to ~~40,857~~ 37,348 GWh, approximately a ~~34.6~~ 31.6 percent increase compared to the 2018 baseline. Extrapolating the GHG emissions calculated for the Final Program EIR for the 2022 AQMP, the higher electricity usage would produce ~~8.38~~ 6.06 MMT of GHG emissions.

The Final Program EIR for the 2022 AQMP estimated that implementation of 2022 AQMP control measures would cause a reduction in gasoline and diesel use that results in GHG emission reductions that exceed the GHG emissions from increased electricity use. As shown in Table 4-5,

[105] Based on quantifiable increases in electricity from Tables 4.3-2 and 4.3-3. (12,960+469)/118,200 = 11.3% increase.
[106] 2020 eGRID data of 453 lb/MWh for SCE, U.S. EPA, 2022, https://epa.gov/egrid/download-data.

which expands upon Table 4.2-16 of the Final Program EIR for the 2022 AQMP, even with the updated GHG emissions expected as a result of implementing PAR 1111 and PAR 1121, a net decrease in GHG emissions would still be expected.

Table 4-5
Estimated GHG Emissions Impacts from 2022 AQMP Control Measures

Description	2037 CO2eq Emissions (MMT)
Change in Gasoline Use	-2.23
Change in Diesel Use	-15.57
Increased Electricity Use as Estimated in the Final Program EIR for the 2022 AQMP	2.18
Net Change in GHG Emissions as Calculated in the Final Program EIR for the 2022 AQMP	**-15.62**
Increased Electricity Use with Implementation of PAR 1111 and PAR 1121	~~8.38~~ 6.06
Net Change in GHG Emissions with Implementation of PAR 1111 and PAR 1121	**~~-9.42~~ -11.74**

The electricity that will be needed to power zero-NOx emission equipment is expected to be provided by public utility companies. Most existing power generating facilities are subject to AB32 and will be required to reduce their GHG emissions. Moreover, any future power generating stations that may be built in response to meeting the future electricity demand would be subject to stringent emission control requirements, including those for GHG emissions. **Therefore, after taking into consideration that the short-term increases in GHG emissions will eventually be offset in the overarching goal of transitioning to electricity sourced with 100 percent renewables by 2045 as required by SB 100, the additional electricity that may be needed to implement PAR 1111 and PAR 1121, similar to the 2022 AQMP control measures, is expected to generate less than significant GHG emission impacts in the long-term.**

Project-Specific Mitigation: Since less than significant greenhouse gas impacts overall were identified, no mitigation measures are necessary or required.

Remaining Greenhouse Gas Impacts: Since no mitigation measures are required, greenhouse gas impacts remain less than significant.

Conclusion - Cumulative Greenhouse Gas Emissions Impacts: The preceding analysis concluded that GHG emissions impacts from construction and operational activities would be less than significant in the long-term as a result of implementing the proposed project. Thus, the GHG emissions impacts are not considered to be cumulatively considerable. The Final Program EIR for the 2022 AQMP also concluded that implementation of control measures in the 2022 AQMP was not cumulatively considerable to the significant impact and in fact is expected to improve the goal towards the mandated GHG reduction target. Therefore, the cumulative GHG impact was considered beneficial and less than significant.

4.3 ENERGY IMPACTS

The Final Program EIR for the 2022 AQMP assessed potential adverse energy impacts associated with the implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~. The analysis identified significant energy impacts from: 1) increase in electricity demand due to increased usage of zero-NOx emission technologies installed in residential ~~and commercial~~ settings, and 2) increase in natural gas demand to produce electricity.

4.3.1 Significance Criteria

Implementation of the PAR 1111 and PAR 1121 would be considered to have significant adverse energy impacts if any of the following conditions occur:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable energy resources in a wasteful and/or inefficient manner.

Short-Term Construction Impacts to Energy Resources

PAR 1111 and PAR 1121 will require zero-NOx emission heating units for installations in both new and existing residences ~~and commercial buildings~~. ~~Alternative compliance options are available for emergency replacements and installations requiring construction to expand the space to house or relocate a compliant unit and associated equipment, perform a service upgrade for necessary power, or replace a furnace that does not require the simultaneous replacement of space cooling equipment.~~ Space and water heating appliances for existing mobile homes and any mobile home in master-metered mobile home parks will be exempt from the zero-NOx emission standards, and mobile home appliances will transition to zero-NOx emission appliances in new mobile homes or when existing mobile homes are replaced with new mobile homes. Downflow space heating furnaces for high-altitude installation are also exempted from zero-NOx emission standards.

A Zero-NOx Manufacturer (ZEM) alternative compliance option is provided that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances. The targets change over time to transition the market to zero-NOx emission appliances. The ZEM alternative compliance option also includes fees for the sale of all NOx-emitting appliances, with higher fees for the NOx-emitting appliances sold over the compliance target. The fees for appliances sold over the targets increase annually to reflect consumer price index.

The ZEM alternative compliance option provides a transitional approach that allows continued sale of compliant NOx-emitting appliances while the market shifts toward zero-NOx emission technologies. This transition period helps facilitate the necessary infrastructure upgrades, such as expanding installation space or upgrading electrical service panels in residences, to support the installation of zero-NOx emission units. These upgrades are generally expected to be minor and achievable using hand tools.

~~The alternative compliance options allow time for necessary construction to occur so that the zero-emission heating units can be installed. Expansion of space to house units and service panel upgrades in residences are expected to be accomplished with hand tools, but service panel upgrades in commercial buildings are expected to require construction equipment.~~

The Final Program EIR for the 2022 AQMP anticipated that temporary increases in energy demand associated with the modifications to existing facilities are expected from construction equipment such as backhoes, cranes, welders, delivery trucks, and dump trucks. Construction equipment are typically powered by diesel or gasoline, although some types of equipment can be electric (e.g., welders). Construction equipment that use alternative fuels (e.g., natural gas, hydrogen, propane, LPG, etc.) are not currently available on the market and are not expected to be used. Construction activities are temporary, as is the use of fuel to power construction equipment, and would cease following completion of construction.

While construction activities would require the consumption of energy resources, these actions would enable the transition to zero-NOx emission technologies and help attain the federal 8-hour ozone standard which would in turn, provide beneficial air quality impacts. The energy required to operate electrified construction equipment would not be anticipated to cause a permanent increase in the demand for electricity in excess of the baseline electricity loads because construction activities are intermittent and short-term, and most of the currently available construction equipment relies on petroleum fuels. Construction equipment that uses electricity is largely limited to welding equipment for construction projects located at large facilities with access to electrical connections. Electricity associated with welding during construction activities would not result in a substantial depletion of existing energy resources or require the construction of new electric or natural gas utilities.

Renewable diesel, which produces fewer emissions than traditional diesel, is available and could be used in construction. California is also advancing renewable fuel projects to boost supply, with existing refineries set to produce over 130,000 barrels per day (47.5 million barrels per year) of renewable fuels. CEC has reported that other refineries have the capacity to blend biodiesel, with an estimated capacity of 110 million gallons annually. Therefore, the Final Program EIR for the 2022 AQMP concluded that sufficient supplies of renewable diesel or petroleum diesel are expected to be available. **Therefore, short-term construction-related energy resources impacts associated with implementation of the PAR 1111 and PAR 1121, similar to the 2022 AQMP, would not be expected to cause a substantial depletion of existing energy resource supplies or require the construction of new electric or natural gas facilities.**

Project-Specific Mitigation: Since no significant ~~air quality~~ energy impacts relating to construction activities were identified, no mitigation measures are necessary or required.

Remaining Energy Impacts from Short-Term Construction Impacts to Energy Resources: Since no mitigation measures are required, energy impacts related to construction activities remain less than significant.

Electricity Demand

Under the new rule concept, PAR 1111 and PAR 1121 will require either zero-NOx or low-NOx emission heating units for installations in both new and existing residences ~~and commercial~~

~~buildings~~; the rules will affect 5,237,000~~5,350,000~~ and 5,128,000 space and water heaters, respectively. Replacements of furnaces and water heaters will occur at the end of the current equipment's useful life although a number of replacements (0.5 percent) could occur prior to the end of useful life due to the availability of incentive funding.

The Final Program EIR for the 2022 AQMP estimated potential electricity use associated with various equipment/source categories, such as residential ~~and commercial~~ water and space heating, where sufficient data was available to make reasonable estimates. However, the Final Program EIR for the 2022 AQMP considered Basin-wide electricity use to form its conclusion regarding energy impacts due to electricity demand. Statewide electricity consumption was more than 279,000 GWh in 2020, with approximately 118,200 GWh (42 percent) in the South Coast Air Basin. [CEC, 2021]. CEC estimated an increase in electricity demand of about 1.6 percent annually through 2035. [CEC, 2021]. By applying that growth rate, the total electricity use in California would be approximately 354,000 GWh by 2035. Approximately 150,000 GWh (42 percent) of that would be within the South Coast Air Basin (assuming the percentage attributed to the South Coast Air Basin remains the same). The 2022 AQMP control measures would then increase the electricity demand by an additional estimated 13,429 GWh (approximately 11 percent over 2020 consumption and nine percent over the CEC projected growth) and this amount did not take into account the electricity that may be needed to operate additional air pollution control equipment or to convert combustion equipment to fully electric. Thus, the overall potential increase in electricity demand disclosed in the Final Program EIR for the 2022 AQMP could be higher.

Residential electrification, such as the transition to zero-NOx emission space and water heating appliances under PAR 1111 and PAR 1121, will contribute to increased electricity demand. This increase is expected to be incremental and somewhat offset in part by the reduction in residential natural gas use. Given that commercial installations are no longer part of the proposed project under the new rule concept for PAR 1111 and PAR 1121, the anticipated shift in energy demand is focused on residential applications, aligning with the state's broader goals for decarbonization.

In order for utilities to be able to provide sufficient electricity to meet future demands, the use of additional energy storage systems (e.g., battery arrays) is also a key component for being able to store electricity at the time when resources are available (e.g., when the sun shines and the wind blows), and to use that stored electricity at a later time. Further, the analysis in the Final Program EIR for the 2022 AQMP conservatively assumed that all sources affected by a control measure with the potential to increase demand for electricity, would use electricity rather than other forms of energy. In addition, any increase in electricity demand would likely result in a concurrent reduction in demand for other types of fuels, particularly petroleum fuels. Because the control measures in the 2022 AQMP were developed with the goal of attaining the federal ozone standard, the successful implementation of some of the control measures relied on the use of electricity in order to reduce NOx emissions, an overall air quality benefit for the region. Therefore, the 2022 AQMP was expected to result in a substantial depletion of existing energy (specifically electricity) resource supplies. The Final Program EIR for the 2022 AQMP concluded that significant adverse electricity demand impacts would be created by the 2022 AQMP because the potential increase in electricity usage would exceed baseline electricity consumption by up to 11 percent. Even after mitigation measures E-1 to E-7 were applied, electricity demand impacts would remain significant.

Table 4-6 utilizes a subset of Table 4.3-2 of the Final Program EIR for 2022 AQMP to estimate the electricity demand impacts from the proposed project (PAR 1111 and PAR 1121). Table 4.3-2 of the Final Program EIR for the 2022 AQMP forecasted electricity use based on the information

available at the time. At that time, of the anticipated two~~2~~ million water heaters and two~~2~~ million space heaters to be installed, 50 percent of residences were assumed to ~~would be~~ install zero-NOx units ~~emission~~ and 50 percent were assumed to ~~would be~~ install low-NOx units. However, PAR 1111 and PAR 1121 introduce a phased compliance structure through the Zero-NOx Emission Manufacturer (ZEM) alternative compliance option, which adjusts market penetration rates of zero-NOx appliances over time. Specifically, the ZEM targets require 30 percent of space heating units sold to be zero-NOx by 2027–2028, increasing to 50 percent by 2029–2032, 75 percent by 2033–2035, and 90 percent beginning in 2036. Correspondingly, the allowance for NOx-emitting units decreases over time, from 70 percent in the initial phase to 10 percent in Phase 4. These updated sales targets more accurately reflect the anticipated equipment mix for electricity demand forecasting.~~200,000 commercial buildings would convert to zero-emission technology with 50 percent of applicable sources replaced and a mitigation fee paid for the other 50 percent.~~ PAR 1111 and PAR 1121 will require zero-NOx emission heating units for installations in ~~both~~ new residences and zero-NOx and/or low NOx emission heating units in ~~and~~ existing residences ~~and commercial buildings~~; the rules will affect 5,237,000 ~~5,350,000~~ and 5,128,000 space and water heaters, respectively. In addition, 0.5 percent of the equipment replacements could occur prior to the end of useful life due to the availability of incentive funding.

However, under the new rule concept for PAR 1111, commercial building installations were removed; thus, the electricity demand impacts associated with installation of zero-NOx units will be limited to the residential sector. As shown in Table 4-6, the overall electricity demand increase attributable to these rules is anticipated to be less than what was previously estimated in the Draft SEA, but still significant. The Final Program EIR for the 2022 AQMP concluded that electricity demand impacts could be significant even after mitigation measures are applied. Further, even if the applicability of PAR 1111 and PAR 1121 is limited to residential buildings, the anticipated increase in electrical demand will remain significant for PAR 1111 and PAR 1121.

Table 4-6
Comparison of Potential Increase in Electricity Use Between 2022 AQMP and PAR 1111 and PAR 1121

	Control Measure	Total Number of Affected Units	Estimated Electricity Use(1)	Estimated Total Electricity Use (Gwh/Yr)
Final Program EIR for 2022 AQMP	R-CMB-01	Of 2 million water heaters installed, 50% of residences will be zero-NOx emission and 50% will be low NOx water heaters (2)	380-500 kWh/month	6,000
	R-CMB-02	Of 2 million space heaters installed, 50% of residences will be zero-NOx emission and 50% will be low NOx space heaters (3)	1.5 KWh/hr	600
	~~C-CMB-02~~	~~200,000 commercial buildings will convert to zero-emission technology with 50% of applicable sources replaced; mitigation fee for other 50% (1) and (3)~~	~~10 KWh/hr~~	~~400~~
	Total for Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~			**~~7,000~~ 6,600**
	Total for All 2022 AQMP Control Measures			13,429
	2020 Electricity Use within South Coast AQMD's Jurisdiction			118,210
	2022 Electricity Use within South Coast AQMD's Jurisdiction			123,141
	Electricity Percent Increase from All 2022 AQMP Control Measures			**11.3%**
	Updated Electricity Percent Increase from All 2022 AQMP Control Measures with Updated 2022 Electricity Use data			**10.9%**
PAR 1111 and PAR 1121 by 2028 (Phase 1)	**Control Measure**	**Total Number of Affected Units**	**Estimated Electricity Use(1)**	**Estimated Total Electricity Use (Gwh/Yr)**
	R-CMB-01	Of 5,128,000 water heaters installed, 30% of residences will be zero-NOx emission and 70% will be low NOx water heaters by 2028 (2)	380-500 kWh/month	9,230
	R-CMB-02	Of 5,237,000 space heaters installed, 30% of residences will be zero-NOx emission and 70% will be low NOx space heaters by 2028 (3)	1.5 KWh/hr	943
	Total			**10,173**
	Updated Total for All 2022 AQMP Control Measures			17,002
	2020 Electricity Use within South Coast AQMD's Jurisdiction			118,210
	2022 Electricity Use within South Coast AQMD's Jurisdiction			123,141
	Updated Electricity Percent Increase from All 2022 AQMP Control Measures			**14.4%**
	Updated Electricity Percent Increase from All 2022 AQMP Control Measures with Updated 2022 Electricity Use data			**13.8%**

Table 4-6 (continued)
Comparison of Potential Increase in Electricity Use Between 2022 AQMP and PAR 1111 and PAR 1121

	Control Measure	Total Number of Affected Units	Estimated Electricity Use[1]	Estimated Total Electricity Use (Gwh/Yr)
PAR 1111 and PAR 1121 by 2032 (Phase 2)	R-CMB-01	Of 5,128,000 water heaters installed, 50% of residences will be zero-NOx emission and 50% will be low NOx water heaters by 2032 [2]	380-500 kWh/month	15,384 ~~30,768~~
	R-CMB-02	Of 5,237,000 ~~5,350,000~~ space heaters installed, 50% of residences will be zero-NOx emission and 50% will be low NOx space heaters by 2032 [3]	1.5 KWh/hr	1,571 ~~3,210~~
	~~C-CMB-02~~	~~112,435 space heaters in commercial buildings will convert to zero-emission technology.~~	~~10 KWh/hr~~	~~450~~
	Total			**~~34,428~~ 16,955**
	Updated Total for All 2022 AQMP Control Measures			~~40,857~~ 23,784
	2020 Electricity Use within South Coast AQMD's Jurisdiction			118,210
	2022 Electricity Use within South Coast AQMD's Jurisdiction			123,141
	Updated Electricity Percent Increase from All 2022 AQMP Control Measures			**~~34.6%~~ 20.1%**
	Updated Electricity Percent Increase from All 2022 AQMP Control Measures with Updated 2022 Electricity Use data			**~~33.2%~~ 19.3%**
PAR 1111 and PAR 1121 by 2035 (Phase 3)	**Control Measure**	**Total Number of Affected Units**	**Estimated Electricity Use[1]**	**Estimated Total Electricity Use (Gwh/Yr)**
	R-CMB-01	Of 5,128,000 water heaters installed, 75% of residences will be zero-NOx emission and 25% will be low NOx water heaters by 2035 [2]	380-500 kWh/month	23,076
	R-CMB-02	Of 5,237,000 space heaters installed, 75% of residences will be zero-NOx emission and 25% will be low NOx space heaters by 2035 [3]	1.5 KWh/hr	2,357
	Total			**25,433**
	Updated Total for All 2022 AQMP Control Measures			33,262
	2020 Electricity Use within South Coast AQMD's Jurisdiction			118,210
	2022 Electricity Use within South Coast AQMD's Jurisdiction			123,141
	Updated Electricity Percent Increase from All 2022 AQMP Control Measures			**27.3%**
	Updated Electricity Percent Increase from All 2022 AQMP Control Measures with Updated 2022 Electricity Use data			**26.2%**

Table 4-6 (concluded)
Comparison of Potential Increase in Electricity Use Between 2022 AQMP and PAR 1111 and PAR 1121

	Control Measure	Total Number of Affected Units	Estimated Electricity Use[1]	Estimated Total Electricity Use (Gwh/Yr)
PAR 1111 and PAR 1121 by 2036 and after (Phase 4)	R-CMB-01	Of 5,128,000 water heaters installed, 90% of residences will be zero-NOx emission and 10% will be low NOx water heaters by 2036 and after [2]	380-500 kWh/month	27,691
	R-CMB-02	Of 5,237,000 space heaters installed, 90% of residences will be zero-NOx emission and 10% will be low NOx space heaters by 2036 and after [3]	1.5 KWh/hr	2,828
	Total			**30,519**
	Updated Total for All 2022 AQMP Control Measures			37,348
	2020 Electricity Use within South Coast AQMD's Jurisdiction			118,210
	2022 Electricity Use within South Coast AQMD's Jurisdiction			123,141
	Updated Electricity Percent Increase from All 2022 AQMP Control Measures			**31.6%**
	Updated Electricity Percent Increase from All 2022 AQMP Control Measures with Updated 2022 Electricity Use data			**30.3%**

(1) https://www.siliconvalleypower.com/residents/save-energy/appliance-energy-use-chart
(2) For purposes of calculating maximum electricity increases, all new units are assumed to be third-party provided power even though some portion will be solar powered.
(3) Assumes 4 hours of operation on 100 days per year when temperature is below 70° F.

Due to the increase in the number of affected equipment, the energy use estimate will increase from ~~7,000~~ 6,600 GWh/year ~~(~~for implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ in the Final Program EIR for 2022 AQMP~~)~~ to: 10,173 ~~34,358~~ GWh/year by 2028, 16,955 GWh/year by 2032; 25,433 GWh/year by 2035; and 30,519 GWh/year by 2036 and thereafter ~~(~~for implementation of the revised rule concept for PAR 1111 and PAR 1121~~)~~.

After updating the total affected units from implementing PAR 1111 and PAR 1121, the total electricity demand from implementing all 2022 AQMP control measures will increase from the original baseline 13,429 GWh to 37,348 GWh. ~~Overall, the electricity demand from implementation of all 2022 control measures will increase from 13,429 GWh (approximately 11.3 percent over 2020 consumption or 10.9 percent over 2022 consumption) to 40,857 GWh (approximately 34.6 percent over 2020 consumption and 33.2 percent over 2022 consumption).~~

On a percentage basis, implementation of the revised rule concept for PAR 1111 and PAR 1121 will increase electricity demand from 10.9 percent to: 13.8 percent by 2028 (representing a 2.9 percent interim increment); 19.3 percent by 2032 (representing a 5.5 percent interim increment); 26.2 percent by 2035 (representing a 6.9 percent interim increment); and 30.3 (representing a 4.1 percent increment and a total net increase of 19.4 percent from the revised baseline). The availability of incentive funding could cause the increase in electricity demand for 0.5 percent of

zero-NOx units being installed ~~to occur~~ sooner than if the ~~all~~ equipment were to be replaced at the end of useful life but the timing of when the incentive-driven replacements would occur is speculative and will not be further analyzed in this SEA.

~~This projected increase in the number of affected equipment from 4.2 million to over 10 million space and water heaters substantially changes the severity of overall energy impacts because, based on a 2022 consumption baseline, the Final Program EIR for the 2022 AQMP estimated a 10.9 percent increase in overall Basin-wide use of electricity at a minimum, stating that overall potential electricity use for all control measures implemented together could be higher; however, the minimum potential electricity use for all control measures implemented has increased to 33.2 percent.~~ When compared the analysis in the Final Program EIR for the 2022 AQMP, the incremental increase in electricity demand from implementing PAR 1111 and PAR 1121 is estimated to be approximately 19.4 percent greater. **Thus, the energy impacts from the implementation of PAR 1111 and PAR 1121 are more severe than what was previously estimated for the 2022 AQMP and as such, are expected to ~~be~~ remain significant for electricity demand.**

Project-Specific Mitigation: Because the energy impacts from the implementation of the 2022 AQMP were expected to be significant for electricity demand, the Final Program EIR for the 2022 AQMP provided feasible mitigation measures E-1 to E-7 for reducing impacts related to potential electricity demand. ~~Because~~ Mitigation measure E-5 minimizes impacts from charging electric vehicles and mobile sources, and mitigation measure E-6 pertains to use of electrical transportation systems, and these ~~two~~ sources are neither directly or indirectly applicable to ~~not affected by~~ Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~, nor PAR 1111 and PAR 1121. Energy mitigation measures E-1 to E-4, and E-7 from the Final Program EIR for the 2022 AQMP were developed to target electricity producers (e.g., utilities) and the projects they would implement to provide sufficient electricity in support of the 2022 AQMP Control Measures R-CMB-01 and R-CMB-02. At this time, South Coast AQMD has not received any details from the utility providers regarding any proposed modifications to their infrastructure to support generating more electricity. However, when the utility providers embark on future modifications to their electricity generation equipment, air permits will be needed and those projects will be subject to CEQA review, and mitigation measures will be required if significant impacts are identified. For these future utility-specific projects, the CEQA evaluation will examine whether additional mitigation measures are necessary, and whether the applicable aforementioned mitigation measures as adopted in the Final Program EIR for the 2022 AQMP and the corresponding Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP, need to be modified. For these reasons, no additional feasible mitigation measures have been identified in this SEA. Thus, only mitigation measures E-1 to E-4, and E-7 are indirectly applicable to minimizing energy impacts from increased electricity demand due to implementation of PAR 1111 and PAR 1121. The following mitigation measures have been identified for reducing potential electricity demand impacts:

E-1 Project sponsors should pursue incentives to encourage the use of energy efficient equipment and vehicles and promote energy conservation during electricity generation.

E-2 Utilities should increase capacity of existing transmission lines to meet forecast demand that supports sustainable growth where feasible and appropriate in coordination with local planning agencies.

E-3 Project sponsors should submit projected electricity calculations to the local electricity provider for any project anticipated to require substantial electricity consumption. Any infrastructure improvements necessary should be completed according to the specifications of the electricity provider.

E-4 Project sponsors should include energy analyses in environmental documentation with the goal of conserving energy through the wise and efficient use of energy.

E-7 Project sponsors should evaluate the potential for reducing peak energy demand by encouraging the use of electrified stationary sources during off-peak hours.

In addition, the mitigation measures that monitoring agencies shall implement are listed in the Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP that is incorporated by reference.[107]

Remaining Electricity Impacts: The preceding analysis concluded that significant adverse electricity demand impacts could be created by the proposed project because the potential increase in electricity usage would exceed the 2020 baseline electricity consumption by up to ~~33.2~~ 31.6 percent in 2036 and thereafter. **Even after the mitigation measures are applied, electricity demand impacts would remain significant. No additional feasible mitigation measures have been identified beyond those already included in the Final Program EIR for the 2022 AQMP. Thus, the previously adopted energy mitigation measures (e.g., E-1 through E-4 and E-7) which are applicable to PAR 1111 and PAR 1121, will remain in effect for managing any localized or incremental electricity impacts from implementing PAR 1111 and PAR 1121.**

Project-Specific Natural Gas Demand Impacts

PAR 1111 and PAR 1121 will require zero-NOx emission heating units for installations in both new and existing residences ~~and commercial~~ buildings; the rules will affect 5,237,000 ~~5,350,000~~ and 5,128,000 space and water heaters, respectively. Replacements of furnaces and water heaters will occur at the end of the current equipment's useful life although a number of replacements (0.5 percent) could occur prior to the end of useful life due to the availability of incentive funding.

The Final Program EIR for the 2022 AQMP determined that control measures in the 2022 AQMP, such as R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ were expected to result in: 1) an increase in demand for natural gas primarily associated with the production of electricity in the short-term, and 2) a decreased demand for natural gas appliances in ~~commercial and~~ residential setting. Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ were expected to require additional electricity. While the electrical grid needs to generate electricity that is comprised of 100 percent renewable energy by 2045 per Senate Bill 100 (SB 100, De León)[108] (and short-term natural gas usage for the production of electricity will cease), additional sources of electricity would be required in order to meet the 2035 goals of the 2022 AQMP.

[107] https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-attachment1toresolution.pdf
[108] Senate Bill 100, https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB100.

The potential for growth in electrification poses considerable uncertainty on when, where, and how large the impact on natural gas demand in California will be. For the residential ~~and commercial~~ building sectors, electrification of various appliances such as water heating would have the potential to decrease the use of natural gas. However, while there will be a shift from utilizing natural gas in these types of appliances for residential ~~and commercial~~ land uses to electricity, the potential for increased electrification of buildings would also contribute to an overall increase in electricity demand which could require natural gas-fired turbines and engines to ramp up operations to meet the increased load. This load increase could cause additional use of natural gas in electricity generation equipment. [California Gas and Electric Utilities, 2020].

SoCal Gas projections indicate that the total gas demand will decline at an annual rate of one percent between 2020 and 2035. The decline in natural gas demand is due to modest economic growth and California Public Utilities Commission (CPUC)-mandated energy efficiency standards and programs. Other factors that contribute to the downward trend are more stringent standards established in the revised Title 24 Building Codes, renewable electricity goals, a decline in core commercial and industrial demand, and conservation savings. [California Gas and Electric Utilities, 2020].

There are critical interdependencies between electricity and the natural gas system reliability in California. Natural gas-fired electricity generation has been an integral part of the electricity system, providing baseload power. It has also served as the backstop during drought conditions that reduce the availability of hydroelectric power generation. The role of natural gas-fired electricity generation in the electricity system is shifting with the addition of large amounts of renewable generation, primarily solar and wind. The large influx of renewable energy on the grid has reduced natural gas produced electricity from 53 percent of total electric generation in 2010 to 48 percent in 2020. Renewables have displaced a portion of daytime generation previously provided by natural gas, but the intermittency of solar and wind resources necessitates flexible resources that can quickly come on-line when the sun sets, or winds stop blowing. [CEC, 2021].
Total electric generation load (including large cogeneration and non-cogeneration electric generation for a normal hydro year) is expected to decline from 245 billion cubic feet in 2020 to 182 billion cubic feet in 2035, a decrease of 2.0 percent per year. The main factors for the decline are an increasing renewable energy target level, retirement of older natural gas-fired plants, and the addition of more efficient natural gas-fired plants. [California Gas and Electric Utilities, 2020].
Ultimately, as natural gas is generally widely available, natural gas supplies were not expected to be limited if the 2022 AQMP was implemented. The combined increase in natural gas demand needed for producing electricity and hydrogen and for fueling vehicles could be somewhat offset over the long-term by a decrease in demand for natural gas appliances in ~~commercial and~~ residential settings. However, over the short-term, the natural gas demand was expected to increase. Based upon these considerations, significant adverse energy impacts relating to natural gas demand were expected from implementing the 2022 AQMP.

Because the energy impacts from the implementation of the 2022 AQMP <u>were concluded</u> ~~are expected~~ to be significant for natural gas demand, the Final Program EIR for the 2022 AQMP provided the feasible mitigation measures E-8 to E-9 for reducing impacts related to potential natural gas demand. <u>Under the original rule concept for PAR 1111 and PAR 1121, the analysis assumed that 100 percent of replaced units would be zero-NOx emitting which would cause the natural gas demand to shift from being used in the appliances and instead be used to produce electricity. However, under the new rule concept for PAR 1111 and PAR 1121, up to 10 percent</u>

of low-NOx units may be installed and operating by 2036 and thereafter which means that a portion of natural gas will continue to be used to operate 10 percent of the appliances; thus, the amount of natural gas that would be utilized to generate electricity by the utilities will be reduced over time. Nonetheless, implementation of PAR 1111 and PAR 1121 is expected to ~~will~~ result in similar, significant natural gas demand impacts as implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ of the 2022 AQMP.

Project-Specific Mitigation: If significant adverse environmental impacts are identified in a CEQA document, the CEQA document shall describe feasible measures that could minimize the significant adverse impacts. [CEQA Guidelines Section 15126.4]. Therefore, feasible mitigation measures for reducing impacts related to potential natural gas demand are required. As individual control measures are promulgated as new or amended rules, additional mitigation measures may also be necessary to minimize electricity impacts. The following mitigation measures were identified in the Final Program EIR for the 2022 AQMP for reducing potential natural gas demand impacts, in additional to mitigation measures E-1 through E-4 and E-7 above. They will also apply to mitigating impacts from implementation of PAR 1111 and PAR 1121:

E-8 Projects that require a substantial increase in natural gas demand should consider the use of renewable gas, where available and feasible, including biofuel landfill gas and gas produced from renewable fuels projects.

E-9 Project sponsors should submit projected natural gas demand use to the local natural gas provider for any project anticipated to require substantial natural gas consumption. Any infrastructure improvements necessary should be completed according to the specifications of the natural gas provider.

Remaining Natural Gas Impacts: The preceding analysis concluded that significant adverse natural gas impacts could be created by the proposed project because of the potential increase in natural gas for electricity and hydrogen production. **No additional feasible mitigation measures have been identified beyond those already included in the Final Program EIR for the 2022 AQMP. Thus, the previously adopted natural gas mitigation measures (e.g., E-8 and E-9) which are applicable to PAR 1111 and PAR 1121, will remain in effect for managing any localized or incremental natural gas impacts from implementing PAR 1111 and PAR 1121. Even after the mitigation measures are applied, natural gas demand impacts would remain potentially significant.**

Conclusion - Cumulative Energy Impacts: The Final Program EIR for the 2022 AQMP concluded that overall implementation of the 2022 AQMP could result in significant adverse electricity demand impacts because the potential electricity usage would increase by 10.9 percent if the 2022 baseline electricity consumption is applied. If PAR 1111 and PAR 1121 are implemented, the potential electricity usage of the overall 2022 AQMP would increase by an estimated ~~33.2~~ 30.3 percent over the 2022 baseline electricity consumption. Significant impacts are also concluded for increased natural gas demand. The Final Program EIR for the 2022 AQMP concluded that the 2022 AQMP control measures, when combined with past, present, and reasonably foreseeable activities, in particular with transportation projects projected in the Connect SoCal Plan and the Proposed 2022 State SIP Strategy, would result in a significant increase in electricity and natural gas which may not currently be available and would contribute to cumulatively considerable impacts.

Cumulative Mitigation: No feasible mitigation measures are available that would eliminate or reduce the cumulatively considerable energy impacts from increased electricity and natural gas demand to less than significant levels.

Remaining Cumulative Energy Impacts: While energy impacts from increased electricity and natural gas demand are cumulatively significant, no feasible mitigation measures have been identified that would eliminate or reduce the significant adverse energy impacts to less than significant levels. Therefore, the cumulative energy impacts from increased electricity and natural gas demand remain significant and unavoidable. However, the Final Program EIR for the 2022 AQMP also concluded that the use of energy to comply with ambient air quality standards and climate change goals, while contributing to overall electricity and natural gas demand, does not result in the wasteful, unnecessary, or inefficient use of energy. Therefore, relative to the question of whether the proposed project would result in wasteful, unnecessary, or inefficient use of energy, the cumulative energy impacts are less than significant.

4.4 POTENTIAL ENVIRONMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT

CEQA requires this section of the SEA to identify the environmental topic areas that were analyzed and concluded to have no impacts or less than significant impacts if the proposed project is implemented. For the effects of a project that were determined not to be significant, CEQA Guidelines Section 15128 requires the analysis to contain a statement briefly indicating the reasons that various effects of a project were determined not to have significant impacts and were therefore not discussed in detail.

This subchapter of the SEA identifies the environmental topic areas that were previously analyzed in the Final Program EIR for 2022 AQMP and concluded to have either less than significant impacts or no impacts (e.g., aesthetics, agriculture and forestry resources; air quality and GHG emissions related to operational activities; biological resources; cultural and tribal resources; energy related to other sources except electricity demand and natural gas demand; geology and soils; hazards and hazardous materials; hydrology and water quality; land use and planning; mineral resources; noise, population and housing; public services; recreation; solid and hazardous waste; transportation; and wildfires). For all environmental topics except air quality and GHG emissions from construction and energy impacts related to electricity and natural gas demands, which are discussed and further analyzed in previous chapters (4.1, 4.2 and 4.3), this section assesses whether these previously evaluated environmental topic areas in the Final Program EIR for 2022 AQMP would be affected by PAR 1111 and PAR 1121.

Environmental Topic Areas Previously Concluded in the Final Program EIR for 2022 AQMP to Have No Impacts

The following environmental topic areas were previously analyzed and concluded in the Final Program EIR for 2022 AQMP to have no impacts: aesthetics; agriculture and forestry resources; biological resources; cultural and tribal resources; geology and soils; land use and planning; mineral resources; population and housing; public services; recreation; transportation; and wildfire.

This SEA independently considers the PAR 1111 and PAR 1121 and analyzes the incremental changes, if any, relative to the baseline which is the project analyzed in the Final Program EIR for 2022. Although the Final Program EIR for 2022 AQMP identified potential impacts in the environmental topic areas of hazards and hazardous materials and hydrology and water quality, the specific Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ were found to have no impacts in these areas. Consequently, this section will address the topics of hazards and hazardous materials and hydrology and water quality as well.

The activities and environmental impacts associated with implementing NOx emission limits and their compliance dates, as analyzed in the Final Program EIR for 2022 AQMP, are expected to produce similar effects in the environmental topic areas previously examined excluding air quality, greenhouse gas emissions, and energy, which are addressed in Sections 4.1, 4.2, and 4.3 of this document. Therefore, the incremental changes from implementing the proposed project are not anticipated to alter the previous conclusions of no impact for the following environmental topics: aesthetics; agriculture and forestry resources; biological resources; cultural and tribal resources; geology and soils; of hazards and hazardous materials; hydrology and water quality; land use and

planning; mineral resources; population and housing; public services; recreation; transportation; and wildfire. As a result, these topics are not further evaluated in this SEA. A brief summary of the previous conclusions and the reasons why these no-impact conclusions remain valid for PAR 1111 and PAR 1121 is provided for each of these environmental topic areas.

Aesthetics

The Final Program EIR for 2022 AQMP previously analyzed aesthetics impacts associated with control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~. The Final Program EIR for 2022 AQMP concluded that no aesthetics impacts would occur because: 1) modifications would typically occur inside buildings, within the confines of the affected facilities, or because of the nature of the business (e.g., commercial or residential), can easily blend in with the facilities with little or no noticeable effect on adjacent areas; 2) the control measures R- CMB-01 and R-CMB-02~~, and C-CMB-02~~ which focus on certain residential ~~and commercial~~ sources of air pollution (e.g., water heaters, space heaters), and any modifications needed would occur inside buildings or in the case of energy efficiency improvements such as installing solar, on the roofs of residential buildings; and 3) improved air quality would provide benefits to scenic vistas and resources throughout South Coast AQMD's jurisdiction. In addition, PAR 1111 and PAR 1121 will not require construction activities to install new or modify existing structures which means that PAR 1111 and PAR 1121 will also not require new light generating equipment or cause any changes in the visual profile of the facility structures, or adversely affect day or nighttime views in any areas. Therefore, the previous conclusion of no impact to aesthetics reached in the Final Program EIR for 2022 AQMP will continue to apply to PAR 1111 and PAR 1121.

Agriculture and Forestry Resources

The Final Program EIR for 2022 AQMP previously analyzed agriculture and forestry resources impacts associated with control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~. The Final Program EIR for 2022 AQMP concluded that no agriculture and forestry resources impacts would occur since implementation of control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ is not expected to generate any new construction of buildings or other structures that would require conversion of farmland to non-agricultural use, conflict with zoning for agricultural uses, or a Williamson Act contract. Further, the control measures typically affect existing facilities that are located in appropriately zoned areas. In addition, physical changes associated with the 2022 AQMP are expected to occur at previously developed sites and would not warrant construction in undeveloped areas where agricultural and forest resources are more likely to exist. The control measures, including control measures related to PAR 1111 and PAR 1121, would have no direct or indirect effects on agricultural or forest land resources because their focus is on achieving emission reductions by increasing the penetration of zero and low NOx technologies into market. Therefore, the previous conclusion of no impact to agriculture and forestry resources reached in the Final Program EIR for 2022 AQMP will continue to apply to PAR 1111 and PAR 1121.

Biological Resources

The Final Program EIR for 2022 AQMP previously analyzed biological resources impacts associated with implementation of control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~. The Final Program EIR for 2022 AQMP concluded that no biological resources impacts would occur as a result of implementation of its control measures because these activities would occur inside the boundaries of established facilities which have been previously cleared of vegetation and have already been paved for safety and fire prevention reasons and as such, would not result in or have the potential to result in the removal of vegetation with potential to support wildlife.

Similarly, PAR 1111 and PAR 1121 will continue to occur within the boundaries of existing industrial facilities which have been previously cleared of vegetation and have already been paved for safety and fire prevention reasons. Thus, PAR 1111 and PAR 1121 would not be expected to result in or have the potential to result in the removal of vegetation with potential to support wildlife. Therefore, the previous conclusion of no impact to biological resources reached in the Final Program EIR for 2022 AQMP will continue to apply to PAR 1111 and PAR 1121.

Cultural and Tribal Resources

The Final Program EIR for the 2022 AQMP assessed the impacts on cultural and tribal resources from implementing control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ and concluded that there would be no significant impacts on cultural and tribal resources. This is because the ~~commercial~~ areas affected are generally not located within historic districts, and the control measures are not expected to substantially alter the significance of any historical resources.

As part of the process, the South Coast Air Quality Management District (South Coast AQMD) sent a formal notice about the proposed project to all California Native American Tribes listed on the Native American Heritage Commission's (NAHC) notification list, as required by Public Resources Code Section 21080.3.1(b)(1). This notice allowed a 30-day period for tribes to request consultation. No tribes requested consultation during this period.

The provisions of CEQA, Public Resources Code Section 21080.3.1 et seq. (also known as AB 52), require meaningful consultation with tribes if there could be impacts on tribal cultural resources. These resources include sites, features, and objects with cultural value to tribes, which are eligible for listing on the California Register of Historical Resources or local historical registers. Tribes must request to be notified of projects affecting their traditionally and culturally affiliated areas.

Under PAR 1111 and PAR 1121, replacement of old equipment with new ones will not require any construction-related activities that would affect cultural or tribal cultural resources. In addition, if any new residential buildings are to be constructed, the project would be subject to project-level review, including separate tribal consultation pursuant to AB 52, as applicable, to address site-specific requests identified by the tribes. Therefore, impacts to tribal cultural resources are considered to be less than significant, and the 2022 AQMP is not expected to cause any impacts to significant historic cultural resources. Therefore, the previous conclusion of no impact to cultural and tribal resources reached in the Final Program EIR for 2022 AQMP will continue to apply to PAR 1111 and PAR 1121.

Geology and Soils

The Final Program EIR for 2022 AQMP previously analyzed geology and soil impacts associated with implementation of control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ and concluded that no geology and soil impacts would occur because the control measures would not directly or indirectly expose people or structures to earthquake faults, seismic shaking, seismic-related ground failure including liquefaction, lateral spreading, landslides, mudslides, or substantial soil erosion. Even though control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ would accelerate the penetration of zero-NOx emission or low NOx off-road equipment into market, replacing equipment such as water and space heaters would not be expected to require construction that would result in grading.

In addition, affected facilities or modifications to affected facilities, including the construction of new electricity infrastructure, would be required to comply with relevant California Building Code requirements in effect at the time of initial construction or modification of a structure. Even with ~~as a result of implementation of control measure C-CMB-02 which will require minimum amount of~~ minimal construction required in larger residential buildings, the California Building Code (CBC) as promulgated in the CCR, Title 24, Part 2, contains provisions to safeguard against major structural failures or loss of life caused by earthquakes or other geologic hazards. The CBC contains provisions for earthquake safety based on factors including the types of soil and rock onsite, and the strength of ground motion with specified probability of occurring at the site. The CBC requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. Additionally, CBC Section 1803.2 requires a geotechnical investigation that must evaluate soil classification, slope stability, soil strength, position and adequacy of load-bearing soils, the effect of moisture variation on soil-bearing capacity, compressibility, liquefaction, and expansiveness, as necessary. The geotechnical investigation must be prepared by registered professionals (i.e., California Registered Civil Engineer or Certified Engineering Geologist). Compliance with the requirements of the CBC for structural safety during a seismic event would reduce hazards from strong seismic ground shaking, as well as liquefaction, to less than significant. The issuance of building permits from the local cities or counties will assure compliance with the California Building Code requirements. Finally, no control measures would require the location of new facilities, or relocation of existing ones, in areas prone to liquefaction or other earthquake hazards. Land use decisions are under the authority of the local jurisdictions, typically cities or counties. The South Coast AQMD has no authority over land use decisions except to impose specific air pollution control requirements, which do not drive the land use approval process, and CEQA does not grant an agency new powers independent of the powers granted to the agency by other laws. The issuance of building permits from the local cities or counties will assure compliance with the California Building Code requirements. Finally, no control measures would require the location of new facilities, or relocation of existing ones, in areas prone to liquefaction or other earthquake hazards. Land use decisions are under the authority of the local jurisdictions, typically cities or counties. The South Coast AQMD has no authority over land use decisions except to impose specific air pollution control requirements, which do not drive the land use approval process, and CEQA does not grant an agency new powers independent of the powers granted to the agency by other laws.

Projects that occur as a result of the 2022 AQMP are largely expected to occur at ~~commercial and~~ industrial areas, and have a small construction footprint. Construction activities would be subject to local, regional, and state codes and requirements for erosion control and grading during construction. Projects would be subject to the National Pollution Discharge Elimination System (NPDES) permitting regulations, including the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) as applicable. Construction contractors would be required to prepare and implement a SWPPP and associated Best Management Practices (BMPs) in compliance with the Construction General Permit (CGP) during grading and construction of any site that disturbs more than one acre of land. Adherence to the BMPs in the SWPPP and adherence with local, regional, and state codes and requirements for erosion control and grading during construction would reduce, prevent, or minimize soil erosion from grading and construction activities. Therefore, soil erosion impacts would be less than significant.

Paleontological resources, commonly known as fossils, are the recognizable physical remains or evidence of past life forms found on earth in past geological periods — and can include bones,

shells, leaves, tracks, burrows, and impressions. Ground-disturbing activities such as grading, or excavation have the potential to unearth paleontological resources. Most facilities affected by 2022 AQMP control measures would be located on previously disturbed industrial and commercial sites where there is little likelihood of identifiable artifacts. It is possible, however, that cultural or archaeological resources or human remains may nevertheless be discovered. New installations of air pollution control equipment or infrastructure for zero-NOx emission and low NOx equipment are unlikely to require substantial soil excavation and would be located on already disturbed and developed industrial land uses. Therefore, no significant impact would occur. Further, projects implemented as a result of the 2022 AQMP would be subject to project-level review, including review of both geological and paleontological impacts under CEQA, as applicable. Therefore, implementation of the 2022 AQMP is not expected to directly or indirectly destroy a unique paleontological resource or site or unique geological feature or result in other significant adverse geology or soils impacts. Additionally, the nature of the construction activities that may result from implementing PAR 1111 and PAR 1121 will affect existing structures which house the equipment to be replaced and thus would not be expected to involve significant soil excavation or other activities that would disturb geological features. Therefore, the previous conclusion of no impact to geology and soil reached in Final Program EIR for 2022 AQMP will continue to apply to PAR 1111 and PAR 1121.

Hazards and Hazardous Waste

The Final Program EIR for 2022 AQMP previously concluded potential significant hazards and hazardous materials impacts associated with implementation of series of control measures in 2022 AQMP.

Implementation of the 2022 AQMP would be considered to have significant hazards or hazardous materials impacts if any of the following conditions occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment, or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

PAR 1111 and PAR 1121 does not contain any requirements that would interfere or conflict with the adherence with established design codes and safety regulations which are typically implemented through local planning departments and building permits through the plan check process. Thus, any proposed construction that may occur as a result of PAR 1111 and PAR 1121 would undergo rigorous checks to meet National Fire Protection Association standards and adhere to industry best practices for operating procedures. Additionally, the measures are structured to avoid significant impacts related to hazards and hazardous materials and include comprehensive protocols for leak detection, spill containment, and fire protection, minimizing the risk of hazardous emissions. The design and operational standards will be enforced to ensure that hazardous chemicals are managed safely, well below the ERPG 2 levels. Any construction occurring as a result of PAR 1111 and PAR 1121 would not be expected to supersede implementation of these safeguards.

The analysis in this SEA focuses on the following key components of PAR 1111 and PAR 1121 which propose to: 1) expand the applicability to include previously unregulated wall furnaces and floor furnaces with a rated heat input capacity ~~from~~ of less than 175,000 Btu/hr ~~to 2,000,000 Btu/hr that are currently unregulated~~; and 2) ~~divide the~~ ~~applicable units into four~~ establish three categories for the applicable unit, each with zero-NOx emission limits for new installations based on future effective dates~~, with a later implementation date for mobile home furnaces~~. PAR 1121 proposes to include zero-NOx emission limits for new installations based on future effective dates w~~ith a later implementation date for mobile home water heaters~~. Both PAR 1111 and PAR 1121 propose to: 1) differentiate the zero-NOx emission compliance dates for units installed in new or existing buildings; 2) provide a Zero-NOx Manufacturer (ZEM) alternative compliance option that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances ~~alternative compliance options for emergency replacement and installations requiring construction to expand the space to house or relocate a compliant unit and associated equipment, perform a service upgrade for necessary power, or replace a furnace that does not require the simultaneous replacement of space cooling equipment~~; 3) introduce informative materials, labeling, recordkeeping, and reporting requirements; 4) provide an exemption from zero-NOx emission requirements for mobile homes in ~~a~~ master-metered mobile home parks, existing mobile homes, and units for new buildings with building permit issued prior to the date of rule adoption; and 5) update and clarify rule language. Replacements of furnaces and water heaters will occur at the end of the current equipment's useful life although a number of replacements could occur prior to the end of useful life with the availability of incentive funding.

PAR 1111 and PAR 1121 are not anticipated to increase or create new hazardous emissions affecting the installation or replacement of space and water heaters in ~~commercial and~~ residential buildings. Instead, these measures are expected to improve air quality by reducing NOx emissions by up to 6.12 tpd by 2061~~ 7.7 tpd by 2055 and 2.3 tpd by 2045~~. Therefore, the implementation of PAR 1111 and PAR 1121 is not expected to impact hazards and hazardous materials.

Hydrology and Water Quality

The Final Program EIR for 2022 AQMP previously concluded potential significant hydrology and water quality impacts associated with implementation of series of control measures in 2022 AQMP.

Implementation of the 2022 AQMP would be considered to have significant adverse hydrology or water quality impacts if any of the following conditions occur:

Water Demand

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

Water Quality

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.

- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

The proposed PAR 1111 and PAR 1121 are designed to ensure compliance with these criteria. Specifically, the implementation of these measures will not require significant amounts of additional water, thus avoiding any increase in water demand beyond the thresholds specified. The measures do not involve activities that would lead to groundwater or surface water degradation, violate NPDES permit requirements, or strain wastewater treatment and sewer system capacities. Additionally, PAR 1111 and PAR 1121 do not introduce significant increases in impervious surfaces or alter floodwater courses. The focus of these measures is on improving air quality through reduced NOx emissions while ensuring that hydrology and water quality are not adversely impacted. Consequently, the implementation of PAR 1111 and PAR 1121 is anticipated to have no significant impact on hydrology and water quality.

The analysis in this SEA focuses on the following key components of PAR 1111 and PAR 1121 which propose to: 1) expand the applicability to include previously unregulated wall furnaces and floor furnaces with a rated heat input capacity ~~from~~ of less than ~~–~~ 175,000 Btu/hr ~~to 2,000,000 Btu/hr that are currently unregulated~~; and 2) ~~divide the applicable units into four~~ establish three categories for zero-NOx emission limits for new installations based on future effective dates~~, with a later implementation date for mobile home furnaces~~. PAR 1121 proposes to include zero-NOx emission limits for new installations based on future effective dates ~~with a later implementation date for mobile home water heaters~~. Both PAR 1111 and PAR 1121 propose to: 1) differentiate the zero-NOx emission compliance dates for units installed in new or existing buildings; 2) provide a Zero-NOx Manufacturer (ZEM) alternative compliance option that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances ~~alternative compliance options for emergency replacement and installations requiring construction to expand the space to house or relocate a compliant unit and associated equipment, perform a service upgrade for necessary power, or replace a furnace that does not require the simultaneous replacement of space cooling equipment~~; 3) introduce informative materials, labeling, recordkeeping, and reporting requirements; 4) provide an exemption from zero-NOx emission requirements for mobile homes in ~~a~~ master-metered mobile home parks, existing mobile homes, and units for new buildings with building permit issued prior to the date of rule adoption; and 5) update and clarify rule language. Replacements of furnaces and water heaters will occur at the end of the current equipment's useful life although a number of replacements could occur prior to the end of useful life with the availability of incentive funding.

PAR 1111 and PAR 1121 are not anticipated to increase or create new hydrology and water quality affecting the installation or replacement of space and water heaters in ~~commercial and~~ residential buildings. Instead, these measures are expected to improve air quality by reducing NOx emissions by up to 6.12 tpd by 2061 ~~7.7 tons per day by 2055 and 2.3 tons per day by 2045~~. Therefore, the

implementation of PAR 1111 and PAR 1121 is not expected to impact hydrology and water quality.

Land Use and Planning

The Final Program EIR for 2022 AQMP previously analyzed land use and planning impacts associated with implementation of control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ and concluded that no impacts to present or planned land uses in the region would occur because these control measures propose to promote the installation of stationary source control equipment such as water and space heaters, at existing ~~commercial or~~ residential facilities and would not create land use impacts because construction of major new developments (e.g., new neighborhoods) which would result in affecting land use planning.

Potential land use impacts associated with the control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ could come from the construction of support systems (e.g., electrical panel upgrade or installation). For purposes of evaluating potential land use impacts, the Final Program EIR for 2022 AQMP analysis concluded no significant land use impacts were identified because any activities undertaken to implement the control measures would be expected to comply with, and not interfere with, applicable land use plans, policies, or regulations of an agency with jurisdiction over the project, including, but not limited to the general plans, specific plans, local coastal programs or zoning ordinances. PAR 1111 and PAR 1121 focus on the installation of equipment in existing structures and do not propose new developments that would interfere with land use and planning. Additionally, any new developments affected by PAR 1111 and PAR 1121 would be required to comply with applicable land use plans, policies and regulations. Therefore, the previous conclusion of no impact to land use and planning reached in Final Program EIR for 2022 AQMP will continue to apply to PAR 1111 and PAR 1121.

Mineral Resources

The Final Program EIR for 2022 AQMP previously analyzed mineral resources impacts associated with implementation of control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ and concluded that there are no provisions in the 2022 AQMP that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. PAR 1111 and PAR 1121 provide incentives for the penetration of low NOx and zero-NOx emission technologies into market which are not expected to result in an increase in the use of mineral resources. The proposed project is not expected to require substantial construction activities and would not have any significant effects on the use of important minerals. Therefore, no new demand for mineral resources is expected to occur and no significant adverse mineral resources impacts from implementing the proposed project are anticipated. Therefore, the previous conclusion of no impact to mineral resources reached in the Final Program EIR for 2022 AQMP will continue to apply to PAR 1111 and PAR 1121.

Population and Housing

The Final Program EIR for 2022 AQMP previously analyzed population and housing impacts associated with implementation of control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ and concluded that proposed project is not anticipated to generate any significant effects, either direct or indirect, on the population or population distribution of people living in the South Coast AQMD's jurisdiction as no additional workers are anticipated to be required in order to implement any of the control measures. Consistent with past experience, it is expected that the existing labor

pool within the southern California area would accommodate the labor requirements for any modifications requiring construction at affected facilities. Additionally, the control measures contain no provisions that would cause displacement of substantial numbers of people or housing necessitating construction of replacement housing elsewhere. Accordingly, population and housing impacts are not expected from the implementation of the 2022 AQMP. Since PAR 1111 and PAR 1121 focus on the installation of equipment in existing structures and do not require new construction or major developments. As such, they are not expected to impact population or housing availability. Therefore, the previous conclusion of no impact to population and housing reached in the Final Program EIR for 2022 AQMP will continue to apply to PAR 1111 and PAR 1121.

Public Services

The Final Program EIR for 2022 AQMP previously analyzed public services impacts associated with implementation of control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ and concluded that fire protection and emergency medical services would be provided to affected facilities and residential developments by local county and city fire departments. Although the implementation of the control measures would use alternative fuels (e.g., hydrogen), alternative fuels would displace gasoline and diesel fuels. As first responders to emergency situations, fire departments are trained to respond to a variety of situations related to hazardous materials. Large industrial facilities (e.g., electric generating plants and refineries) have on-site fire response personnel and the local fire departments provide assistance to the on-site personnel. Therefore, no increase in calls for fire protection, and emergency medical service would be expected from implementation of the control measures. New residential ~~and commercial~~ developments would be required to comply with Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ and development proposals would be subject to project-level review by the local land use agency, including review of fire protection impacts under CEQA, as applicable.

Furthermore, all activities undertaken as a result of implementing the control measures would be required to comply with fire-related safety features in accordance with the applicable provisions of the adopted California Fire Code, any county or city ordinances, and standards regarding fire prevention and suppression measures related to water improvement plans, fire hydrants, fire access, and water availability. Based on the preceding discussion, implementation of the control measures would not adversely affect the ability of local fire protection to provide adequate service and impacts would be less than significant.

Implementation of the control measures would not result in an increase in calls for police protection. Implementation of the control measures occur at existing facilities or promote transition to cleaner emitting equipment at new developments but would not facilitate the construction of new development. At existing industrial facilities, on-site security is typical and would be expected to continue to with the same demand for police department support as is currently needed. In addition, new residential ~~and/or commercial~~ developments would be required to comply with the Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ and the development proposals would be subject to project-level review by the local land use agency, including review of police protection impacts under CEQA, as applicable.

Since PAR 1111 and PAR 1121 focus on the installation of equipment in existing structures and do not require new construction or major developments. As such, they are not expected to impact population or housing availability and would not induce population growth either directly or

indirectly. With no increase in local population, there would be no additional demand for new or expanded schools, parks, and libraries and no other adverse population or housing impacts are expected. Therefore, the previous conclusion of no impact to public services reached in the Final Program EIR for 2022 AQMP will continue to apply to PAR 1111 and PAR 1121.

Recreation

The Final Program EIR for 2022 AQMP previously analyzed recreation impacts associated with implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ and concluded the implementation of the control measures does not include the development of new homes, which would lead to an increase in population and thereby, the need for additional park and recreation facilities. Since PAR 1111 and PAR 1121 focus on the installation of equipment in existing structures and do not require new construction or major developments, implementation of PAR 1111 and PAR 1121 would not increase the need for or the use of existing neighborhood and regional parks or other recreational facilities, nor would these rules require the construction of new or expanded parks or recreational facilities. No impacts to park and recreational facilities would occur and no mitigation measures are necessary. Therefore, the previous conclusion of no impact to the topic of recreation reached in the Final Program EIR for 2022 AQMP will continue to apply to PAR 1111 and PAR 1121.

Transportation

The Final Program EIR for 2022 AQMP previously analyzed transportation impacts associated with implementation of control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ and concluded that no transportation impacts would occur because;

1) development of incentives to remove/replace higher emitting equipment is not expected to substantially alter vehicle mileage or transportation routes.

2) the 2022 AQMP builds upon transportation and related TCMs developed by SCAG and included in the SCAG RTP/SCS. Therefore, the control measures would not conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

3) While implementation of the control measures has the potential to result in an increase in transportation related to construction of new or modified air pollution control equipment, construction activity impacts, including construction trips and vehicle miles traveled (VMT) associated with contractors and vendors delivering and installing equipment at affected facilities, are temporary in nature and will vary depending on the number and location of facilities, and the size of the construction workforce needed.

4) the CARB Technical Advisory on Evaluating Transportation Impacts in CEQA to comply with CEQA Guidelines Section 15064.3 focuses on permanent, new employee VMT. [California Office of Planning and Research, 2018]. Because of the temporary nature of construction activities, any increase in VMT related to construction activities would occur on a short-term basis at each location. In general, temporary construction-related increases in VMT are not considered to be a transportation impact or inconsistent with the requirements in CEQA Guidelines Section 15064.3, as they do not have a permanent impact on regional VMT. Additionally, discretionary projects at affected facilities could be subject to project-level review under CEQA. Therefore, temporary effects of construction-related vehicles would not conflict with the state's GHG reduction and associated VMT goals for the transportation sector.

5) implementation of the control measures does not involve or require the construction of new roadways, alter existing roadways, or introduce incompatible uses to existing roadways.

Given that PAR 1111 and PAR 1121 are designed to replace equipment in existing structures without requiring significant new construction or changes in operational demands, they will not result in substantial transportation impacts. Therefore, the previous conclusion of no impact for the topic of transportation reached in the Final Program EIR for 2022 AQMP will continue to apply to PAR 1111 and PAR 1121.

Wildfires

The Final Program EIR for 2022 AQMP previously analyzed wildfire impacts associated with implementation of control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ and concluded that no wildfire impacts would occur because activities that result from implementation of the control measures would not block or otherwise interfere with the use of evacuation routes; nor would they interfere with operations of emergency response agencies or with coordination and cooperation between such agencies. Therefore, there would be no impacts on emergency activities.

The Final Program EIR for 2022 AQMP concluded that implementation of the control measures would affect existing ~~commercial facilities and~~ residences and develop incentives to remove/replace higher emitting equipment. ~~Since commercial areas are not typically located near wildland or forested areas, implementation of the control measures is not expected to increase the risk of wildland fires. Therefore, affected industrial facilities are expected to be devoid of plant life (except landscape vegetation), especially native vegetation. Similarly,~~ For control measures R-CMB-01 and R-CMB-02, ~~that affect~~ which are applicable to residential land uses, any modifications ~~needed~~ would be expected to occur inside the existing buildings or in the case of energy efficiency improvements such as installing new water and space heaters, would not be expected to create any greater risk of wildland fires than the existing residential developments themselves. Moreover, these ~~proposed~~ residential control measures may involve replacing gas-fired water heaters, space heaters, reducing the use of fuel and the potential to cause wildland fires.

Any structures subject to the implementation of these control measures that would be located in fire hazard severity zones are required to be designed, built, and operated in accordance with state regulations specifying building materials and structural designs for structures in such zones, including CBC Chapter 7A and California Fire Code Chapter 49; regulatory requirements for defensible space including Public Resources Code Section 4291 et seq.; and subject to project-level CEQA review, including review of wildfire impacts, as applicable. Electric utilities are required to abide by the requirements of the California Public Utilities Commission (CPUC) Fire Safety Regulations as they relate to utility poles and wires, and vegetation management.

It is also important to note that additional safety measures are in place to minimize the impacts of pollutant concentrations from wildfire ash. For example, recognition of the growing threat that wildfire smoke poses to public health and safety has resulted in a response led by the U.S. Forest Service and enhanced partnership with many other agencies, such as the National Park Service. The Wildland Fire Air Quality Response Program (WFAQRP) was created to directly assess, communicate, and address risks posed by wildfire smoke to the public as well as fire personnel. South Coast AQMD also issues air quality alerts, advisories, and forecasts by email through

www.AirAlerts.org. South Coast AQMD also maintains an interactive online map to view current air quality conditions in the region. Therefore, the Final Program EIR for 2022 AQMP concluded that the control measures in the 2022 AQMP, including Control Measures R-CMB-01 and R-CMB-02, are not expected to result in structures being built within or adjacent to wildfire areas, or result in an increased risk of wildfire.

Catastrophic wildfire can create favorable conditions for other hazards, such as flooding and landslides during the rainy season. ~~However, since commercial areas are not typically located near wildland or forested areas, implementing the 2022 AQMP control measures would not expose people or structures to post-fire hazards such as flooding, landslides, slope instability, or drainage changes. Any new structures subject to the implementation of the control measures (e.g., new residential developments) that would be located in fire hazard severity zones would be subject to project-level CEQA review, including review of wildfire impacts, as applicable.~~ However, control measures applicable to reducing emissions from residential developments (e.g., R-CMB-01 and R-CMB-02) do not affect the siting of residential developments. Therefore, the Final Program EIR for 2022 AQMP concluded that there would be no impacts or increased fire risks to people or structures associated with implementation of the 2022 AQMP. In addition, given that PAR 1111 and PAR 1121 are designed to replace equipment located within existing structures, even if some structures are located within fire-prone areas, the nature of the construction activities would be minimal and would occur mainly indoors, and thus, would not be expected to increase wildfire risks. Therefore, the previous conclusion of no impact to wildfire reached in the Final Program EIR for 2022 AQMP will continue to apply to PAR 1111 and PAR 1121.

Environmental Topic Areas Previously Concluded in the Final Program EIR for 2022 AQMP to Have Less Than Significant Impacts

The following environmental topic areas were previously analyzed and concluded in the Final Program EIR for 2022 AQMP to have less than significant impacts related to control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~: noise and solid and hazardous waste.

The following discussion independently considers the currently proposed project (PAR 1111 and PAR 1121) and analyzes the incremental changes, if any, relative to the baseline which is the project analyzed in the Final Program EIR for 2022 AQMP, in order to determine if the previous conclusions of less than significant impacts for the environmental topic areas of noise, and solid and hazardous waste need to be changed.

Noise

The Final Program EIR for 2022 AQMP concluded that noise impacts from some control measures, including R-CMB-01 and R-CMB-02~~, and C-CMB-02~~, would be less than significant. The primary sources of noise would be brief and associated with the replacement of appliances such as water heaters and space heaters in residential ~~and commercial~~ settings. These sources include delivery trucks, electronic hand trucks for moving appliances, and hand tools for disconnecting and connecting appliances. Given the temporary nature and limited scope of these activities, the noise impacts are anticipated to be less than significant.

For electrical panel upgrades in ~~commercial~~ residential buildings, if needed, typical construction equipment includes:

- Hand tools such as screwdrivers, pliers, wire cutters, and wire strippers for handling and installing electrical components.

- Power tools including drills for making mounting holes and reciprocating saws for cutting through materials if necessary.
- Safety equipment like insulated tools, gloves, and safety glasses to ensure protection against electrical hazards.
- Electrical equipment such as voltage testers and circuit finders to safely work on electrical systems.
- Heavy mobile, equipment such as lifts or scaffolding to reach high-mounted panels and portable work lights to ensure adequate illumination in work areas.
- Miscellaneous items including conduit benders, cable trays, and mounting hardware.

Most of this construction equipment does not generate significant levels of noise. The construction activities associated with panel upgrades are generally short-term and involve relatively low-noise emitting equipment compared to other types of construction work.

Additionally, the Final Program EIR for the 2022 AQMP addressed potential noise impacts from construction activities occurring near sensitive receptors (e.g., residences, hotels, hospitals). Noise impacts would vary based on existing ambient noise levels and the proximity of sensitive receptors to where the construction activities will occur ~~sites~~. Typically, modifications would occur in already developed ~~industrial or commercial~~ zones, where noise impacts on sensitive receptors are expected to be minimal.

Similar to what was anticipated in the Final Program EIR for the 2022 AQMP specific to the ~~regarding~~ implementation of residential ~~and commercial~~ control measures, implementation of PAR 1111 and PAR 1121 ~~PAR 1121~~ is expected to involve minimal construction equipment ~~beyond~~ such as hand tools for the installation of zero-NOx emission heaters in residences. If an electrical panel upgrade is needed, the construction activities can be divided into two phases: construction work performed by the utility provider to deliver power from the transformer or electrical pole to the building, and work performed by the property owner or the property owner's contractor on the electrical panel(s) and the building's wiring system. Work performed by the utility provider ~~work~~ might involve a backhoe, crane, forklift, manlift, concrete saw, and/or welder, as estimated in the Final Program EIR for 2022 AQMP. Work performed by the property owner or the property owner's contractor ~~work~~, may ~~which~~ vary from structure to structure depending on ~~the~~ each building's ~~specifics~~ layout, could range from hand tools to ~~more extensive~~ larger equipment such as a backhoe for digging a ~~like~~ trenching ~~with a backhoe~~ and a forklift to lay~~ing~~ conduit ~~with a forklift~~. Multi-story and high-rise buildings will generally require more extensive construction activities using larger equipment ~~effort~~ when compared to single-story structures, making it challenging to standardize the potential noise profile of these construction activities ~~impacts~~.

~~PAR 1111 will impact approximately 200,000 commercial buildings. A report from Southern California Edison (SCE) indicates that a significant number of electrical panels in these buildings were installed before 1962, which may necessitate panel upgrades and potentially result in temporary construction noise.~~ ~~However~~ Nonetheless, the types of construction equipment that will be used to implement ~~for~~ these upgrades are not expected to generate significant noise. Therefore, the previous conclusion of less than significant noise impacts related to control measures R-CMB-

01 and R-CMB-02~~, and C-CMB-02~~ will continue to apply to PAR 1111 and PAR 1121.

Solid and Hazardous Waste

The Final Program EIR for 2022 AQMP concluded less than significant ~~determined that the~~ impacts for the topic of solid and hazardous waste as a result of implementing ~~from~~ Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-~~02 would be less than significant. The anticipated construction activities involve replacing old appliances or equipment, such as water heaters and space heaters, with new, electrified or low NOx models. This includes both the replacement of existing equipment in residential ~~and commercial~~ settings and the installation of new appliances in new developments.

The replacement of outdated, aging equipment is driven by the end of its useful life or high repair costs and may be accelerated by financial incentives offered by local utilities. When equipment is removed, it is typically either dismantled with the metals sold as scrap or, if still functional, sold for reuse outside the South Coast AQMD jurisdiction. For these activities, minimal construction waste is expected. New zero-NOx emission or low NOx appliances are generally selected to fit within the existing footprint of the units they replace, minimizing additional waste. Packaging waste, such as cardboard, plastic bags, straps, and padding, is recyclable and represents a minor component of the overall waste generated. If modifications are needed to accommodate new appliances, such as upgrading electrical plugs, the resulting construction waste would be minimal.

In the case of new residential ~~and commercial~~ developments, the decision to install zero-NOx emission or low NOx appliances is integrated into the construction design plans from the outset. While new construction generates some waste, the addition of these appliances contributes only minimal additional waste, primarily from packaging.

PAR 1111 and PAR 1121, which propose to replace furnaces and water heaters, will continue to follow the same approach, with many replacements occurring at the end of the equipment's useful life and some potentially happening earlier due to incentive funding. Given these considerations, the previous conclusion of less than significant impacts regarding solid and hazardous waste from control measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ remains applicable to PAR 1111 and PAR 1121.

4.5 SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

CEQA Guidelines Section 15126(b) requires an environmental analysis to consider "any significant environmental effects which cannot be avoided if the proposed project is implemented." This SEA identified the topics of air quality from construction and energy as the only environmental topic areas having potentially significant adverse environmental affects if the proposed project is implemented.

4.6 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines Section 15126(c) requires an environmental analysis to consider "any significant irreversible environmental changes which would be involved if the proposed action should be implemented." This SEA identified the topics of air quality from construction and energy as the only environmental areas with potentially significant adverse impacts if the proposed project is implemented. Air quality impacts from construction are temporary in nature and therefore, not considered to be an irreversible environmental change. Similarly, natural gas impacts are determined to be significant in the short-term in order to produce electricity; however, natural gas demand will decrease over the long-term, shifting with the addition of large amounts of renewable energy generation. Significant adverse impacts to energy from electricity demand cannot be mitigated to less than significant levels; thus, they may be considered irreversible because operators that install new and replacement space and water heaters for reducing NOx emissions are likely to operate these systems for the lifetime of the equipment, resulting in an irreversible increase to electricity demand.

4.7 POTENTIAL GROWTH-INDUCING IMPACTS

CEQA Guidelines Section 15126(d) requires an environmental analysis to consider the "growth-inducing impact of the proposed action." CEQA defines growth-inducing impacts as those impacts of a proposed project that "could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects, which would remove obstacles to population growth." [CEQA Guidelines Section 15126.2(d)].

To address this issue, potential growth-inducing effects are examined through the following considerations:

- Facilitation of economic effects that could result in other activities that could significantly affect the environment;
- Expansion requirements for one or more public services to maintain desired levels of service as a result of the proposed project;
- Removal of obstacles to growth through the construction or extension of major infrastructure facilities that do not presently exist in the project area or through changes in existing regulations pertaining to land development;
- Adding development or encroachment into open space; and/or
- Setting a precedent that could encourage and facilitate other activities that could significantly affect the environment.

4.7.1 Economic and Population Growth, and Related Public Services

A project would be considered to directly induce growth if it would directly foster economic or population growth or the construction of new housing in the surrounding environment (e.g., if it would remove an obstacle to growth by expanding existing infrastructure such as new roads or wastewater treatment plants). The 2022 AQMP was designed to reduce emissions from existing emission sources and promote the use of the cleanest technology available. PAR 1111 and PAR 1121 implement control measures from the 2022 AQMP which focus on maximizing the

implementation of existing zero-NOx emission technologies. Neither the 2022 AQMP nor PAR 1111 and PAR 1121 would be cause of residential~~, commercial, or industrial~~ development.

The Final Program EIR for the 2022 AQMP concluded that implementation of the 2022 AQMP would not remove barriers to population growth, as it involved no changes to a General Plan, zoning ordinance, or a related land use policy. PAR 1111 and PAR 1121, evaluated in this SEA, contain incremental changes to the project previously evaluated in the Final Program EIR for the 2022 AQMP. The proposed project would also not be expected to remove barriers to population growth, since implementation of the proposed project does not involve any changes to a General Plan, zoning ordinance, or a related land use policy.

Further, the proposed project, as with the project evaluated in the Final Program EIR for the 2022 AQMP, does not include policies that would encourage the development of new housing or population-generating uses or infrastructure that would directly encourage such uses. The proposed project, as with the project evaluated in the Final Program EIR for the 2022 AQMP, does not change jurisdictional authority or responsibility concerning land use or property issues. Land use authority falls solely under the purview of the local governments. The South Coast AQMD is specifically excluded from infringing on existing city or county land use authority (Health and Safety Code Section 40414). Therefore, PAR 1111 and PAR 1121 would not directly trigger new residential development in the area or alter land use policies.

PAR 1111 and PAR 1121 may result in construction activities; however, they would not directly or indirectly stimulate substantial population growth, remove obstacles to population growth, or necessitate the construction of new community facilities that would lead to additional growth within South Coast AQMD's jurisdiction. It is expected that construction workers will be largely drawn from the existing workforce pool in southern California. Considering the existing labor force is about 8.8 million in the region and current unemployment rate of four to five percent,[109] it is expected that a sufficient number of workers are available locally and that few or no workers would need to relocate for construction jobs potentially created by the proposed project as construction activities would be spread over a period of 2027~~3~~ to 20613~~6~~. Further, PAR 1111 and PAR 1121 would not be expected to result in an increase in local population, housing, or associated public services (e.g., fire, police, schools, recreation, and library facilities) since no increase in population or the permanent number of workers is expected. Likewise, the proposed project would not create new demand for secondary services, including regional or specialty retail, restaurant or food delivery, recreation, or entertainment uses. As such, the proposed project would not foster economic or population growth in the surrounding area in a manner that would be growth-inducing.

Thus, implementing the proposed project will not, by itself, have any direct or indirect growth-inducing impacts on businesses in the South Coast AQMD's jurisdiction because it is not expected to foster economic or population growth or the construction of additional housing and primarily affects existing facilities.

[109] EDD, Labor Market Information Division, Labor Market Information by County, July 2022. https://www.labormarketinfo.edd.ca.gov/geography/lmi-by-county.html

4.7.2 Removal of Obstacles to Growth

Similar to the 2022 AQMP, PAR 1111 and PAR 1121 will be implemented within South Coast AQMD's jurisdiction which is located within an existing urbanized area where adequate infrastructure is already in place to serve the existing surrounding population. The proposed project would not employ activities or uses that would result in growth inducement, such as the development of new infrastructure (e.g., new roadway access) that would directly or indirectly cause the growth of new populations, communities, or currently undeveloped areas. PAR 1111 and PAR 1121 are not expected to result in the use of energy resources in a wasteful manner. However, the project includes incentives to increase electrification of residential ~~and commercial~~ space and water heaters.

As analyzed earlier in this energy section of this chapter, PAR 1111 and PAR 1121 could result in an ~~substantial~~ increase in severity of the electricity and natural gas demand, the impact of which is potentially significant. In the CEQA Guidelines, Appendix F: Energy Conservation, the wise and efficient use of energy includes: 1) decreasing overall per capita energy consumption; 2) decreasing reliance on fossil fuel such as coal, natural gas, and oil; and 3) increasing reliance on renewable energy sources. Implementation of PAR 1111 and PAR 1121 would increase demand for renewable energy because the increased use of zero-NOx emission technologies would increase the use of electricity and decrease the use of other higher-emitting technologies. Thus, PAR 1111 and PAR 1121 would support the efficient use of energy by increasing the reliance on renewable energy sources, providing a beneficial long-term operational impact on energy conservation.

While construction and operation activities that may occur as a result of the proposed project will require trips associated with construction workers and delivery of supplies, the trips are expected to occur via existing roadways and transportation corridors. Thus, the proposed project is not expected to require the development of new roads or freeways. Likewise, PAR 1111 and PAR 1121 would not result in the expansion of public service facilities (e.g., police, fire, libraries, and schools). However, growth induced by PAR 1111 and PAR 1121 would be limited to the increase in electricity and natural gas to support the increased penetration of low NOx and zero-NOx emission technologies.

4.7.3 Development or Encroachments into Open Space

Development can be considered growth-inducing when it is not contiguous to existing urban development and introduces development into open space areas. Similar to the 2022 AQMP, PAR 1111 and PAR 1121 will be implemented within South Coast AQMD's jurisdiction which is located within an existing urbanized area. The areas where construction activities may occur would be at existing stationary sources and along transportation corridors. Stationary sources are located within residential ~~and commercial~~ areas. Any related construction activities would be expected to be within the confines of the existing facilities and would not encroach into open space.

4.7.4 Precedent Setting Action

The 2022 AQMP demonstrated attainment of the 8-hour federal 70 ppb ozone standard by 2037 as required by the CAA. The federal CAA requires ozone nonattainment areas to prepare a State Implementation Plan which must be submitted to the U.S. EPA. Therefore, the 2022 AQMP was prepared to comply with federal air quality planning regulations and requirements. The proposed

project is being prepared to demonstrate compliance with federal air quality planning regulations and requirements as initially proposed in control measures of the 2022 AQMP. This proposed project would not result in precedent-setting actions that might cause other significant environmental impacts (other than those already evaluated in the Final Program EIR for the 2022 AQMP).

4.7.5 Conclusion

The 2022 AQMP was developed to comply with federal air quality planning requirements for ozone, and PAR 1111 and PAR 1121 implement control measures in the 2022 AQMP. PAR 1111 and PAR 1121 are not expected to foster economic or population growth, nor result in the construction of additional housing or other infrastructure, either directly or indirectly, that would further encourage growth. PAR 1111 and PAR 1121 could result in construction projects at existing stationary sources and along existing transportation corridors. However, the proposed project would not be considered growth-inducing, because it would not result in an increase in production of resources or cause a progression of growth that could significantly affect the environment either individually or cumulatively, other than as evaluated in Chapter 4 of this SEA.

4.8 RELATIONSHIP BETWEEN SHORT-TERM AND LONG-TERM ENVIRONMENTAL GOALS

CEQA documents are required to explain and make findings about the relationship between short-term uses and long-term productivity. [CEQA Guidelines Section 15065(a)(2)]. An important consideration when analyzing the effects of a proposed project is whether it will result in short-term environmental benefits to the detriment of achieving long-term goals or maximizing productivity of these resources. Implementing the proposed project is not expected to achieve short-term goals at the expense of long-term environmental productivity or goal achievement. The objectives of the proposed project are to: 1) reduce NOx emissions from residential water heaters and residential ~~and commercial~~ space heaters, by proposing NOx limits that represent BARCT for the applicable equipment; 2) address challenges with installation of zero-NOx emission technology through differentiated compliance dates for new versus existing buildings, alternative compliance options, exemptions, and other means; and 3) provide incentive funds to facilitate the transition to zero-NOx emission technologies and promote further emission reductions earlier than required. By achieving additional reductions in NOx, an ozone and PM2.5 precursor, the proposed project will help attain federal and state air quality standards which are expected to enhance short and long-term environmental productivity in the region.

Implementing the proposed project does not narrow the range of beneficial uses of the environment. Of the potential environmental impacts discussed in Chapter 4, only those related to air quality during construction and energy impacts due to electricity and natural gas demand are considered potentially significant. Implementation of mitigation measures will ensure such impacts are mitigated to the greatest extent feasible.

CHAPTER 5

ALTERNATIVES

Introduction

Methodology for Developing Project Alternatives

Description of Alternatives to the Proposed Project

Alternatives Analysis

Comparison of Alternatives to the Proposed Project

Alternatives Rejected as Infeasible

Lowest Toxic and Environmentally Superior Alternative

Conclusion

5.0 INTRODUCTION

This SEA provides a discussion of alternatives to the proposed project as required by CEQA. The alternatives discussion includes measures for attaining the objectives of the proposed project and provide a means for evaluating the comparative merits of each alternative. A 'no project' alternative must also be evaluated. The range of alternatives must be sufficient to permit a reasoned choice but need not include every conceivable project alternative. CEQA Guidelines Section 15126.6(c) specifically notes that the range of alternatives required in a CEQA document is governed by a 'rule of reason' and only necessitates that the CEQA document set forth those alternatives necessary to permit a reasoned choice. The key issue is whether the selection and discussion of alternatives fosters informed decision making and public participation. A CEQA document need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative. In addition, South Coast AQMD's certified regulatory program pursuant to Public Resources Code Section 21080.5, CEQA Guidelines Section 15125(l), and South Coast AQMD Rule 110 does not impose any greater requirements for a discussion of project alternatives in a SEA than is required for an EIR under CEQA.

5.1 METHODOLOGY FOR DEVELOPING PROJECT ALTERNATIVES

The alternatives typically included in CEQA documents for proposed South Coast AQMD rules, regulations, or plans are developed by breaking down the project into distinct components (e.g., emission limits, compliance dates, applicability, exemptions, pollutant control strategies, etc.) and varying the specifics of one or more of the components. Different compliance approaches that generally achieve the objectives of the project may also be considered as project alternatives. CEQA Guidelines Section 15126.6(b) states that the purpose of alternatives is to identify ways to mitigate or avoid significant effects that a project may have on the environment.

The initial analysis of the proposed project determined that, of the amendments proposed, only the components that pertain to the compliance schedule to meet certain NOx emission limits (including ~~alternative compliance options which allow for use of low NOx units in emergency replacements or~~ necessary expansion of housing or service upgrades, and effect of incentives), could have potential adverse significant impacts to air quality due to construction and energy due to increased electricity and natural gas demand. As such, alternatives to the proposed project were crafted by varying aspects of the proposed project which affect when equipment would be installed.

5.2 DESCRIPTION OF ALTERNATIVES TO THE PROPOSED PROJECT

Four alternatives to the proposed project are summarized in Table 5-1: Alternative A – No Project, Alternative B – More Stringent Proposed Project, Alternative C – Less Stringent Proposed Project, and Alternative D – Additional Incentive Fundings. The primary differences among the alternatives involve adjustments in compliance dates and the replacement of affected equipment prior to the end of its useful life, as well as the types of the new equipment being installed. Unless otherwise noted, all other components of the alternatives are the same as the proposed project. The following subsections provide a brief description of each alternative.

5.2.1 Alternative A – No Project

CEQA mandates that the specific alternative of "No Project" be evaluated. The No Project Alternative outlines what would happen if the proposed project (PAR 1111 and PAR 1121) was not approved; in this case, not proposing amendments to Rules 1111 and 1121. Under Alternative A, both new and existing residential fan-type central furnaces, ~~commercial fan-type central furnaces,~~ mobile home furnaces, wall and floor furnaces would need to comply with the September 2023 version of Rule 1111. Additionally, new and existing residential, commercial and mobile home water heaters will need to comply with September 2004 version of Rule 1121. Currently, all Rule 1111 furnaces meet the NOx emission limit of 14 ng/J, except for mobile home furnaces, for which the mitigation fee alternative compliance option will end by September 30, 2025. For Rule 1121, all water heaters currently meet the NOx emission limit of 10 ng/J, except for mobile home water heaters, which are subject to a higher emission limit of 40 ng/J.

5.2.2 Alternative B – More Stringent Proposed Project

There are some elements in PAR 1111 and PAR 1121 that could be adjusted to create a more stringent proposed project. Making the project more stringent would involve imposing additional requirements, lowering the emission standards, or providing less flexibility or relief to those subject to PAR 1111 and PAR 1121. Under Alternative B, equipment in new buildings would need to meet the proposed NOx emission limits 12 months earlier than specified in the proposed project. Equipment in existing buildings would be required to be replaced by the compliance date listed in the proposed project, as opposed to being replaced at the end of useful life after the compliance date. This means that both new and existing buildings would feature zero-NOx emission equipment a year sooner ~~and existing buildings would feature zero-emission space heaters 25 years sooner and water heaters 15 years sooner~~ than the proposed project. Overall, Alternative B proposes a more stringent approach by requiring emission reductions for specific categories of equipment to occur by a set date.

5.2.3 Alternative C – Less Stringent Proposed Project

In contrast to Alternative B, there are a number of elements in PAR 1111 and PAR 1121 that could be adjusted to create a less stringent proposed project. To be less stringent would be to impose fewer requirements, increase the NOx emission limits to be achieved, or provide more flexibility or relief to those subject to PAR 1111 and PAR 1121. Under Alternative C, equipment in new buildings would meet the proposed NOx emission limits as specified under the proposed project; however, equipment in existing buildings would be allowed to be replaced with low NOx heaters in situations where alternative compliance options would be necessary in the proposed project. It is expected that 50 percent of equipment in existing buildings would be replaced with zero-NOx emission heaters, while 50 percent would be low NOx. This alternative aligns with the assumptions made in the Final Program EIR for the 2022 AQMP for analyzing impacts from implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~.

5.2.4 Alternative D – Additional Incentive Funding

Alternative D considers the effect of providing double the amount of financial incentives as a means to encourage the early replacement of heaters if all other aspects of the proposed project were to remain the same. Incentives offset costs and enable the transition to zero-NOx

emission technology to be financially feasible sooner for more operators. It is estimated that the percentage of equipment that would be replaced before the end of its useful life will increase from 0.5 percent to one percent due to the availability of additional funding.

5.3 ALTERNATIVES ANALYSIS

The following sections describe the potentially significant adverse air quality impacts due to construction, and energy impacts due to increased electricity and natural gas demand that may occur for each project alternative. A comparison of the environmental impacts for each project alternative is also provided in Table 5-2. No other environmental topics other than air quality impacts due to construction, and energy impacts due to increased electricity and natural gas demand were determined to be significantly adversely affected by implementing any project alternative.

5.3.1 Air Quality and Greenhouse Gas Emissions

Potential direct and indirect air quality and GHG emissions impacts from the proposed project are summarized in the following subsection. For the complete analysis, refer to Section 4.2 - Air Quality and Greenhouse Gas Emissions.

5.3.1.1 Proposed Project

Upon full implementation by 2061, ~~of~~ PAR 1111 and PAR 1121 are estimated to reduce NOx emissions by up to 4.05 ~~7.7~~ tpd ~~upon full implementation by 2055,~~ and 2.07 ~~2.3~~ tpd ~~upon full implementation by 2045~~, respectively. As previously described, the implementation of PAR 1111 and PAR 1121 will involve replacing existing natural gas-fired space and water heaters with zero-NOx emission technologies in both new and existing buildings. The implementation of PAR 1111 and PAR 1121 is not expected to require construction equipment beyond hand tools for installing zero-NOx emission heaters in residences. In contrast, some ~~commercial~~ developments such as residential buildings that may need construction equipment, and the analysis in the SEA (presented in Table 4-2) estimated that if 10,000 ~~commercial~~ residential buildings were to undergo concurrent electrical panel upgrades due to implementation of PAR 1111 and PAR 1121, construction emissions could exceed the South Coast AQMD significance threshold for NOx (100 lbs/day). As a result, potentially significant adverse air quality impacts from construction are expected if PAR 1111 and PAR 1121 are implemented.

5.3.1.2 Alternative A – No Project

Under Alternative A, the existing NOx emission limits for residential and commercial space and water heaters would remain unchanged, with no new limits implemented. The Final Program EIR for 2022 AQMP already analyzed Alternative A and concluded that if no further action is taken, there would be no significant incremental impacts on the existing environment, aside from air quality. While some existing regulations might lead to minor improvements in air quality, it is unlikely that all state and federal ozone standards would be achieved as mandated by the California and federal Clean Air Acts (CAAs). Therefore, under the "No Project" scenario, the use of ~~gas-fired~~ NOx-emitting space and water heaters in both new and existing buildings would continue unchanged, meaning the proposed NOx emission reductions from PAR 1111 and PAR 1121 would not be realized and the associated co-benefits of GHG reductions linked to operational activities would also not occur. As a result, current adverse air quality impacts would persist, with no reduction in emissions from combustion

since zero- NOx emission technologies would not be implemented. Additionally, Alternative A would not entail any new construction activities associated with the implementation of zero-NOx emission technologies. As a result, no additional construction-related air quality impacts would occur, and operational impacts would remain unchanged. However, this would also mean there would be no operational benefits related to improved air quality or decreased NOx and GHG emissions. Alternative A would not align with the 2022 AQMP's goals of transitioning to zero-NOx emission technologies and achieving the objectives of PAR 1111 and PAR 1121.

5.3.1.3 Alternative B – More Stringent Proposed Project

Alternative B proposes earlier effective dates for installation of zero-NOx emission technology in new and existing buildings compared to the proposed project (PAR 1111 and PAR 1121). Alternative B may be challenging to implement due to the accelerated timeframes for zero-NOx emission heater replacement.

Alternative B is anticipated to achieve substantial NOx emission reductions along with the resulting co-benefit of operational GHG emission reductions, sooner than the proposed project. However, since the number of affected units remains unchanged, but the timeframe for implementation is condensed, the construction-related air quality impacts are expected to be greater than those of the proposed project since more replacements would occur on a peak day.

5.3.1.4 Alternative C – Less Stringent Proposed Project

Alternative C proposes the same compliance deadlines for the installation of zero-NOx emission technologies as the proposed project (PAR 1111 and PAR 1121). However, it introduces a mixed approach for existing buildings, wherein 50 percent of affected equipment will be replaced with zero-NOx emission technologies, while the other 50 percent will be replaced with low-NOx equipment. Construction impacts from the installation of low NOx heaters are expected to be similar to zero-NOx emission technology. While Alternative C may yield fewer NOx emission reductions compared to the proposed project and Alternatives B and D, which mandate only zero-NOx emission technologies, it would still provide co-benefits of reducing operational GHG emissions, albeit to a lesser extent than the proposed project and Alternatives B and D.

Since Alternative C does not introduce any new construction activities beyond those outlined in the proposed project, the air quality impacts associated with construction are expected to remain significant, similar to the proposed project.

5.3.1.5 Alternative D – Additional Incentive Funding

Alternative D proposes the same compliance deadlines for the installation of zero-NOx emission technologies as the proposed project (PAR 1111 and PAR 1121). However, it introduces additional incentive funding, which could lead to a higher rate of equipment replacements on an expedited timeline. Specifically, Alternative D is expected to result in one percent of equipment being replaced before the end of its useful lifetime, compared to 0.5 percent under the proposed project.

Alternative D is anticipated to achieve substantial NOx emission reductions along with the resulting co-benefit of operational GHG emission reductions, sooner than the proposed project. However, since the number of affected units remains unchanged, but more units could be replaced sooner than the end of useful life, the construction-related air quality impacts are expected to be greater than those of the proposed project since more replacements could occur on a peak day.

5.3.2 Energy

Potential energy impacts from the proposed project are summarized in the following subsection. For the complete analysis, refer to Section 4.3 – Energy.

5.3.2.1 Proposed Project

Compliance with PAR 1111 and PAR 1121 is expected to involve the replacement of approximately 5.27 ~~5.35~~ million space heaters and 5.13 million water heaters, with up to 0.5 percent of replacements potentially occurring before the end of the current equipment's useful life due to available incentives. Space and water heating appliances for existing mobile homes and any mobile home in master-metered mobile home parks will be exempt from the zero-NOx emission standards, and mobile home appliances will transition to zero-NOx emission appliances in new mobile homes or when existing mobile homes are replaced with new mobile homes. Downflow space heating furnaces for high-altitude installation are also exempted from zero-NOx emission standards.

A Zero-NOx Manufacturer (ZEM) alternative compliance option is provided that establishes compliance targets for the sale of NOx-emitting and Zero-NOx emission appliances. The targets change over time to transition the market to zero-NOx emission appliances. The ZEM alternative compliance option also includes fees for the sale of all NOx-emitting appliances, with higher fees for the NOx-emitting appliances sold over the compliance target. The fees for appliances sold over the targets increase annually to reflect consumer price index.

Alternative compliance options will be available for Zero-NOx Manufacturer (ZEM) option that establishes compliance targets for the sale of low NOx-emitting and Zero-NOx emission appliances. ~~for emergency replacements and installations that require construction to accommodate or relocate compliant units and associated equipment, perform necessary service upgrades, or replace furnaces without the simultaneous replacement of space cooling equipment.~~ These alternative compliance options will allow for the necessary construction to ensure the installation of zero-NOx emission heating units.

Due to the increase in the number of affected units, the operational energy use estimate will increase ~~rise~~ from ~~7,000~~ 6,600 GWh/year (for the implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ in the Final Program EIR for the 2022 AQMP) to ~~34,358~~ 37,348 GWh/year (for implementation of the revised rule concept for PAR 1111 and PAR 1121). Overall, the electricity demand from the implementation of all 2022 control measures is projected to increase from the original baseline of 13,429 GWh ~~(approximately 11.3 percent over 2020 consumption)~~ to ~~40,857~~ 37,348 GWh which reflects the revised baseline due to updated unit counts specific to PAR 1111 and PAR 1121 ~~(approximately 34.6~~ 34.6 ~~percent over 2020 consumption)~~. On a percentage basis, implementation of the new rule

concept for PAR 1111 and PAR 1121 will increase electricity demand by 30.3 percent by 2036. However, the increase is expected to occur gradually, as follows: 1) Phase 1 (2027-2028), 30 percent of the equipment would be replaced with zero-NOx technology, while the remaining 70 percent would utilize low-NOx units, resulting in a 13.8 percent increase in electricity demand; 2) Phase 2 (2029-2032), the mix shifts to 50 percent zero-NOx and 50 percent low-NOx, resulting in a 19.3 percent increase in electricity demand; 3) Phase 3 (2033-2035), 75 percent of equipment replacement is projected to be zero-NOx, with 25 percent low-NOx, resulting in 26.2 percent increase in electricity demand; and 4) Phase 4 (2036 and thereafter), 90 percent of the replacement equipment would be zero-NOx, with only 10 percent utilizing low-NOx with increase in electricity demand by 30.3 percent.

The ~~introduction~~ availability of incentive funding could cause the ~~may accelerate this~~ increase in electricity demand for 0.5 percent of zero-NOx units being installed sooner than if the ~~compared to a scenario where all~~ equipment were to be ~~is~~ replaced at the end of its useful life. However, the timing of when the incentive-driven replacements would occur is speculative and will not be further analyzed in this SEA.

This ~~substantial rise~~ project increase in the number of affected units from 4.2 million to over 10 million space and water heaters is balanced by the revised rule concept for PAR 1111 and PAR 1121 which will allow both zero-NOx emission units and low-NOx emission units to be installed, ~~substantially increases~~ tempering the severity of the overall energy impacts when compared to what was previously analyzed in the Draft SEA. Specifically, the Final Program EIR for the 2022 AQMP concluded potentially significant energy impacts based on an initial estimate of a minimum 10.9 percent increase in Basin-wide electricity use, However, under PAR 1111 and PAR 1121, more equipment replacements will occur than originally estimated such that the minimum Basin-wide electricity use is expected to increase to ~~33.2~~ 30.3 percent. Consequently, the electricity demand impact is expected to be remain potentially significant but with ~~substantially~~ more severe impacts.

Similarly, for natural gas, the Final Program EIR for 2022 AQMP concluded that implementation of Control Measures R-CMB-01 and R-CMB-02~~, and C-CMB-02~~ may contribute to a short-term rise in natural gas demand due to increased electricity generation needs. However, as the grid incorporates more renewable sources and reduces its reliance on natural gas, this effect is expected to diminish over time. The same phenomenon is true for PAR 1111 and PAR 1121, which include provisions allowing for the installation of low-NOx units. These units, when installed, are typically more efficient in their natural gas usage compared to the older equipment being replaced. As a result, individual residences or businesses that upgrade to low-NOx units may experience a reduction in natural gas consumption. However, because low-NOx technologies still rely on natural gas, unlike zero-NOx emission technologies, overall energy demand is expected to increase, though to a lesser extent due to the improved efficiency of the newer equipment. ~~except that the estimates for natural gas use during this interim period may be substantially more severe~~. However, for the overall project, because of the potentially large number of low-NOx units expected to be installed (as opposed to zero-NOx technologies), the analysis concludes that natural gas usage may remain potentially significant during the interim period. ~~Although natural gas demand for electricity generation is projected to increase in the short-term, as renewable energy use~~

~~grows and reliance on natural gas for heating appliances decreases, the demand for natural gas is projected to decline in the long-term. Consequently, the natural gas demand impact during the interim period is expected to be remain potentially significant but with substantially more severe impacts.~~

5.3.2.2 Alternative A – No Project

Under Alternative A, the compliance deadlines for the installation of zero-NOx emission limits would not be implemented, resulting in the continuation of existing energy usage patterns associated with gas-fired space and water heaters. Consequently, approximately 5.27~~35~~ million space heaters and 5.13 million water heaters would remain in use without transitioning to zero-NOx emission technologies.

The energy consumption associated with these existing appliances would persist at current levels, meaning no significant changes in electricity demand would occur. Without the incentive to replace older equipment with zero-NOx emission technologies, the potential for energy efficiency improvements and reduced natural gas usage would not materialize. As a result, any opportunities for enhanced energy savings would be lost, leading to ongoing reliance on natural gas.

While the continued use of existing appliances would not lead to significant increases in energy demand or require the construction of new energy facilities, the long-term impacts would reflect the ongoing use of higher-emission natural gas systems. Thus, Alternative A would not contribute to the state's goals for energy efficiency or emissions reductions.

Therefore, under Alternative A, the expected energy impacts would remain unchanged resulting in no substantial improvements in reducing the use of electricity or natural gas.

5.3.2.3 Alternative B – More Stringent Project

Alternative B incorporates more stringent compliance dates for new and existing buildings to accelerate the transition to zero-NOx emission technologies. Under this alternative, approximately 5.35 million space heaters and 5.13 million water heaters would be replaced, with a higher rate of early replacements due to the more aggressive timelines for compliance.

As explained in Chapter 4 and shown in Table 4-6, the electricity demand from implementing PAR 1111 and PAR 1121 will increase from the original projections in the Final Program EIR for the 2022 AQMP of ~~7,000~~ 6,600 GWh/year to ~~34,358~~ 30,519 GWh/year. However, Alternative B would result in an earlier increase in electricity demand which is driven by the earlier deployment of zero-NOx emission technologies. Therefore, the electricity demand impacts will remain potentially significant, same as the proposed project. However, the long-term benefits of reduced natural gas usage and enhanced energy efficiency from the accelerated deployment of zero-NOx emission technologies are expected to yield the same substantial reduction on electricity and natural gas consumption over the long-term.

Similarly, significant adverse short-term natural gas demand impacts could be created by the implementation of Alternative B because of the potential increase in natural gas needed to

produce electricity until renewable energy resources are available to utilities to satisfy the electricity demand.

5.3.2.4 Alternative C – Less Stringent Project

Alternative C proposes the same compliance deadlines for the installation of zero-NOx emission technologies as the proposed project but proposes a mixed approach for existing buildings. Under this alternative, approximately 5.27~~35~~ million space heaters and 5.13 million water heaters would be replaced, but with 50 percent of affected units utilizing low-NOx equipment instead of transitioning entirely to zero-NOx emission technologies.

The energy demand under Alternative C is expected to increase but to a lesser extent than the proposed project because the use of low-NOx technologies, in lieu of zero-NOx emission technologies will require the ongoing reliance on natural gas, though to a lesser extent since the newer equipment will be more efficient than the equipment being replaced. As a result, while there will be proportionately smaller shift toward zero-NOx emission technologies that are reliant on electricity, the overall reduction in energy consumption will be less pronounced when compared to the proposed project and Alternative B. Construction activities related to the installation of new equipment, whether for low NOx or zero emission technologies will require energy resources, but since no new construction beyond what is outlined in the proposed project is anticipated, the construction-related energy impacts are expected to be the same or similar to the proposed project.

In terms of overall energy usage, the mix of low-NOx and zero-NOx emission technologies means that the full potential for energy efficiency improvements will not be realized. While this alternative allows for some reduction in NOx emissions, the slower transition to zero-NOx emission technologies limits the long-term benefits in energy consumption.

In summary, Alternative C will result in an increase in electricity demand for the portion of equipment replaced by zero-NOx emission technologies, but overall, to a lesser extent than the proposed project due to the continued use of gas-fired, albeit low-NOx, appliances alongside the zero-NOx emission technologies. Nonetheless, the analysis concluded that there would be potentially significant impacts related to operational electricity demand for PAR 1111 and PAR 1121 and considering that Alternative C does not alter the compliance deadlines, it is anticipated that Alternative C would also have significant impacts on the demand for electricity and natural gas needed to produce electricity until renewable energy resources are available to utilities to satisfy the electricity demand.

5.3.2.5 Alternative D – Additional Incentive Funding

Alternative D proposes the same compliance deadlines for the installation of zero-NOx emission technologies as the proposed project (PAR 1111 and PAR 1121) but it introduces additional incentive funding, which is expected to result in one percent of equipment being replaced before the end of its useful lifetime, compared to 0.5 percent under the proposed project.

The incentive funding will have the potential to increase the rate of replacing equipment with zero-NOx emission technologies earlier than then proposed project, leading to an increased

demand in electricity and natural gas over the short-term until renewable energy resources are available to utilities to satisfy the electricity demand, in a similar but greater amount when compared to the proposed project. Over the long-term, the accelerated deployment of zero-NOx emission technology will decrease the use of natural gas needed to operate the affected equipment. Relative to construction, the additional incentives are likely to lead to more construction occurring earlier than for the proposed project.

Since the analysis concluded that there would be potentially significant impacts related to operational electricity and natural gas demand for PAR 1111 and PAR 1121, and considering that Alternative D accelerates the installation of zero-NOx emission technologies earlier through incentive funding without altering compliance deadlines or introducing new construction activities, it is anticipated that Alternative D would also have significant impacts related to operational electricity and natural demand.

5.4 COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT

Pursuant to CEQA Guidelines Section 15126.6(d), a CEQA document "shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project." A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed." Accordingly, Table 5-1 provides a matrix displaying the major differences in characteristics between the proposed project and each alternative, and Table 5-2 compares the environmental impacts between the proposed project and each alternative.

Table 5-1
Summary of the Proposed Project (PAR 1111 and PAR 1121) and Alternatives

Categories with Proposed Changes	Building Type	Original Rule Concepts Proposed Project: PAR 1111	Revised Rule Concepts Proposed Project: PAR 1111*	Alternative A: No Project	Alternative B: More Stringent Than The Proposed Project	Alternative C: Less Stringent Than The Proposed Project	Alternative D: Additional Incentive Funding*
Residential Fan-Type Central Furnace	New	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026*	*Zero-NOx Emission on and after 1/1/2027*	NOx emission limits would not be implemented. This means the projected reductions in NOx emissions would not be achieved, failing to meet the objectives of PAR 1111 and PAR 1121, which aim to reduce NOx emissions from natural gas-fired residential ~~and commercial~~ water and space heaters. Additionally, this alternative would not align with the 2022 AQMP's goal to reduce NOx emissions and transition to zero-NOx emission technologies wherever possible.	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026 ~~2025~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*
	Existing	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2028*	*Zero-NOx Emission at end of life on and after 1/1/2029*	*Zero-NOx Emission Required ~~by~~ on and after 1/1/2029 ~~2028~~*		*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2029 ~~2028~~*	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2029 ~~2028~~*
		0.5% of equipment estimated to be replaced before end of useful lifetime	*0.5% of equipment estimated to be replaced before end of useful lifetime*			*50% of residences will be zero-NOx emission and 50% will be low NOx equipment*	*1% of equipment estimated to be replaced before end of useful lifetime*
Commercial Fan-Type Central Furnace	New	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026*	**Commercial Fan-Type Central Furnace has been completely removed from PAR 1111.**		*~~Zero-Emission at End of Life by 1/1/2025~~*	*~~Zero-Emission at End of Life by 1/1/2026~~*	*~~Zero-Emission at End of Life by 1/1/2026~~*
	Existing	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2028*			*~~Zero-Emission Required by 1/1/2028~~*	*~~Zero-Emission at End of Life by 1/1/2028~~*	*~~Zero-Emission at End of Life by 1/1/2028~~*
		0.5% of equipment estimated to be replaced before end of useful lifetime				*~~50% of buildings will be zero-emission and 50% will be low NOx equipment~~*	*~~1% of equipment estimated to be replaced before end of useful lifetime~~*
Mobile Home Furnace	New	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026*	*Zero-NOx Emission on and after 1/1/2027*		*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026 ~~2025~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*
	Existing	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2030*	*Exempt from Zero-NOx Emission standards in PAR 1111*		*~~Zero-Emission Required by 1/1/2030~~*	*~~Zero-Emission at End of Life by 1/1/2030~~*	*~~Zero-Emission at End of Life by 1/1/2030~~*
		0.5% of equipment estimated to be replaced before end of useful lifetime				*~~50% of buildings will be zero-emission and 50% will be low NOx equipment~~*	*~~1% of equipment estimated to be replaced before end of useful lifetime~~*

Table 5-1 (continued)
Summary of the Proposed Project (PAR 1111 and PAR 1121) and Alternatives*

Categories with Proposed Changes	Building Type	Original Rule Concepts Proposed Project: PAR 1111	Revised Rule Concepts Proposed Project: PAR 1111*	Alternative A: No Project	Alternative B: More Stringent Than The Proposed Project	Alternative C: Less Stringent Than The Proposed Project	Alternative D: Additional Incentive Funding*
Wall Furnaces, Floor Furnaces, and Others	New	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026*	*Zero-NOx Emission on and after 1/1/2027*	NOx emission limits would not be implemented. This means the projected reductions in NOx emissions would not be achieved, failing to meet the objectives of PAR 1111 and PAR 1121, which aim to reduce NOx emissions from natural gas-fired residential ~~and commercial~~ water and space heaters. Additionally, this alternative would not align with the 2022 AQMP's goal to reduce NOx emissions and transition zero-NOx emission technologies wherever possible.	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026 ~~2025~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*
	Existing	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2028*	*Zero-NOx Emission at end of life on and after 1/1/2029*		*Zero-NOx Emission Required ~~by~~ on and after 1/1/2029 ~~2028~~*	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2029 ~~2028~~*	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2029 ~~2028~~*
		0.5% of equipment estimated to be replaced before end of useful lifetime	*0.5% of equipment estimated to be replaced before end of useful lifetime*			*50% of buildings will be zero-NOx emission and 50% will be low NOx equipment*	*1% of equipment estimated to be replaced before end of useful lifetime*

*In lieu of above new and existing building requirements provided in paragraph (d)(2) of rule language, any a manufacturer of furnaces, other than mobile home furnaces, subject to Rule 1111 may elect to comply with the ZEM alternative compliance option, which sets sales targets for zero-NOx emission and NOx emitting units and associated mitigation fee, for sales on and after 1/1/2027. The ZEM alternative compliance option includes four implementation phases: 1) 30% zero-NOx and 70% low NOx by 2028, 2) 50% zero-NOx and 50% low NOx by 2032, 3) 75% zero-NOx and 25% low NOx by 2035, and 4) 90% zero-NOx and 10% low NOx 2036 and after.

Table 5-1 (concluded)
Summary of the Proposed Project (PAR 1111 and PAR 1121) and Alternatives

Categories with Proposed Changes	Building Type	Original Rule Concepts Proposed Project: PAR 1121	Revised Rule Concepts Proposed Project: PAR 1121**	Alternative A: No Project	Alternative B: More Stringent Than The Proposed Project	Alternative C: Less Stringent Than The Proposed Project	Alternative D: Additional Incentive Funding**
Residential Water Heater	New	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026*	*Zero-NOx Emission by 1/1/2027*	NOx emission limits would not be implemented. This means the projected reductions in NOx emissions would not be achieved, failing to meet the objectives of PAR 1111 and PAR 1121, which aim to reduce NOx emissions from natural gas-fired residential ~~and commercial~~ water and space heaters. Additionally, this alternative would not align with the 2022 AQMP's goal to reduce NOx emissions and transition zero-NOx emission technologies wherever possible.	*Zero-NOx Emission ~~at End of Life~~ by 1/1/2026 ~~2025~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*
	Existing	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2027*	*Zero-NOx emission at end of life on and after 1/1/2029*		*Zero-NOx Emission Required ~~by~~ on and after 1/1/2029 ~~2027~~*	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2029 ~~2027~~*	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2029 ~~2027~~*
		0.5% of equipment estimated to be replaced before end of useful lifetime	*0.5% of equipment estimated to be replaced before end of useful lifetime*			*50% of buildings will be zero-NOx emission and 50% will be low NOx equipment*	*1% of equipment estimated to be replaced before end of useful lifetime*
Mobile Home Water Heater	New	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026*	*Zero-NOx Emission on and after 1/1/2027*		*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2026 ~~2025~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*	*Zero-NOx Emission ~~at End of Life by~~ on and after 1/1/2027 ~~2026~~*
	Existing	*Zero-NOx Emission at End of Life ~~by~~ on and after 1/1/2030*	*Exempt from Zero-NOx Emission standards set in PAR 1121*		*~~Zero-Emission Required by 1/1/2030~~*	*~~Zero-Emission at End of Life by 1/1/2030~~*	*~~Zero-Emission at End of Life by 1/1/2030~~*
		0.5% of equipment estimated to be replaced before end of useful lifetime				*~~50% of buildings will be zero-emission and 50% will be low NOx equipment~~*	*~~1% of equipment estimated to be replaced before end of useful lifetime~~*

**In lieu of above new and existing building requirements provided in paragraph (d)(2) of rule language, any a manufacturer of Water Heaters, other than Mobile Home Water Heaters, subject to Rule 1121 may elect to comply with the ZEM alternative compliance option, which sets sales targets for zero-NOx emission and NOx emitting units and associated mitigation fee, for sales on and after 1/1/2027. The ZEM alternative compliance option includes four implementation phases: 1) 30% zero-NOx and 70% low NOx by 2028, 2) 50% zero-NOx and 50% low NOx by 2032, 3) 75% zero-NOx and 25% low NOx by 2035, and 4) 90% zero-NOx and 10% low NOx 2036 and after.

Table 5-2
Comparison of Adverse Environmental Impacts of the Proposed Project (PAR 1111 and PAR 1121) and Alternatives

Air Quality & GHGs Impact Areas	Proposed Project: PAR 1111 and PAR 1121	Alternative A: No Project	Alternative B: More Stringent Than The Proposed Project	Alternative C: Less Stringent Than The Proposed Project	Alternative D: Additional Incentive Funding
Construction	**Potentially Significant Air Quality Impacts During Construction** due to: • increase in number of affected units by approximately 2.5 times (From 4.2 million to 10.5 million) • demolition and replacement activities associated with equipment in ~~commercial~~ residential buildings	**No Impacts** Since Alternative A involves no construction activities to transition from existing natural gas-fired equipment to zero-NOx emission units, no impacts to air quality during construction are expected.	**Potentially Significant Air Quality Impacts During Construction** Alternative B will affect the same number of equipment for both existing and new buildings as the proposed project. However, the compliance date for new buildings will occur 12 months earlier than the proposed project, and the compliance dates for existing buildings will require replacement by these dates as opposed to end of useful life after these compliance dates. Alternative B will cause construction to occur in a more condensed timeline, so peak day construction air quality impacts will be increased compared to the proposed project.	**Potentially Significant Air Quality Impacts During Construction** Construction impacts from the installation of low NOx heaters are expected to be similar to zero-NOx emission technology. Alternative C will affect the same number of equipment for both existing and new buildings as the proposed project. Therefore, the construction air quality impacts for Alternative C will be the same as for the proposed project.	**Potentially Significant Air Quality Impacts During Construction** Alternative D introduces funding incentives without altering compliance deadlines or introducing new construction activities. Since the number of affected units remains unchanged, but more units could be replaced sooner than the end of useful life, the construction-related air quality impacts are expected to be greater than those of the proposed project since more replacements could occur on a peak day.

Table 5-2 (concluded)
Comparison of Adverse Environmental Impacts of the Proposed Project (PAR 1111 and PAR 1121) and Alternatives

Energy	Proposed Project: PAR 1111 and PAR 1121	Alternative A: No Project	Alternative B: More Stringent Than The Proposed Project	Alternative C: Less Stringent Than The Proposed Project	Alternative D: Additional Incentive Funding
Electricity Demand	**Potentially Significant Energy Impacts** due to: • ~~34.6~~ 31.6% increase in operational electricity demand compared to the 2018 baseline; and • ~~32.2~~ 30.3% increase in operational electricity compared to 2022 baseline.	**No Impacts** Since PAR 1111 and PAR 1121 would not be implemented under Alternative A, no impacts related to increased electricity demand will occur.	**Potentially Significant Energy Impacts** Compared to proposed project, Alternative B will result in an earlier increase in operational electricity due to earlier installation of zero-NOx emission technologies. Although the same number of equipment units would be replaced under both scenarios, the more condensed timeline under Alternative B would shift the energy demand to an earlier period. As such, operational electricity impacts would remain significant, consistent with the proposed project, but would occur sooner in the implementation schedule. ~~It is anticipated that Alternative B would result in the same significant impacts for operational electricity demand.~~	**Potentially Significant Energy Impacts** Alternative C will result in a potentially significant increase in electricity demand, but to a lesser extent than the proposed project, primarily due to the continued use of gas-fired heaters alongside a portion of new installations of zero-NOx emission technologies.	**Potentially Significant Energy Impacts** Alternative D will result in potentially significant impacts for electricity demand, earlier than the proposed project due to the accelerated deployment of zero-NOx emission technologies due to incentive funding.
Natural Gas Demand	**Potentially Significant Natural Gas Demand Impacts** due to: increased use of natural gas to produce electricity as a result of replacing old equipment with zero-NOx emission technologies.	**No Impacts** Since PAR 1111 and PAR 1121 would not be implemented under Alternative A, no impacts to increased demand for natural gas will occur.	**Potentially Significant Energy Impacts** Compared to proposed project, Alternative B will result in an earlier increase in natural gas use for the production of electricity due to earlier installation of zero-NOx emission technologies. While the total natural gas demand is expected to be similar to the proposed project, the more condensed implementation timeline under Alternative B would shift this demand to an earlier period. Therefore, operational natural gas impacts would remain significant, as with the proposed project, but would occur earlier in the implementation schedule until electricity is supplied by renewable resources. ~~It is anticipated that Alternative B would result in the same significant impacts for operational natural gas demand until electricity is supplied by renewable resources.~~	**Potentially Significant Energy Impacts** Because the same number of units are being replaced in Alternative C compared to proposed project, and all would require natural gas usage in the short-term, it is anticipated that Alternative C would also experience potentially significant impacts related to natural gas demand.	**Potentially Significant Energy Impacts** Alternative D will result in potentially significant impacts for natural gas demand needed for electricity production, earlier than the proposed project due to the accelerated deployment of zero-NOx emission technologies due to incentive funding.

5.5 ALTERNATIVES REJECTED AS INFEASIBLE

In accordance with CEQA Guidelines Section 15126.6(c), a CEQA document should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Section 15126.6(c) also states that among the factors that may be used to eliminate alternatives from detailed consideration in a CEQA document are: 1) failure to meet most of the basic project objectives; 2) infeasibility; or 3) inability to avoid significant environmental impacts.
As noted in Section 5.1, the range of feasible alternatives to the proposed project is limited by the nature of PAR 1111 and PAR 1121 and associated legal requirements. Similarly, the range of alternatives considered, but rejected as infeasible is also relatively limited. This subsection identifies Alternative A, as being rejected due to infeasibility, for the reasons explained in the following discussion.

5.5.1 Alternative A - No Project

CEQA documents typically assume that the adoption of a No Project alternative would result in no further action on the part of the project proponent or lead agency. For example, in the case of a proposed land use project such as a housing development, adopting the No Project alternative terminates further consideration of that housing development or any housing development alternative identified in the associated CEQA document. In that case, the existing setting would typically remain unchanged.

However, by not adopting PAR 1111 and PAR 1121, Alternative A would fail to implement necessary NOx emission limits for applicable equipment, while maintaining existing emissions levels resulting in the prevention of making progress toward achieving federal air quality standards. This approach would not align with the goals of the 2022 AQMP, which aims to meet federal air quality standards through effective emission reductions by transitioning to zero-NOx emission technologies.

The main objective of the proposed project is to propose NOx limits that represent BARCT for the applicable equipment. Alternative A is rejected as infeasible because it neither meets the objective of the proposed project nor takes into consideration the 2022 AQMP's objective to meet the 2015 federal ozone standard through further emission reductions by transitioning to zero-NOx emission technologies wherever feasible.

5.6 LOWEST TOXIC AND ENVIRONMENTALLY SUPERIOR ALTERNATIVE

5.6.1 Lowest Toxic Alternative

In accordance with South Coast AQMD's policy document: Environmental Justice Program Enhancements for FY 2002-03, Enhancement II-1 recommends for all South Coast AQMD CEQA documents which are required to include an alternatives analysis, the alternative analysis shall also include and identify a feasible project alternative with the lowest air toxics emissions. In other words, for any major equipment or process type under the scope of the proposed project that creates a significant environmental impact, at least one alternative, where feasible, shall be considered from a "least harmful" perspective with regard to hazardous or toxic air contaminants.

The proposed project aims to implement stringent NOx emission limits for applicable equipment, which are crucial for reducing harmful emissions and improving air quality. If current standards are maintained without further action, existing NOx levels would persist, leading to ongoing adverse health impacts. Upon full implementation by 2061, the proposed project is expected to result in all heaters being replaced. ~~which~~ Phase 4 of the ZEM Alternative Compliance Option, with a target of 90% zero-NOx and 10% NOx-emitting equipment, is expected to achieve 4.05 ~~7.7~~ tpd of NOx emission reductions ~~by 2055~~ for PAR 1111 and 2.07 ~~2.3~~ tpd of NOx emission reductions ~~2045~~ for PAR 1121. Approximately 0.5 percent of the affected equipment is expected to be replaced prior to the end of equipment useful life due to incentive funding.

To qualify as the lowest toxic alternative, the alternative must achieve greater quantities or sooner NOx emission reductions and corresponding health benefits compared to other alternatives. Alternatives A and C would not achieve Phase 4 of the ZEM Alternative Compliance Option, with a target of 90% zero-NOx and 10% NOx-emitting equipment ~~require all heaters to be replaced with zero-emission technology~~. No NOx emission reductions would be expected under Alternative A, and less than 4.05 ~~7.7~~ tpd of NOx emission reductions for PAR 1111 and 2.07 ~~2.3~~ tpd of NOx emission reductions for PAR 1121 would be expected under Alternative C.

Alternatives B and D would each achieve the same quantity of NOx emission reductions as the proposed project at full implementation, but realize greater emission reductions sooner due to earlier compliance dates and incentive funding. Under Alternative D, 1 percent or double the number of equipment is expected to be replaced prior to the end of useful life. These replacements are expected to occur any time prior to full implementation of PAR 1111 ~~by 2055~~ and PAR 1121 by 2061 ~~2045~~. Under Alternative B, new buildings will be required to install zero-NOx emission technology one year earlier than the proposed project, and existing buildings will be required to replace equipment in existing buildings by the applicable compliance dates in PAR 1111 and PAR 1121, instead of occurring at the equipment's end of useful life after the compliance dates.

Thus, when considering all of the alternatives from the perspective of the quantity of NOx emission reductions achieved at full implementation and how quickly NOx emission reductions may be realized, Alternative B is the lowest toxic alternative. At full implementation, Alternative B achieves the same quantity of NOx emission reductions as the proposed project and Alternative D and more NOx emission reductions than Alternatives A and C. Compared to Alternative D which will have approximately one~~1~~ percent of equipment replaced before the end of useful life, Alternative B will achieve greater NOx emissions reductions sooner since all equipment in existing buildings would be required to be replaced by the compliance dates specified per category.

5.6.2 Environmentally Superior Alternative

Pursuant to CEQA Guidelines Section 15126.6(e)(2), if the environmentally superior alternative is the No Project alternative, the CEQA document shall also identify an alternate environmentally superior alternative from among the other alternatives.

Alternative A (No Project) would maintain existing NOx emission limits, resulting in continued adverse air quality impacts and failing to meet the goals of the 2022 AQMP. This alternative would allow the continued use of natural gas-fired equipment without transitioning to zero-NOx emission

technologies, which would perpetuate existing health risks associated with NOx emissions. Therefore, Alternative A is not the environmentally superior alternative.

Among the remaining alternatives, Alternative B proposes more stringent NOx emission limits and earlier compliance deadlines. This alternative is expected to lead to significant reductions in NOx emissions and corresponding improvements in air quality earlier than the other alternatives and earlier than the proposed project. While Alternative C allows for a mix of zero-NOx emission and low-NOx technologies, it does not achieve the same level of emission reductions as Alternative B.

Alternative D, which introduces additional incentive funding to accelerate equipment replacements, offers significant benefits as well. However, while it increases the rate of deployment of zero-NOx emission technologies, it does not achieve as immediate or as extensive reductions in NOx emissions as Alternative B.

Overall, Alternative B is the environmentally superior alternative due to the greatest quantity of equipment replacements occurring at earlier compliance dates, which are projected to result in corresponding reductions in harmful emissions and a significant positive impact on air quality compared to the other alternatives. However, it should be noted that this approach will also involve increased construction activity occurring sooner than proposed project.

5.7 CONCLUSION

As discussed previously, Alternative A (No Project) was dismissed as infeasible because it would not fulfill the objectives of PAR 1111 and PAR 1121. Alternative C would allow for the installation of low-NOx heaters in situations where alternative compliance options would occur, so 50 percent of equipment replacements in existing buildings was estimated to be with low NOx heaters. Alternative C would not achieve the same quantity of NOx emission reductions as the proposed project.

Alternatives B and D would achieve the same quantity of NOx emission reductions as the proposed project at full implementation, but utilize earlier compliance dates and incentive funding, respectively, to cause and promote equipment replacements to occur prior to the end of useful life. Alternative B would require substantial construction to occur within a short timeframe, and may be challenging to implement. Alternative D is estimated to require double the amount of incentive funding to achieve the additional 0.5 percent of equipment being replaced prior to the end of useful life.

Thus, when comparing the environmental effects of the project alternatives with PAR 1111 and PAR 1121, and evaluating the effectiveness of achieving the project objectives, the proposed project provides the best balance.

CHAPTER 6

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CHAPTER 7

ACRONYMS

7.0 Acronyms

Btu/hr = British Thermal Units per hour

µg/m= micrograms per cubic meter

APS = Alternative Planning Strategy (APS)

AQMP = Air Quality Management Plan

BAU = business-as-usual

Basin = South Coast Air Basin

BARCT =

CAA = Clean Air Act

CalEPA = California Environmental Protection Agency

CBC = California Building Code

CARB = California Air Resources Board

CCAA = California Clean Air Act

CCR = California Code of Regulations

CEC = California Energy Commission

CEQA = California Environmental Quality Act

CFR = Code of Federal Regulations

CH4 = methane

CO = carbon monoxide

CO2 = carbon dioxide

CO2eq = carbon dioxide equivalent

CPR = Consumer Products Regulation

CPUC = California Public Utilities Commission

CPVC = Chlorinated Poly (Vinyl Chloride)

DOT = Department of Transportation

EA = Environmental Assessment

EIR = Environmental Impact Report

EISA = Energy Independence and Security Act

EJ = Environmental Justice

EPA = Environmental Protection Agency

gal = gallons

GHG = greenhouse gases

GWP = global warming potential

H2S = hydrogen sulfide

H2SO4 = sulfuric acid

HCFC = hydrochlorofluorocarbon

HF = hydrofluoric acid

HFC = hydrofluorocarbons

HI = hazard index

HPWH =

HSC = Health and Safety Code

IOUs = investor-owned utilities (IOUs)

IS = Initial Study

LCFS = Low Carbon Fuel Standard

MATES = Multiple Air Toxics Exposure Studies

MDAB = Mojave Desert Air Basin

MPOs = Metropolitan Planning Organizations

N_2O = nitrous oxide

NAAQS = National Ambient Air Quality Standards

ND = Negative Declaration

NHTSA = National Highway Traffic and Safety Administration

NO = nitric oxide

NO_2 = nitrogen dioxide

NOC = Notice of Completion

NOP/IS = Notice of Preparation/Initial Study

NOx = oxides of nitrogen

O_2 = oxygen

O_3 = ozone

ODS = ozone depleting substance

OEHHA = Office of Environmental Health Hazard Assessment

OES = Office of Emergency Services

OPR = Office of Planning and Research

OSHA = Occupational Safety and Health Administration

PAR = Proposed Amended Rule

PM = particulate matter

PM10 = particulate matter with an aerodynamic diameter of 10 microns or less

PM2.5 = particulate matter with an aerodynamic diameter of 2.5 microns or less

ppb = parts per billion

ppm = parts per million

PRDI = Planning, Rule Development, and Implementation

PV = photovoltaic

RELs = Reference Exposure Levels

RFS = renewable fuel standard

RPS = renewables portfolio standard

RTAC = Regional Target Advisory Committee

RTP = Regional Transportation Plan

SCAB = South Coast Air Basin

SCAG = Southern California Association of Governments

South Coast AQMD = South Coast Air Quality Management District

SCH = State Cleaning House

SCS = Sustainable Communities Strategy

SEA = Subsequent Environmental Assessment

SF6 = sulfur hexafluoride

SIP = State Implementation Plan

SO_2 = sulfur dioxide

SO_3 = sulfur trioxide

SOx = oxides of sulfur

South Coast AQMD = South Coast Air Quality Management District

SSAB = Salton Sea Air Basin

TACs = toxic Air Contaminants

tpd = tons per day

U.S. EPA = United States Environmental Protection Agency

VMT = Vehicle Mile Traveled

VOC = volatile organic compound(s)

WDR = waste discharge requirements

ZE/NZE = zero-NOx emission and near-zero emission

APPENDIX A1

Proposed Amended Rule (PAR) 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces

In order to save space and avoid repetition, please refer to the latest version of PAR 1111 located elsewhere in the Governing Board Agenda for the public hearing scheduled on June 6, 2025. The version of PAR 1111 that was circulated with the Draft SEA for a 46-day public review and comment period from September 27, 2024 to November 12, 2024 was identified as the "Preliminary Draft Rule PAR 1111, revision date September 20, 2024," which is available from the South Coast AQMD's website at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-preliminary-draft-rule-language.pdf. An original hard copy of the Draft SEA, which included the draft version of PAR 1111 listed above, can be obtained through the South Coast AQMD Public Information Center by phone at (909) 396-2001 or by email at PICrequests@aqmd.gov.

APPENDIX A2

Proposed Amended Rule (PAR) 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters

In order to save space and avoid repetition, please refer to the latest version of PAR 1121 located elsewhere in the Governing Board Agenda for the public hearing scheduled on June 6, 2025. The version of PAR 1121 that was circulated with the Draft SEA for a 46-day public review and comment period from September 27, 2024 to November 12, 2024 was identified as the "Preliminary Draft Rule PAR 1121, revision date September 20, 2024," which is available from the South Coast AQMD's website at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1121-preliminary-draft-rule-language.pdf. An original hard copy of the Draft SEA, which included the draft version of PAR 1121 listed above, can be obtained through the South Coast AQMD Public Information Center by phone at (909) 396-2001 or by email at PICrequests@aqmd.gov.

APPENDIX B

Comment Letters Received on the Draft SEA and Responses to Comments

APPENDIX B: COMMENT LETTERS RECEIVED ON THE DRAFT SEA AND RESPONSES TO COMMENTS

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List of Commenters.....B-1
CEQA Requirements Regarding Comments and Responses B-2

OVERVIEW

This appendix to the Final SEA has been prepared in accordance with the California Environmental Quality Act (CEQA) and the South Coast Air Quality Management District's (South Coast AQMD) Certified Regulatory Program Guidelines. Public Resources Code Section 21080.5, CEQA Guidelines Section 15251(l), and South Coast AQMD's Certified Regulatory Program (codified under Rule 110) require that the final action on PAR 1111 and PAR 1121 include written responses to issues raised during the public process. South Coast AQMD Rule 110 (the rule which codifies and implements the South Coast AQMD's certified regulatory program) does not impose any greater requirements for summarizing and responding to comments than is required for an environmental impact report under CEQA.

CEQA PROCESS OF THE DRAFT SEA

The Draft SEA was released for a 46-day public review and comment period that started on September 27, 2024 and ended on November 12, 2024 at 5:00 p.m. A Notice of Completion (NOC) and the Draft SEA were filed with the Governor's Office of Planning and Research (OPR) (State Clearinghouse (SCH) #2022050287) and posted on the State Clearinghouse's CEQAnet Web Portal at: https://ceqanet.opr.ca.gov/2022050287/5. In addition, the NOC was filed and posted with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties. The NOC was distributed using electronic mail to various government agencies and other interested agencies, organizations, and individuals (collectively referred to as the public). The NOC was also provided to all California Native American Tribes (Tribes) that requested to be on the Native American Heritage Commission's (NAHC) notification list per Public Resources Code Section 21080.3.1(b)(1). The NAHC notification provides a 30-day period during which a Tribe may respond to the formal notice, in writing, requesting consultation on the Draft SEA. No Tribes requested a consultation on the Draft SEA. Additionally, the NOC was published in the Los Angeles Times on September 27, 2024. The NOC and the Draft SEA were posted on South Coast AQMD's website at: http://www.aqmd.gov/home/research/documents-reports/lead-agency-scaqmd-projects. An email announcing the availability of the NOC and the Draft EA was also sent to interested parties on September 27, 2024.

LIST OF COMMENTERS

Three comment letters were received by South Coast AQMD during the public review and comment period on the Draft SEA. This appendix contains responses to comments received relative to the analysis in the Draft SEA. Responses to comments received relative to the proposed amended rule language (PAR 1111 and PAR 1121) can be found in Appendices A through E of the Final Staff Report.

For the purpose of identifying and responding to comments on the Draft SEA, the comment letters have been organized according to the date received and assigned a number; individual comments within each letter have been bracketed and assigned a comment number. The following is a list of comment letters received in relative to the Draft SEA along with the date each letter was received.

Comment Letter Number	Commenter	Comment Letter Received Date	Page No.
Comment Letters Received During the Public Review Period			
1	Morongo Band of Mission Indians	October 4, 2024	B-4
2	SoCalGas	October 17, 2024	B-6
3	BizFed Los Angeles County Business Federation	October 31, 2024	B-53

For any response in this appendix that requires an update elsewhere in this SEA, the response will indicate that a change has been made and where the change is located in the Final SEA. For ease of identification, additions to text are reflected in underlined text and deletions are reflected in ~~strikethrough~~ text.

Pursuant to CEQA Guidelines Section 15088(a) and South Coast AQMD Rule 110(d), South Coast AQMD is required to evaluate and provide written responses only for the comments received during the public comment period of the Draft SEA which raise significant environmental issues. South Coast AQMD staff has reviewed the comments submitted, updated the SEA to reflect the responses to the comments, and determined that none of the comments raise significant environmental issues. In addition, none of the revisions made contain the type of significant new information that would require recirculation of the Draft SEA for further public review under CEQA Guidelines Sections 15073.5 and 15088.5. Further, none of the comments indicate that the proposed project will result in a significant new environmental impact not previously disclosed in the Draft SEA. Additionally, none of comments indicate that there would be a substantial increase in the severity of a previously identified environmental impact that will not be mitigated, or that there would be any of the other circumstances requiring recirculation as described in CEQA Guidelines Sections 15073.5 and 15088.5.

CEQA REQUIREMENTS REGARDING COMMENTS AND RESPONSES

CEQA Guidelines Section 15204(b) outlines parameters for submitting comments and reminds persons and public agencies that the focus of review and comment of the Draft SEA should be "on the proposed finding that the project will not have a significant effect on the environment." If persons and public agencies believe that the proposed project may have a significant effect, the commenter should: 1) identify the specific effect; 2) explain why they believe the effect would occur; and 3) explain why they believe the effect would be significant. Comments are most helpful when they are as specific as possible. At the same time, reviewers of the Draft SEA should be aware that CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters. CEQA Guidelines Section 15204(c) further advises, "Reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments. Pursuant to CEQA Guidelines Section 15064, an effect shall not be considered significant in the absence of substantial evidence." CEQA Guidelines Section 15204(e) also states, "This section shall not be used to restrict the ability of reviewers to comment on the general adequacy of a document or of the lead agency to reject comments not focused as recommended by this section."

Pursuant to CEQA Guidelines Section 15088(a) and South Coast AQMD Rule 110(d), South Coast AQMD has evaluated and provided written responses to comments received during the Draft SEA public comment period. The level of detail contained in each response corresponds to the level of detail provided in the comment (i.e., responses to general comments may be general). In addition, updates to the CEQA analysis have been made in response to public comments to reflect recent updates to PAR 1111 and PAR 1121, and to incorporate other minor modifications for consistency.

COMMENT LETTER #1 – Tribal Historic Preservation, October 4, 2024 (p. 1 of 1)

From: Tribal Historic Preservation Office <thpo@morongo-nsn.gov>
Sent: Friday, October 4, 2024 11:23 AM
To: Jivar Afshar
Cc: Ann Brierty; Laura Chatterton
Subject: [EXTERNAL] South Coast Air Quality Management District Reduction of NOX Emissions

Thank you for Notifying MBMI of Proposed Amended Rule 1111 for the Reduction of NOX Emissions (Project).

The South Coast Air Quality Management District (SQAMD) has competed a Draft Subsequent Environmental Assessment to analyze impacts of the Project.

At this time, we have no comments upon the Project as proposed. Pursuant to applicable regulations under the California Environmental Quality Act (CEQA), our office will request government-to-government consultation under Assembly Bill (AB) 52 (California Public Resources Code § 21080.3.1) if/when consultation is initiated/appropriate. 1-1

This letter neither initiates nor concludes consultation.

Our Office thanks you for the opportunity to comment upon the Project. We look forward to working with SQAMD in the future.

Respectfully,

Laura Chatterton
Cultural Resource Specialist
Tribal Historic Preservation Office
Morongo Band of Mission Indians
12700 Pumarra Road
Banning, CA 92220
O: (951) 755.5256
C: (951) 663.7570

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RESPONSE TO COMMENT LETTER #1 – Tribal Historic Preservation Office, Morongo Band of Mission Indians, October 4, 2024

Response 1-1

Comment 1-1 acknowledges receipt of the Notice of Completion of the Draft SEA for PAR 1111 and PAR 1121, and indicates that the commenter has no comments and does not request to initiate or conclude consultation regarding the proposed project.

The South Coast AQMD provided a formal notice of the proposed project to all California Native American Tribes that either requested to be on the Native American Heritage Commission's (NAHC) notification list or South Coast AQMD's mailing list per Public Resources Code Section 21080.3.1(b)(1) and a notice of the proposed project was provided to the commenter. These notices provide an opportunity for California Native American Tribes to request a consultation with the South Coast AQMD if potentially significant adverse impacts to Tribal cultural resources are identified. The Draft SEA for the proposed project did not identify any potentially significant adverse impacts to Tribal cultural resources and the commenter did not request consultation. Further, the South Coast AQMD did not receive any consultation requests from any California Native American Tribes, including the commenter, relative to the proposed project. Since this comment does not raise any issues relative to Tribal cultural resources during the comment period for the Draft SEA, no further response is necessary under CEQA. [CEQA Guidelines Section 15088(a)].

COMMENT LETTER #2 – SoCalGas, October 17, 2024 (p. 1 of 37)

Kevin Barker
Senior Manager
Energy and Environmental Policy
555 West 5th Street
Los Angeles, CA 90013
Tel: (916) 492-4252
KBarker@socalgas.com

October 17, 2024

Senator Vanessa Delgado, Chair and
Honorable Governing Board Members
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Subject: Comments on Proposed Amendments to Rule 1111 and Rule 1121

Dear Senator Delgado and Honorable Members of the Governing Board:

Southern California Gas Company (SoCalGas) appreciates the opportunity to provide public comments on the South Coast Air Quality Management District (South Coast AQMD) Proposed Amendments to Rule (PAR) 1111 and Rule (PAR) 1121. If adopted, the proposed amendments will require millions of residents within the South Coast Air Basin to replace approximately 10 million affected units once the existing appliance requires replacement and will require all new buildings to install fully electric space and water heating appliances. These rules create significant burdens for consumers and will cost billions of dollars to reduce overall nitrogen oxide (NOx) emissions within the South Coast Air Basin by just 2.8% or 10 tons per day out of the total 351 tons per day of NOx emitted by all sources within the territory[1]. Even if all sources regulated by the California Air Resources Board (CARB) and South Coast AQMD were zero emission, federal sources alone would emit substantially more than the 60 tons per day NOx limit the District must achieve to comply with federal ozone standards.[2] SoCalGas supports policies to achieve NOx reductions, provided such policies are feasible, permitted by federal law, cost-effective, and commercially available. However, SoCalGas has numerous concerns with the proposed rule, including a concern that it is preempted by federal law. 2-1

[1] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 5-1, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18*.
[2] South Coast AQMD, "2022 Air Quality Management Plan Executive Summary," December 2022, Page ES-6, *https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/03-es.pdf?sfvrsn=6*.

COMMENT LETTER #2 – SoCalGas, October 17, 2024 (p. 2 of 37)

SoCalGas's comments highlight the following concerns: 1) The proposed rules effectively ban certain appliances covered by the federal Energy Policy and Conservation Act (EPCA); 2) It is imperative that South Coast AQMD inform residents and business owners of the impacts of PAR 1111 and 1121 prior to Board consideration, as it appears that the majority of residents and business owners in the South Coast AQMD jurisdiction are wholly unaware of these significant changes; 3) South Coast AQMD staff need to provide the datasets and assumptions used to perform cost-effectiveness calculations to allow stakeholders to better assess the impacts of the proposed amendments; 4) Several assumptions within the cost-effectiveness analysis are inconsistent and should be revaluated by staff; 5) Among other issues, the Draft Subsequent Environmental Assessment does not sufficiently explain why energy impacts from PAR 1111 and 1121 are less than significant; 6) Staff should clarify why they plan to perform a technology check-in after rule implementation; and 7) The financial impact of the proposed amendments has not been adequately evaluated and will be burdensome to the everyday customer. 2-1

1. The proposed rules effectively ban certain appliances covered by EPCA

Under a recent ruling by the Ninth Circuit Court of Appeals, *California Restaurant Association v. City of Berkeley*, 89 F.4th 1094 (9th Cir. 2024), the Court held that EPCA preempts all regulations "that relate to 'the quantity of [natural gas] directly consumed by' certain consumer appliances at the place where those products are used." *Id.* at 1101. "[A] regulation on 'energy use' fairly encompasses an ordinance that effectively eliminates the 'use' of an energy source." *Id.* at 1102. Here, similar to the Berkeley ordinance, the effect of the proposed rules is to reduce the quantity of gas consumed by EPCA-covered appliances to zero. Under *Berkeley*, States and localities cannot avoid EPCA's preemption provisions "by doing *indirectly* what Congress says they can't do *directly*." *Id.* at 1107 (emphasis in original).

2. It is imperative that South Coast AQMD inform residents and business owners of the impacts of PAR 1111 and 1121 prior to Board consideration, as it appears that the majority of residents and business owners in the South Coast AQMD jurisdiction are wholly unaware of these significant changes 2-2

It is incumbent upon regulatory agencies to ensure affected parties of any rulemaking process know and have an opportunity to understand the proposed changes to rules before the rule amendments are adopted. While staff held six (6) working group meetings and one public workshop, most attendees were manufacturers, contractors, and environmental justice leaders. Given this, it is our impression that the majority of residents and business owners in the South Coast AQMD territory are wholly unaware of the significant changes being proposed.[3]

[3] This was evident at the California Air Resources Board's (CARB) August 22, 2024, Virtual Listening Session on CARBs similar Zero-Emission Space and Water Heating Standard. This listening session intended to engage residents of Southern California. While the meeting was co-hosted by Climate Action Campaign (CAC) with CARB and attended by South Coast AQMD staff, unfortunately the public was not informed about this opportunity to learn about these proposed regulations. As such, the meeting was attended by fewer than 45 people in a region of 17 million and the majority of attendees were government agency staff, members of CAC, and SoCalGas staff.

COMMENT LETTER #2 – SoCalGas, October 17, 2024 (p. 3 of 37)

It is essential that the public is made aware of these proposed amendments, since the requirements and impacts are far reaching. When the Board adopted its most recent amendments to Rule 1146.2 in June 2024, which regulates NOx emissions from large water heaters, small boilers and process heaters, two members emphasized the need for an immediate outreach campaign to inform those affected by that regulation.[4] While it's crucial to notify impacted parties about rule changes and implementation timelines, it's even more vital for the regulatory body to engage in public awareness efforts before adoption. PAR 1111 and 1121 will directly impact residential customers, who will bear the majority of compliance costs.[5] Therefore, it is essential that communities understand how the proposed amendments will influence their choices and future costs.

Previous updates to Rules 1111 and 1121 required that manufacturers develop equipment to meet stricter emissions standards by setting a feasible NOx reduction target. These updates did not require residents to invest in costly modifications to their homes when their space and water heating equipment required replacement. The present proposed amendments, while presented as an emissions reduction regulation, will require property owners – residential and commercial – and tenants to switch out their gas appliances for electric appliances. If approved, the financial burden of these changes will be placed on residents and consumers in the South Coast AQMD territory. 2-2

During the October 3, 2024 South Coast AQMD Public Workshop, an owner of a heating, ventilation, and air conditioning (HVAC) company in the San Bernadino mountains similarly expressed concerns that the public is unaware of the amendments' implications on their future budgets and the costs of major upgrades to their homes. His comments highlighted that staff did not take his region into account when evaluating feasibility and costs. In the analysis, AQMD staff averaged installation costs for climate zones 6, 9, and 10[6]. However, the customers he serves are in climate zone 16 and the majority of these homes do not have preexisting air conditioning (AC). If these amendments are passed and these residents are required to replace their heating system with a heat pump, they will face an additional expense compared to other customers in the District because they will need to install low ambient heat pump equipment which, on average, costs 30 - 50% more than standard heat pump equipment.[7] It appears that these additional incremental costs were not accounted for in staff's cost-effectiveness analysis. Needless to say, PARs 1111 and 1121 will affect millions of residents and businesses in the South Coast AQMD region and it is imperative that there be public outreach campaigns to garner participation from those this will

[4] "Governing Board Meeting Live Webcast," South Coast AQMD, June 7, 2024, *https://www.aqmd.gov/home/news-events/webcast/live-webcast?ms=UeHieemQEZc*.
[5] Rule 1146.2 regulates small commercial boilers and large water heaters as well as tankless water heaters and pool heaters.
[6] South Coast AQMD, "Proposed Amended Rules 1111 and 1121 Working Group Meeting #2," November 28, 2023, Slide 11, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm2-november-2023.pdf?sfvrsn=14*.
[7] *Diane Oestreich, "Kory Griggs Addresses Air Quality Management Board," Mountain News, published on October 9, 2024, https://www.mountain-news.com/news/kory-griggs-addresses-air-quality-management-board/article_73c973dc-867d-11ef-8fc9-4ff63eba5178.html.*

COMMENT LETTER #2 – SoCalGas, October 17, 2024 (p. 4 of 37)

impact the most. SoCalGas requests that South Coast AQMD delay the adoption of these rules to allow adequate time for public outreach. Additionally, SoCalGas requests that South Coast AQMD make all comment letters submitted by stakeholders publicly available on the South Coast AQMD's website within 72 hours of comment submittal. 2-2

3. **South Coast AMQD staff need to provide the datasets and assumptions used to perform cost-effectiveness calculations to allow stakeholders to better assess the impacts of the proposed amendments**

The data sources used, and assumptions made by South Coast AQMD staff in the cost-effectiveness analysis are unclear. Staff provided general citations to public data sources used to estimate costs during the rulemaking process, but citations should point stakeholders to the specific datasets that were relied upon in the cost-effectiveness evaluation.

For example, capital and operating costs were presented in Working Group Meeting #2 on slides 9 – 13. While staff generally references the source of data used to obtain cost information, the presentation lacks citations for specific reports and datasets used in the evaluation. The link provided on slide 13 of the Working Group Meeting #2 presentation, for example, takes users to the landing webpage for Energy Star Certified Heat Pump Water Heaters, which makes it difficult to understand exactly where staff obtained the annual energy use data for certified water heaters. Similarly, in Working Group Meeting #4, staff updated the cost-effectiveness for residential heat pump water heaters to $246,000 per ton without providing any explanation. This value was again updated in the staff report to $327,000 per ton, yet staff never provided an update on this in subsequent Working Group Meetings, and it is unclear how staff determined this value. These are just a few of the many instances where staff failed to provide transparency with the data used to conduct the cost-effectiveness analysis. 2-3

Furthermore, in an effort to gain a better understanding of the costs associated with the transition to electric space and residential water heaters for our customers, SoCalGas asked an independent consulting firm, Ramboll, to use the information presented in the PAR 1111 and PAR 1121 Working Group Meetings and apply the South Coast AQMD's cost-effectiveness analysis technique to estimate costs. Using the methodology and data provided in the Working Group Meetings and the staff report, Ramboll's calculated values are significantly different than those presented by staff for all the replacement scenarios. Table 1 below illustrates this difference for single-family water heaters. It is important to reiterate that Ramboll's analysis is using the same assumptions and values presented by staff, and yet the results were unable to be duplicated and independently verified (see Appendix A for complete analysis).

COMMENT LETTER #2 – SoCalGas, October 17, 2024 (p. 5 of 37)

Table 1: Comparison of Cost-Effectiveness Values for Single-Family Water Heater

Category	Cost-Effectiveness ($/Ton)		
	AQMD Analysis	Ramboll Analysis	Percent Change
Single-Family Water Heater with Panel Upgrade	$601,000	$750,345	25%
Single-Family Water Heater	$299,000	$524,016	75%
Overall Weighted Average*	$327,000	$544,385	66%

*Based on South Coast AQMD assumption that 9% of homes require a panel upgrade

The lack of clarity as to how staff arrived at these cost-effectiveness values is very concerning. It appears that staff did not update the average annual electricity usage values as indicated in the staff report to arrive at $601,000[8] for the cost of a water heater replacement with a panel upgrade (Ramboll's analysis using South Coast AQMD's assumptions is 25% higher for water heaters with panel upgrades, 75% higher for water heaters without upgrades, and 66% higher for water heaters when using South Coast's weighted average calculation). Unfortunately, SoCalGas is unable to determine how staff arrived at $299,000 for the cost of a water heater replacement without a panel upgrade. Without visibility into the datasets used, assumptions, and calculations made by staff, stakeholders are unable to get a full picture of how the potential costs associated with compliance with these rules were evaluated. Data transparency is crucial in any rulemaking process but is particularly important for PAR 1111 and PAR 1121, as the potential financial implications of this rulemaking will impact millions of residents and businesses in South Coast AQMD jurisdiction. SoCalGas requests that staff provide details on the assumptions, datasets, and calculations used within the cost-effectiveness analysis to derive the cost-effectiveness values presented. It is critical that staff provide this information to help the public better understand what costs customers may encounter in the not-too-distant future. SoCalGas recommends that staff make their calculation spreadsheet available to the public for review and comment as was done for Proposed Rule 2304.[9] 2-3

Given the difficulty of unpacking the cost-effectiveness assumptions and lack of public awareness, stakeholders should be given more time to understand the specific assumptions to ensure the calculations are sound. As such, SoCalGas requests that the Board delay adoption of these proposed rules to allow for an additional public workshop to review the cost-effectiveness calculations that were used to determine the cost-effectiveness values.

[8] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 2-20, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18*.

[9] South Coast AQMD, "Proposed Rule 2304," see Potential Port Emission Reduction Strategies excel files from Working Group Meetings, *https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-2304*.

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4. Several assumptions within the cost-effectiveness analysis are inconsistent and should be revaluated by staff

The cost-effectiveness analysis contains several assumptions that are inconsistent, which undermines the overall reliability of the findings. To enhance the accuracy and credibility of the evaluation, it is crucial to address these inconsistencies. SoCalGas's analysis of staff's calculations found several areas that should be addressed. Enhancements should focus on ensuring that assumptions are clearly defined, logically sound, and consistently applied throughout the process. We hope that these insights will help to produce more robust and dependable results, ultimately leading to better-informed decisions.

a. *Inconsistent data used to estimate equipment replacement costs*

The South Coast AQMD's analysis uses two different data sets to estimate replacement costs for gas and electrical equipment. Gas replacement estimates are based on the E3 Residential Building Electrification analysis[10], while the electric equipment replacement costs are based on the Technology and Equipment for Clean Heating (TECH) data set[11]. Per the staff report, staff utilized the November 2023 public data set from TECH for Los Angeles, Orange, San Bernardino and Riverside counties and the entire data set from E3 for climate zones 6, 9 and 10[12]. According to staff, TECH Clean California Program data includes only 1,400 Multi-Family (MF) buildings and 18,000 Single-Family (SF) buildings that participated in the state incentive program[13]. 2-3

It is unclear why staff chose to use two separate sources of data, from where values were pulled, and why staff limited the scope of the data sets. It is important to have data integrity to avoid the appearance of bias in such an analysis. In order to eliminate these data inconsistencies, the same data source can be used for both gas and electric equipment costs. Since the E3 analysis includes estimates for both gas and electric equipment costs, utilizing this data as the basis for the cost-effectiveness calculations would provide consistency.

[10] Amber Mahone et al., "Residential Building Electrification in California," Energy and Environmental Economics, Inc. ("E3"), April 2019, https://www.ethree.com/wp-content/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf.
[11] Technology and Equipment for Clean Heating (TECH) Clean California. "Heat Pump Data," last modified on September 13, 2024, *https://techcleanca.com/heat-pump-data/download-data/*.
[12] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 2-15, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18*.
[13] South Coast AQMD, "Proposed Amended Rules 1111 and 1121Working Group Meeting#3," January 31, 2024, Slide 17, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12*.

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b. *Space heating cost-effectiveness analysis assumes simultaneous replacement of AC units, which are not regulated under Rule 1111*

South Coast AQMD's analysis should not rely upon a baseline of replacing AC units, an appliance which is not regulated by Rule 1111, in order to achieve cost-effectiveness. South Coast AQMD's analysis asserts that it is not cost-effective to replace a furnace with a heat pump in single-family homes without including the costs of replacing an AC system. In fact, in homes that do not currently have AC, the cost-effectiveness for a heat pump replacement is $827,000 per ton without a panel upgrade or $921,000 per ton with a panel upgrade. This exceeds the $349,000 cost-effectiveness threshold.[14] Furnace replacement with a heat pump only appears cost-effective when costs associated with simultaneous replacement of the furnace and AC are included.

Furthermore, to account for the fact that homes without AC are above the cost-effectiveness threshold, the South Coast AQMD's analysis relies on weighted averages. It is unclear how staff is performing these weighted average calculations, but the analysis relies on two percentages; according to staff, 87% of homes in South Coast AQMD already have AC and only 4% of homes will require a panel upgrade.[15] To estimate the percentage of homes with AC and without AC, staff relied on the U.S. Census American Housing Survey (AHS). Staff did not provide details as to how this data was utilized, but it appears that the 87% estimate includes a significant number of room AC units.[16] While the cost-effective analysis should not include AC units at all, it would be more accurate to exclude room units. Per the AHS data, when excluding room air conditioners only 66% of homes in the South Coast have AC (for the Los Angeles-Orange-San Bernardino-Riverside area).[17] Similarly, per the staff report the TECH data was used to determine that only 4% of homes need electrical panel upgrades for space heating, however it is unclear how staff arrived at this percentage and why such a small dataset was utilized.[18] 2-3

Overall, this approach assumes a 1:2 appliance replacement and should not be used to conclude that this is cost-effective. Rather than just evaluating the cost to replace a furnace, staff is assuming that customers will replace the furnace and a functioning AC unit at the same time, regardless of cost. It is not realistic to assume that homeowners are going to replace AC units that are in good condition if they only need to buy a new furnace. It is also a divergence from common practice to

[14] South Coast AQMD, "Proposed Amended Rules 1111 and 1121 Working Group Meeting #6," August 15, 2024, Slide 27, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm6-august-2024.pdf?sfvrsn=18*.
[15] South Coast AQMD, "Proposed Amended Rules 1111 and 1121 Working Group Meeting #6," Slide 27.
[16] South Coast AQMD, "Proposed Amended Rules 1111 and 1121 Working Group Meeting #2," November 28, 2023, Slide 7, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm2-november-2023.pdf?sfvrsn=14*.
[17] U.S. Census Bureau, "American Housing Survey (AHS) Table Creator," American Housing Survey, AHS housing unit Characteristics spreadsheet, *https://www.census.gov/programs-surveys/ahs/data/interactive/ahstablecreator.html?s_areas=00000&s_year=2023&s_tablename=TABLE1&s_bygroup1=1&s_bygroup2=1&s_filtergroup1=1&s_filtergroup2=1*.
[18] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 2-17, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18*.

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put forth a regulation that is not cost-effective simply because staff believes that residents will benefit from having AC. As indicated in the staff report "although heat pump replacement for furnace without AC has a high cost-effectiveness, the replacement would have an additional benefit of space cooling, which is becoming more of a necessity due to climate change."[19] Consumers should not be forced to bear the cost of an appliance that they may not need or be able to afford. As such, staff should update the cost-effective analysis excluding the costs of AC replacement; doing so will show that these proposed amendments to Rule 1111 are not cost-effective.

c. South Coast AQMD should consider revising electrical panel upgrade costs to more accurately reflect upfront costs to customers

During the rulemaking process, staff acknowledged that the transition to zero-emission units may require electrical panel upgrades, which will be an added cost to customers who are already paying to replace their appliance. Although staff noted that panel upgrades typically cost approximately $3,000 based on available data,[20] the cost-effectiveness analysis ultimately relied upon a panel upgrade cost of $750[21]. This value was derived by dividing the $3,000 estimate in half to account for the longer useful life of the electrical panel (assumed to be 30 years) versus the useful life of the replacement unit (assumed to be 15 years for heat pump water heaters, but staff did not update this value to use the 25-year useful life of heat pump space heaters). Staff also assumed that costs would be shared between both space and water heating appliances even though one appliance replacement could trigger the need to upgrade the whole cost of the panel, resulting in a realized cost of $3,000 to the customer to replace one appliance. 2-3

To accurately estimate upfront costs and effectively communicate expected costs to the public, the cost-effectiveness analysis should be updated to include the total cost of an electrical panel upgrade. The financial investment in panel upgrades is made at the time of purchase, not at the end of the equipment life; therefore, electric panel upgrade costs should not be prorated based on the useful life of the appliance. Furthermore, based on available data, the cost of a panel upgrade can be up to $18,000[22] if customers are responsible for utility infrastructure costs such as pole changeouts or conduit replacements, or other costs such as sub-panels, new breakers, trenching, etc. Additionally, space and water heaters have varying life expectancies, thus it is inaccurate to apply a single 15-year panel lifetime cost to both types of equipment. If staff chooses to stick with this approach, however, then appliances with a 25-year expected life should be identified with the prorated panel upgrade cost.

[19] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," Page 2-18.
[20] NV5, "Service Upgrades for Electrification Retrofits Study Final Report," May 27, 2022, Page 32, *https://pda.energydataweb.com/api/view/2635/Service%20Upgrades%20for%20Electrification%20Retrofits%20Study%20FINAL.pdf.*
[21] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 2-17, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18.*
[22] NV5, "Service Upgrades for Electrification Retrofits Study Final Report," Page 32.

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Also, as previously noted, staff is performing weighted averages utilizing the assumptions that only "4 percent of homes for space heating and 9 percent of homes for water heating" will require a panel upgrade.[23] Since the transition to zero-emission technology will require California families to ultimately bear this added cost, it is important to ensure that such assumptions used to derive this value are appropriate and provide a realistic cost to customers. For these reasons, we request that South Coast AQMD delay the adoption of these rules to allow for a public workshop to review the assumptions that were used to arrive at these values. In lieu of a public workshop staff could make their calculation spreadsheet available to the public for review and comment.

d. *Energy Prices used in South Coast AQMD's analysis are point sources and representative of prices before the proposed rule implementation date*

In its cost-effectiveness analysis for residential and commercial appliances, South Coast AQMD used projected electricity and natural gas rates for 2024-2050 from the 2023 Integrated Energy Policy Report (IEPR) Energy Demand Forecast.[24] The 2023 IEPR electricity forecast only goes to 2040, but natural gas rates extend to 2050. Since the compliance dates do not begin until 2026 and these types of equipment have long lifetimes (ex. 15 and 25 years), energy prices are expected to change during that period.[25] Hence, SoCalGas proposes that the cost-effectiveness analysis should use an average of projected rates during the equipment's expected 15- or 25-year lifetime to better reflect the actual cost of O&M for the equipment's lifetime. We also believe that the approaches for electric and gas appliances should be consistent; however, we were unable to verify the source and timeframe of the electricity and gas rates used for the cost-effectiveness analysis. Therefore, SoCalGas requests clarification from staff how electricity rates are averaged through 2050 if the data was not available from the forecast. Without this clarification, it is not possible to validate the staff report's analysis. 2-3

e. *Inflated coefficient of performance assumptions for heat pumps*

South Coast AQMD staff presented energy consumption data during Working Group Meeting #2 on slides 13 and 14. Table 2 below provides a summary of energy usage assumptions provided, gaps in energy usage assumptions, as well as calculated Coefficients of Performance (COP).

[23] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 2-15, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18.*

[24] California Energy Commission, "2023 Integrated Energy Policy Report Energy Demand Forecast California Energy Demand," *https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2023-integrated-energy-policy-report/2023-1.*

[25] U.S. Energy Information Administration, "Annual projections to 2050," retrieved on October 8, 2024, *https://www.eia.gov/analysis/projection-data.php.*

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Table 2: Summary of Energy Usage Assumptions Used in South Coast AQMD Analysis

	SF/MF Residential Space Heating		Commercial Space Heating		Residential Water Heating[26]		Coefficient of Performance[27]	
	HP	Gas	HP	Gas	HP	Gas	HPSH	HPWH
Energy Consumption (kWh)[28]	565	3,822	No data provided	No data provided	1,036	5,567	6.76	5.37

Based on the residential energy data South Coast AQMD staff provided, the residential heat pump space and water heating COPs are 6.76 and 5.37, respectively. These levels of efficiencies are not consistent with performance of existing heat pump technologies. Heat pump technologies typically range from 3.5-4.4.[29]

SoCalGas staff attempted to unpack the rationale for the high COP values used by South Coast AQMD staff for both space and water heat pump technologies. The staff report indicates that heat pump technology "can be over three times more efficient than conventional appliances" but does not provide any reference.[30] Additionally, the source of the energy consumption data for water heater usage was unclear as the only reference for data source is the ENERGY STAR product finder link.[31] South Coast AQMD staff should provide the specific appliances or data used to develop these calculations, so stakeholders can understand how the values are derived. 2-3

In the South Coast AQMD Space Heating consumption analysis, as presented on slide 12 of Working Group Meeting #2, the current values used in the analysis appear to come from the RASS 2019 executive summary, Tables ES-1 and ES-3.[32] The Southern California Edison (SCE) values in Table ES-1 represent the average consumption of all electric HVAC heat pump installations (single-family, multi-family, and mobile homes) in the SCE service territory, while the SoCalGas values in Table ES-3 represent the average consumption of all gas space heating installations (single-family, multi-family, and mobile homes) in SoCalGas territory. These values, however, do not account for the types of buildings (single-family vs. multi-family vs. mobile homes) in which

[26] Used lowest range energy usage assumption for both heat pumps and conventional gas water heaters.
[27] SoCalGas calculated the coefficient of performance based on energy consumption of gas appliances and heat pump appliances.
[28] Gas energy usage converted from therms to kWh using 29.3 kWh/therm conversion factor including electricity load for furnace fan.
[29] Nate Jutras, "What is Uniform Energy Factor and Why Does it Matter?," ENERGY STAR, accessed October 16, 2024, *https://www.energystar.gov/products/ask-the-experts/what-uniform-energy-factor-and-why-does-it-matter.*
[30] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rules 1111 and 1121," September 2024, Page 2-10, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18.*
[31] ENERGY STAR Certified Heat Pump Water Heaters, *https://www.energystar.gov/productfinder/product/certified-heat-pump-water-heaters/results.*
[32] California Energy Commission, "2019 California Residential Appliance Saturation Study (RASS) Executive Summary," July 2021, Pages 5 and 11, https://www.energy.ca.gov/sites/default/files/2021-08/CEC-200-2021-005-ES.pdf.

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the equipment is installed. For example, if there are more HVAC heat pumps in multi-family homes, which have a lower space heating load than single-family buildings, it could show that the heat pump space heater is saving more energy simply by heating smaller building sizes. By comparing the SCE numbers from Table ES-1 to the building specific values in Table ES-2, one can see that the average space heating load in SCE territory is most similar to multi-family energy consumption. Moreover, comparing SoCalGas numbers from Table ES-3 to the building specific values in Table ES-4 shows the space heating load in SoCalGas territory is most similar to mobile home energy consumption. This suggests that there are more heat pump installations in multi-family buildings, which skews the unit energy consumption values lower within SCE territory.

The more appropriate numbers for the analysis would be from Tables ES-2 and ES-4, which control for building size and therefore compare equal building loads. These tables show that multi-family space heating uses about 40% of the single-family energy usage and mobile home space heating uses about 75% of the single-family energy usage. The following table summarizes ES-2 and ES-4 for energy consumption data by technology and residential building types.

Table 3: Summary of ES-2 and ES-4 Energy Consumption Data

	Unit Energy Consumption (UEC)		
	Single-Family	Multi-Family	Mobile Home
Primary Conventional Space Heating (kWh)	1,509	622	1,193
Primary Heat Pump Space Heating (kWh)	1,221	493	980
Primary Heat (therm)	191	67	136
Furnace Fan (kWh)	159	55	116

2-3

While these numbers are statewide and include climate zones outside of the South Coast AQMD territory, they provide for a more like-for-like comparison of building usage. The statewide values for different building types in Tables ES-2 and ES-4 would be more appropriate for this analysis.

Further, to get the most accurate consumption values and account for the regionality of energy consumption as well as the different building load usage, the RASS database could be utilized.[33] Although currently unavailable on the CEC website, the RASS 2019 database contains all of the raw data from the RASS study (see footnote 33) to enable a user to search and filter the data usage as needed. The RASS 2019 UEC tables, which calculate energy consumption values of weather sensitive end uses by climate zones and building types, can be utilized to get regional values for different space heating loads depending on the building type.[34] This would allow for a more

[33] California Energy Commission, California Residential Appliance Saturation Study Database, *https://rass.dnv.com/sign/in*.
[34] California Energy Commission, "2019 California Residential Appliance Saturation Study (RASS) Volume 2: Results," July 2021, *https://rass.dnv.com/envodig/api/site/media/CEC-200-2021-005-RSLTS.pdf*.

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accurate like-for-like comparison of the different consumption values between building and space heating types within certain regions.

Due to the relatively smaller sample sizes of the UEC values by climate zone, there is more variation in the results of the data. To have statistically significant data, it is best to use the statewide figures from the RASS 2019 database below, similar to the executive summary tables ES-2 and ES-4:

Table 4: RASS 2019 Statewide Energy Consumption Data

Building Type	Primary Heat (therm)	Conv. Heat (kWh)	Heat Pump (kWh)
Single-Family	189	1,509	1,221
Townhome	83	951	593
2-4 Unit Apartment	69	592	559
5+ Unit Apartment	53	582	461
Mobile Home	144	1,193	980

SoCalGas requested that Ramboll use the statewide data per residential building type in their cost-effectiveness analysis.

f. Cost-effectiveness calculations should include costs of alternative compliance pathways

2-3

During the October 3, 2024 South Coast AQMD Public Workshop, several stakeholders raised concerns about the alternative compliance pathways laid out within both rules. Stakeholders voiced concern regarding rental appliance feasibility, noting that this would be incredibly complicated and costly to owners. One commenter acknowledged that for his manufacturing company, ultra-low NOx products are only shipped to and sold in areas in California that have low NOx requirements. Another manufacturer commented that the District should not rely on the market to create a rental program and suggested that the District fund a program similar to what was done to support the TECH program.[35] Without such an established program, inventory in the next few years will decline as manufacturers stop producing natural gas units for sale in California. The lack of availability of rental units will impose additional costs on households and could potentially offset emissions reductions if consumers need to utilize higher emitting units because manufacturers stop developing units that meet California's strict emissions standards.

Furthermore, the cost-effectiveness analysis does not include consideration of the additional costs incurred by customers under the alternative compliance options. Staff noted that the alternative compliance options were included as part of the PAR 1111 amendments to address the high upfront cost associated with furnace replacement, since furnace replacement without simultaneous

[35] South Coast AQMD October 3, 2024 Public Workshop, stakeholder comments; recording available by request to AQMD staff.

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replacement of an AC systems is not cost-effective[36]. Given 34 percent of homes in the South Coast AQMD region do not have AC, the additional costs of the alternative compliance option will be a reality for many households.[37] To account for these costs, the cost-effectiveness analysis should assume that these homeowners will have to pay double the installation, labor, and permitting costs, in addition to rental costs, since rented natural gas-fired furnaces and water heaters will need to be installed and subsequently uninstalled once a heat pump replacement unit has been procured and any necessary upgrades are completed for the heat pump. It is in the public interest to be made aware of these potential additional upfront costs, as it will impose additional financial burden on anyone who will need to utilize these alternative compliance options.

2-3

g. Ramboll's cost-effectiveness analysis

Given these findings, SoCalGas asked Ramboll to apply the South Coast AQMD's cost-effectiveness analysis technique as presented by staff for the proposed zero emission standards for PAR 1111 and 1121 (Appendix A). Ramboll calculated the cost-effectiveness in dollars per ton of NO_X reduced for the replacement of residential natural gas appliances with electric heat pump alternatives using the updated data and assumptions as discussed in the comments above. The results are summarized below in **Table 4.** The analysis indicates that the replacement of a single-family home natural gas water heater, single-family home natural gas furnace (only), and multi-family home natural gas furnace (only) with heat pump equipment are not cost-effective, i.e., cost-effectiveness is greater than the threshold of $349,000. Details of these calculations are presented in Tables B-1, B-2, and B-3 in **Attachment B** for single-family home water heaters, single-family home HVACs, and multi-family home HVACs, respectively.

[36] South Coast AQMD, "Preliminary Draft Staff Report for Proposed Amended Rule 1111 and 1121," September 2024, Page 2-19, https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18.

[37] U.S. Census Bureau, "American Housing Survey (AHS) Table Creator," American Housing Survey, *https://www.census.gov/programs-surveys/ahs/data/interactive/ahstablecreator.html?s_areas=00000&s_year=2023&s_tablename=TABLE1&s_bygroup1=1&s_bygroup2=1&s_filtergroup1=1&s_filtergroup2=1.*

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Table 4: Updated Cost-Effectiveness Comparisons			
	Cost-Effectiveness for Conversion of Residential Natural Gas Equipment to Electric Heat Pump Equipment (2022$/ton NOx)		
Data Source	Single-Family Home Water Heater	Single-Family Home HVAC	Multi-Family Home HVAC
PAR 1111/1121 Preliminary Draft Staff Report[1]	601,000	921,000	(135,000)
Cost-effectiveness values calculated based on updated data presented in this comment letter[2]	**879,258**	**972,443**	**1,351,118**
Cost-effectiveness threshold ($/ton of NO_X)	349,000		
Notes:			
[1]South Coast AQMD. Preliminary Draft Staff Report for: Proposed Amended Rule 1111 – Reduction of NO_X Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NO_X emissions from Small Natural Gas-Fired Water Heaters. Available at: *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18*. Accessed: October 2024.			
[2]See Attachment B. Analysis includes panel upgrade costs of $3,000			
Abbreviations:			
$ - dollar, HVAC – heating ventilation and air conditions, NO_X – oxides of nitrogen			

2-3

Given this, SoCalGas requests that South Coast AQMD staff revisit and refine the assumptions made within the cost-effectiveness analysis. Delay of rule adoption would allow for further investigation and deep-dive discussions between staff and engaged stakeholders to ensure all aspects of this rulemaking have been analyzed and vetted.

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4. The Draft Subsequent Environmental Assessment does not sufficiently explain why energy impacts from PAR 1111 and 1121 are less than significant

SoCalGas has had the opportunity to review South Coast AQMD's September 2024 Draft Subsequent Environmental Assessment for PAR 1111 and PAR 1121 (State Clearinghouse No. 2022050287; South Coast AQMMD No. 20240924JA/05122022KN) ("Draft SEA"). SoCalGas offers several comments on the Draft SEA's analysis concerning the proposed project, including comments concerning the Draft SEA's air quality and energy impacts analyses, some of these analyses' underlying data and assumptions, and the Draft SEA's discussion of project alternatives. SoCalGas's comments are detailed in Appendix B. However, SoCalGas would like to highlight the following comment:

The Draft SEA's energy impacts analysis, in its concluding section, states that "[t]he cumulative energy impacts from increased electricity and natural gas demand remain significant and unavoidable." (Draft SEA, p. 4-23.) It then continues: "However, the Final Program Environmental Impact Report (EIR) for the 2022 AQMP also concluded that the use of energy to comply with ambient air quality standards and climate change goals, while contributing to overall electricity and natural gas demand, [] does not result in the wasteful, unnecessary, or inefficient use of energy. Therefore, the cumulative energy impacts are less than significant." (*Id.*)

The Draft SEA leaves unclear how to reconcile these two propositions. The mere passing reference to the 2022 Final (FEIR does not explain how the significant and unavoidable energy demand impacts discussed at length in the preceding pages of the Draft SEA are negated or made less significant by the absence of waste or inefficiency in how this energy is used. In the end, the Draft SEA goes from finding significant and unavoidable impacts to less than significant impacts in the space of just a few sentences, without sufficient explanation.

2-4

5. Staff should clarify why they plan to perform a technology check-in after rule implementation

During the October 3, 2024 Public Workshop, South Coast AQMD staff stated that they plan to conduct a technology check-in of the rule amendments by June 2027, ahead of implementation of the rules to consider any issues with the rules as proposed. However, PAR 1121's implementation date is January 1, 2027, for existing buildings. During the comment period, SoCalGas requested clarification as to why the feasibility study would occur after the first implementation date, but South Coast AQMD did not respond to the question. SoCalGas would appreciate if staff could address this inconsistency as it does not benefit customers to have their concerns addressed *after* implementation.

2-5

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6. The financial impact of the proposed amendments has not been adequately evaluated and will be burdensome to the everyday customer

California is currently one of the most expensive places to live in the country[38] and has experienced one of the highest inflation rates recently.[39] According to the Public Policy Institute of California, nearly a third of Californians are living in or near poverty.[40] Needless to say, affordability is first and foremost on many policymakers' and stakeholders' minds when it comes to living in California.[41]

In the long run, SoCalGas believes that the clean energy transition is a great opportunity to raise the living standards for all Californians in an affordable and equitable fashion. To do so, we believe that we need to understand the immediate and direct impact to consumers in advance of any new policy being enacted. Oftentimes, communities and households who are least able to afford certain costs are most burdened with them and receive little recourse from policies and incentives. According to the LA100 Equity Strategies Report, "low-income families, renters, and people of color—face higher energy and transportation burdens, unsafe temperatures, higher impact from extreme heat events, and other negative impacts of historical legacies that are still present in current policies and practices." Specifically, the report found that "between 1999 and 2022, Los Angeles Department of Water and Power invested $340 million in residential solar installation, $14 million in residential energy efficiency, and $5 million in residential electric vehicle incentive programs, but disadvantaged communities only received 38%, 46%, and 23% of those allocations, respectively."[42] 2-6

While we understand that there will be rebates and incentives to help with some costs of compliance, it is concerning that costs can vary significantly. Table 5 below highlights actual costs that consumers will face to comply with PAR 1111 and cost for PAR 1121.[43] Similarly, TECH data, which staff utilized for single-family homes, shows that costs to replace a furnace with a heat pump in communities identified as disadvantaged can range from $3,800 to $56,000.[44] Given that there may be additional upfront costs when replacing with electric instead of gas appliances (e.g., $5,200 vs. $3,000 for water heaters, $18,550 vs. $10,000 for space heating, based on South

[38] Missouri Economic Research and Information Center, "Cost of Living Data Series", retrieved on Oct. 8, 2024, *https://meric.mo.gov/data/cost-living-data-series.*
[39] Paul Davidson, "The 5 states with the highest inflation and the 5 with the lowest," *USA Today*, April 9, 2024, *https://www.usatoday.com/story/money/2024/04/09/states-highest-lowest-inflation/73184932007/.*
[40] Public Policy Institute of California, "Poverty in California (October 2023 Factsheet)," last modified in 2023, *https://www.ppic.org/publication/poverty-in-california/.*
[41] California Public Utilities Commission (CPUC), "Affordability Rulemaking," last modified in 2023, *https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/affordability.*
[42] National Renewable Energy Laboratory, "LA100: The Los Angeles 100% Renewable Energy Study and Equity Strategies," *https://maps.nrel.gov/la100/equity-strategies/recognizing-inequities#key-findings.*
[43] Costs for PAR 1111 provided by regional HVAC contractor; costs for PAR 1121 from LA BizFed analysis available at: *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/los-angeles-county-business-federation.pdf?sfvrsn=6.*
[44] *September 2024 TECH Working Dataset_Multifamily & TECH Working Dataset_Single-Family Spreadsheets.*

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Coast AQMD estimates and both excluding the cost of panel upgrades and other potential costs[45]), we urge South Coast AQMD to be judicious in its cost-effectiveness analysis, to be up-front and clear about how much this will cost the individual consumer, and to provide additional clarification in a cost-effectiveness workshop to help the public understand the assumptions used and the potential impact of these rules on our communities -- households and businesses. Additionally, SoCalGas looks forward to reviewing the Socioeconomic Impact Assessment once it is released later this year.

Table 5: Appliance Replacement Costs

Natural Gas Space Heater	Replacement Cost
Floor Heater	$4,910
Wall Heater	$3,200
Central Furnace	$6,750

Heat Pump Space Heater	Replacement Cost
Floor/Wall Heater Replacement with Panel Upgrade	$32,099
Floor/Wall Heater Replacement without Panel Upgrade	$27,099
Central Heating Without AC	$23,750

Water Heaters	Replacement Cost
Natural Gas Water Heater	$1,700
120V Heat Pump Water Heater	$4,000 - $15,000
240V Heat Pump Water Heater	$30,000 - $80,000

2-6

Conclusion

SoCalGas has been an active participant in the South Coast AQMD rulemaking on PAR 1111 and 1121 and appreciates staff's efforts in updating this regulation; however, SoCalGas and other stakeholders continue to have serious concerns.[46] While SoCalGas supports emission reduction efforts, PAR 1111 and 1121 effectively ban gas-fired space and water heaters, disregarding the potential emissions reductions that can be achieved through technological advancements in ultra-low-NOx gas technologies, hydrogen-enriched natural gas systems, and hybrid solutions. These alternatives have the potential to achieve meaningful emissions reductions while maintaining reliable, affordable, and efficient options for residents and consumers. Allowing for ultra-low-NOx alternatives will be far more effective than a zero-NOx mandate that requires residents to spend thousands of dollars modifying their homes to install electric heat pumps.

[45] South Coast AQMD, "Proposed Amended Rules 1111 and 1121 Working Group Meeting #2," November 28, 2023, Slide 11, *https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm2-november-2023.pdf?sfvrsn=14*.

[46] South Coast AQMD October 3, 2024 Public Workshop, stakeholder comments; recording available by request to AQMD staff.

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We urge South Coast AQMD to delay adoption of these rules and take the time to wholistically and appropriately evaluate their impacts. Given the earliest compliance deadline for existing buildings is not until January 1, 2027, we feel there is an opportunity for the South Coast AQMD to conduct public outreach to inform property owners and tenants within its jurisdiction of this rulemaking. It is crucial to recognize that homeowners and renters, rather than industry, will be the ones forced to reach deep into their pockets to comply with these rules. Historically, the South Coast AQMD granted extensions to manufacturers under Rule 1121 to meet lower NOx emission limits, acknowledging the challenges they faced with compliance costs. Similarly, we believe it is reasonable to allow more time in this rulemaking process, considering the significant financial impact to homeowners and businesses and the challenges they will likely face with rule implementation. We urge the South Coast AQMD to schedule an additional public workshop to ensure all considerations have been included in the cost-effectiveness values presented to the public. This will also help homeowners and businesses within your jurisdiction to plan their future finances accordingly. SoCalGas, looks forward to collaborating on California's shared goal of advancing air quality objectives. 2-7

Respectfully,

/s/ Kevin Barker

Kevin Barker
Senior Manager
Energy and Environmental Policy

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Appendix A

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ENVIRONMENT
& HEALTH

MEMORANDUM

To: Kevin Barker
Southern California Gas Company

From: Varalakshmi Jayaram & Tony Wang
Ramboll Americas Engineering Solutions, Inc.

Subject: **COMMENTS ON SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S (SOUTH COAST AQMD'S) COST-EFFECTIVENESS CALCULATIONS FOR PROPOSED AMENDED RULES (PAR) 1111 AND 1121**

Date: October 16, 2024

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1. It is unclear how South Coast AQMD arrived at the cost-effectiveness values that they presented in the Preliminary Draft Staff Report for PAR 1111/1121.

Ramboll calculated the cost-effectiveness (CE) in dollars per ton of NO_X (oxides of nitrogen) reduced for the replacement of residential natural gas (NG) appliances with electric heat pump alternatives using the data and assumptions presented by South Coast AQMD in the preliminary draft staff report[1] and Working Group Meetings (WGMs)[2] for PAR 1111/1121. Details of these calculation are presented in Tables A-1, A-2, and A-3 in **Attachment A** for single-family home water heaters, single-family home heating ventilation and air conditioning (HVAC) systems, and multi-family home HVAC systems respectively. As summarized in **Table 1** below, Ramboll's calculated CE values are substantially different from those presented by South Coast AQMD for most of the replacement scenarios.

2-8

We understand that staff has made multiple updates to their CE calculations after their initial presentation of assumptions in WGMs #2 and #3. Ramboll has accounted for these updates in our calculations presented in **Attachment A** by incorporating the information provided in the presentation materials for subsequent WGMs and the preliminary draft staff report. However, our results still do not align with those presented in the preliminary draft staff report. We therefore request staff to provide a summary of their current assumptions and methodology for the CE calculations that were used to arrive at these

[1] South Coast AQMD. Preliminary Draft Staff Report for: Proposed Amended Rule 1111 – Reduction of NO_X Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NO_X emissions from Small Natural Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[2] South Coast AQMD Presentation Materials for Working Group Meetings for PAR 1111/1121. Available at: https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1111-and-rule-1121. Accessed: October 2024.

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cost-effectiveness values. We are happy to provide a Microsoft Excel version of our detailed calculations that are presented in **Attachment A**, as needed.

Table 1. Comparison of Cost-Effectiveness

Data Source	Cost-Effectiveness for Conversion of Residential Natural Gas Equipment to Electric Heat Pump Equipment (2022$/ton NOx)				
	Single-Family Home Water Heater	Single-Family Home HVAC		Multi-Family Home HVAC	
		Furnace + AC	Furnace Only	Furnace + AC	Furnace Only
PAR 1111/1121 Preliminary Draft Staff Report[1]	601,000	(183,000)	921,000	(2,633,000)	(135,000)
Cost-Effectiveness Values calculated based on South Coast AQMD Data[2]	750,345	(174,683)	1,483,017	(1,455,633)	(363,058)

Notes:

[1] South Coast AQMD. Preliminary Draft Staff Report for: Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NOx emissions from Small Natural Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[2] See Attachment A.

Abbreviations:

$ - dollar, AC – air conditioner, HVAC – heating ventilation and air conditions, NOx – oxides of nitrogen

2-8

2. South Coast AQMD's assumptions for electric heat pump efficiencies are substantially higher than those reported for residential heat pumps that are available in the market.

The energy consumption data for heat pumps and the natural gas appliances presented by South Coast AQMD staff in WGM#2[3] indicates that the heat pumps are approximately 5-7 times more efficient than the natural gas appliances they replace. Specifically, the electric heat pump space heater is assumed to be 6.8 times[4] more efficient than a conventional natural gas furnace and the

[3] South Coast AQMD Working Group Meetings for Proposed Amended Rules 1111 - Reduction of NOx Emissions from Natural-Gas-Fired Furnaces and 1121 - Reduction of NOX Emissions from Residential Type, Natural-Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1111-and-rule-1121. Accessed: October 2024.

[4] South Coast AQMD assumed an annual energy use of 3,822 kWh (127 therm NG for furnace + 101 kWh electricity for furnace fan) from a conventional gas furnace and 565 kWh for a HVAC heat pump to be 565 kWh, in WGM#2, Slide 12, and did not distinguish single family-and multi-family use. This indicates that the heat pump HVAC is 6.8 (3,822÷565) times more efficient than the conventional natural gas furnace.

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electric heat pump water heater is assumed to be at least 5.3 times[5] more efficient than a conventional natural gas water heater.

While South Coast AQMD staff claimed the energy consumption data of the natural gas furnace and HVAC heat pumps were obtained from the 2019 California Residential Appliance Saturation Study (2019 RASS)[6], staff used incorrect values from the RASS by mixing the single- and multi-family space heating energy consumptions. **Table 2** below summarizes the space heating Unit Energy Consumption (UEC) for natural gas furnaces (i.e., Primary Heat + Furnace Fan) and heat pump space heaters (i.e., Primary Heat Pump Space Heating) that are listed in the 2019 RASS. We recommend staff uses these UEC values to revise their CE analysis.

Table 2. UEC from the 2019 RASS

Equipment	Single-Family	Multi-Family	Unit
Primary Heat[1]	191	67	therms/year
Furnace Fan[2]	159	55	kWh/year
Primary Heat Pump Space Heating[2]	1,221	493	kWh/year

[1] Data obtained from Table 33 in Volume 2 of the 2019 California RASS. Available at: https://www.energy.ca.gov/sites/default/files/2021-08/CEC-200-2021-005-RSLTS.pdf. Accessed: October 2024. Multi-family UEC data are the average the UECs for townhomes, 2-4 unit apartments, and 5+ unit apartments.

[2] Data obtained from Table 11 in Volume 2 of the 2019 California RASS. Available at: https://www.energy.ca.gov/sites/default/files/2021-08/CEC-200-2021-005-RSLTS.pdf. Accessed: October 2024. Multi-family UEC data are the average the UECs for townhomes, 2-4 unit apartments, and 5+ unit apartments.

2-8

Additionally, we would like to point out that the energy efficiency values South Coast AQMD staff used are also significantly higher than the efficiencies of residential heat pumps appliances that are available in the market. For instance, the Coefficient of Performance (COP) of certified Air-Source Heat Pumps (ASHP, or heat pump space heaters) in the ENERGY STAR program's database range from 1.8 to 2.9 (average 2.0).[7] This indicates that residential heat pump space heaters in the market are approximately 2 time more efficient than a conventional NG furnace.

The ENERGY STAR website[8] also indicates that certified heat pump water heaters are 3.5 to 4.4 times more efficient than a traditional NG water heater. Additionally, South Coast AQMD staff

[5] South Coast AQMD assumed an annual energy use of 190 therms NG (5,567 kWh) for a conventional gas water heater and 1,036 kWh for an equivalent heat pump water heater, in the Preliminary Draft Staff Report. This indicates that the heat pump water heater would be at least 5.3 times (5,567÷1,036) more efficient than the conventional gas water heater.

[6] South Coast AQMD assumed an annual energy use of 3,822 kWh (127 therm NG for furnace + 101 kWh electricity for furnace fan) from a conventional gas furnace and 565 kWh for a HVAC heat pump to be 565 kWh, in WGM#2, Slide 12.

[7] ENERGY STAR Certified Air-Source Heat Pumps. Available at: https://data.energystar.gov/Active-Specifications/ENERGY-STAR-Certified-Air-Source-Heat-Pumps/w7cv-9xjt/about_data. Accessed: October 2024.

[8] ENERGY STAR- What is Uniform Energy Factor and Why Does it Matter?. Available at: https://www.energystar.gov/products/ask-the-experts/what-uniform-energy-factor-and-why-does-it-matter. Accessed: October 2024. Note this article reported that the UEF (i.e., Uniform Energy Factor) for a traditional gas water heater is 0.93, while ENERGY STAR certified heat pump water heaters typically have UEF ratings in the range of 3.3 to 4.1. Ramboll calculated the ratio and summarized the efficiency improvement to be 3.5-4.4 times.

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have also stated that the heat pump water heater is 4.6 more efficient than a Type 1 NG water heater in the in WGM#3 for PAR 1146.2.[9] While the water heaters subject to Rule 1146.2 are larger than the residential water heaters that would be subject to PAR 1111/1121, the relative efficiency of heat pump water heater to a natural gas water heater should still be similar for both small and large water heaters.

Therefore, we request staff review and update the energy consumption assumptions for the natural gas and residential heat pump appliances that are used in their cost-effectiveness evaluations for PAR 1111/1121.

3. **South Coast AQMD should consider changing the panel upgrade cost for each equipment from $750 to $3,000 to reflect an accurate estimation of infrastructure costs.**

South Coast AQMD proposes reducing the panel upgrade cost from $3,000 to $1,500, assuming a longer useful panel life compared to the equipment's 15-year lifespan. Staff also assumed that this cost would be shared by both the space heaters and water heaters, resulting in an infrastructure cost of $750 each, as noted in WGM #2, slide 16. However, it is not valid to implement a lower infrastructure cost from an assumed longer panel lifespan because the investment for the panel upgrade must be fully made at the time of purchase, and not at the end of the equipment life. Additionally, space heaters and water heaters have varying lifetimes; therefore, it is invalid to assume all homes will install electric water heaters and space heaters simultaneously to share the panel upgrade cost. Hence, we recommend that staff use a panel upgrade cost to be $3,000 for each equipment replacement project.

2-8

4. **South Coast AQMD used inconsistent data sources for the capital costs of natural gas appliances and heat pump appliances, leading to uncertainty in the CE analysis.**

South Coast AQMD staff utilized capital cost data for NG equipment from the 2019 E3 Residential Building Study (E3 Study) [10], while the capital costs for heat pump equipment were obtained from the TECH Clean California program (TECH)[11]. We are concerned about the discrepancies between these two data sources and the resulting uncertainty in the CE analysis.

For instance, the E3 Study models costs for three types of homes: pre-1978 homes, which typically require electric panel upgrades, 1990s homes, and new construction that complies with California's 2019 Title 24 building code. In contrast, the TECH data only covers electrification projects for existing homes, excluding new construction entirely.

Additionally, the sample size in the TECH dataset varies greatly by home type. Specifically, it includes over 10,000 single-family project records in the South Coast (i.e., water heating and space heating projects in Los Angeles, Riverside, Orange, and San Bernardino counties) but only about 1,000 multi-family projects. This suggests that the TECH data is dominated by single-family projects and may not adequately represent multi-family projects.

[9] South Coast AQMD Working Group Meeting #3: Proposed Amended Rule 1146.2 – Controls of Oxides of Nitrogen from Large Water Heaters, Small Boilers, and Process Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1146-1146.1-and-1146.2/par-1146-2-wgm3-august-2023.pdf?sfvrsn=14. Accessed: October 2024.

[10] Energy+Environmental Economics (E3). Residential Building Electrification in California. Available at: https://www.ethree.com/e3-quantifies-the-consumer-and-emissions-impacts-of-electrifying-california-homes/. Accessed: October 2024.

[11] TECH Clean California. Heat Pump Data. Available at: https://techcleanca.com/heat-pump-data/. Accessed: October 2024.

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Given these discrepancies, we recommend that South Coast AQMD staff revise their CE analysis by using E3 Study data for both natural gas and heat pump equipment costs to ensure consistency and accuracy.

5. The CE analysis should use the average electricity and natural gas prices over the equipment lifetime instead of the current-year electricity and natural gas prices.

The preliminary draft staff report[12] states that the CE analysis relied on the fuel price estimates which are based on a combination of the 2023 Integrated Energy Policy Report (2023 IEPR) and Energy Information Administration national level forecasts. While the staff report does not provide the values of the fuel price estimates that were actually used in the analysis, slide 25 in WGM #4 presentation indicated that these values are 0.0566 $/kWh and 0.2639 $/ kWh for natural gas and electricity, respectively. However, it is not clear how AQMD staff arrived at these values.

The proposed initial implementation year for PAR 1111/1121 starts from 2026, and the expected equipment lifespan for water heater and space heater are 15 years and 25 years, respectively. Additionally, we note that the 2023 IEPR provides electricity price forecasts only till 2040. Hence, we suggest that Staff use the average of the fuel price forecasts from 2026 to 2040 (a 15-year period) in their CE analysis. Ramboll has estimated these fuel price forecasts as described below: 2-8

- Ramboll used the price forecasts in the 2023 IEPR[13] to calculate the following 2026 to 2040 average electricity prices for Southern California Edison (SCE) and Los Angeles Department of Water and Power (LADWP): 0.2959 2022$/kWh for SCE and 0.2919 2022$/kWh for LADWP. We then estimated a population weighted average electricity price of 0.2950 2022$/kWh (0.77 x SCE price + 0.23 x LADWP price) for the South Coast Air Basin following the methodology described in the preliminary draft staff report.
- Ramboll received a copy of the California Energy Commission's (CEC's) projected residential rates for Southern California Gas Company (SCG) from SCG. While this data included natural gas base rate projections till 2050, in order to maintain consistency with the approach for estimating the electricity prices, we propose using the 2026 to 2040 average natural gas price of 2.2372 2023$/therm, i.e., 0.07314 2022$/kWh[14].

We recommend that staff review our estimates for fuel prices and use these in the CE analysis.

6. Once all suggested revisions related to CE analysis are incorporated, the CE analysis of PAR 1111 and 1121 to mandate the switch toward electric water heaters and space heaters will no longer be cost-effective for most scenarios.

Ramboll calculated the CE in dollars per ton of NO_X reduced for the replacement of residential NG appliances with electric heat pump alternatives using the updated data and assumptions as discussed in the comments above. These are summarized below in **Table 3**. Our analysis indicates that the replacement of a single-family home natural gas water heater, single-family home natural gas furnace (only), and multi-family home natural gas furnace (only) with heat pump equipment are

[12] South Coast AQMD. Preliminary Draft Staff Report for: Proposed Amended Rule 1111 – Reduction of NO_X Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NO_X emissions from Small Natural Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[13] California Energy Demand Forecast, 2023-2040. Electricity Rate Forecast and Supporting Data. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253591. Accessed: October 2024.

[14] 2023$ were converted to 2022$ using a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2023. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

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not cost-effective, i.e., CE is greater than the threshold of $349,000. Details of these calculation are presented in Tables B-1, B-2, and B-3 in **Attachment B** for single-family home water heaters, single-family home HVACs, and multi-family home HVACs respectively.

Table 3: Updated Cost-Effectiveness Comparisons

Data Source	Cost-Effectiveness for Conversion of Residential Natural Gas Equipment to Electric Heat Pump Equipment (2022$/ton NO_x)				
	Single-Family Home Water Heater	Single-family Home HVAC		Multi-family Home HVAC	
		Furnace + AC	Furnace Only	Furnace + AC	Furnace Only
PAR 1111/1121 Preliminary Draft Staff Report[1]	601,000	(183,000)	921,000	(2,633,000)	(135,000)
Cost-Effectiveness Values Calculated based on Updated Data presented in this Comment Letter[2]	879,258	(220,761)	972,443	91,831	1,351,118
Cost-effectiveness Threshold ($/ton of NO_x)	349,000				

Notes:

[1] South Coast AQMD. Preliminary Draft Staff Report for: Proposed Amended Rule 1111 – Reduction of NO_x Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NO_x emissions from Small Natural Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[2] See Attachment B.

Abbreviations:

$ - dollar, AC – air conditioner, HVAC – heating ventilation and air conditions, NO_x – oxides of nitrogen

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ATTACHMENT A
COST-EFFECTIVENESS CALCULATIONS
BASED ON SOUTH COAST AQMD DATA

2-8

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Table A1. Cost-Effectiveness Calculations for the Replacement of a Residential Single-Family Home Natural Gas Water Heater based on Data presented by South Coast AQMD

	Natural Gas Water Heater	Electric Heat Pump Water Heater	Units
NOx Emissions			
NOx Emission Factor	10.0	0.0	ng/J
Annual Energy Use by Technology Type[1]	5,567	1,036	kWh
Equipment Useful Life	15	15	years
Total Lifetime NOx Emissions[2]	3.3E-03	0.0E+00	tons
Capital Costs			
Capital Costs[3]	3,000	5,200	2022$
Infrastructure	--	750	2022$
Total Capital Costs	3,000	5,950	2022$
Operation and Maintenance (O&M) Costs			
Electricity/Fuel Prices[4]	0.0566	0.2639	2022$/kWh
Annual Electricity/Fuel Costs[5]	315	273	2022$/yr
Total Lifetime O&M Costs[6]	3,503	3,040	2022$
Cost-Effectiveness			
Lifetime NOx Emission Reductions[7]	--	3.3E-03	tons
Incremental Capital Costs[8]	--	2,950	2022$
Incremental Lifetime Operation and Maintenance Costs[8]	--	(464)	2022$
Incremental Lifetime Equipment Costs[8]	--	2,486	2022$
NOx Cost-Effectiveness[9]	--	**750,345**	2022$/ton
South Coast AQMD Reported Cost-Effectiveness[10]		**601,000**	2022$/ton
South Coast AQMD NOx Cost-Effectiveness Threshold	349,000	349,000	2022$/ton

Abbreviations:
AQMD - Air Quality Management District
COP - coefficient of performance
hr - hour
kg - kilogram
kW - kilowatt
kWh - kilowatt hour
J - joule
MMBtu - million British thermal units
NOx - oxides of nitrogen
ng - nanogram
yr - year

Constants:
Present Value Factor[11] 11.118
Real Interest Rate 4%

Conversion Factors:
8,760 hr/yr
29.3 kWh/therm
2,000 lbs/ton
2.78E-07 kWh/J
1.0.E+09 ng/g

Notes:
[1] Annual Energy Use obtained from Page 2-20 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[2] Total Lifetime NOx emissions are estimated as the Annual Energy Use multiplied by the Equipment Useful Life, and the NOx Emission Factor.

[3] Capital Costs obtained from Page 2-20 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[4] Electricity/fuel prices ($/kWh) data obtained from South Coast AQMD Working Group Meeting #4: Proposed Amended Rule 1111 - Reduction of NOx Emissions from Natural-Gas-Fired Furnaces and PAR 1121 - Reduction of NOx Emissions from Residential Type, Natural-Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm4-april-2024.pdf?sfvrsn=14. Accessed: October 2024. It appears that updates were made to the methodology used to estimate these prices in the Preliminary Draft Staff Report, however, the exact values that were used for the calculations in the staff report are not presented in the report.

[5] Annual Electricity/Fuel Costs is estimated at the product of the Annual Energy Use and the Electricity/Fuel Prices.

[6] Lifetime O&M Costs are estimated as the Annual Electricity/Fuel Costs multiplied by the Present Value Factor.

[7] Lifetime NOx Emission Reductions are calculated as the difference in Lifetime NOx emissions for the natural gas unit and the electric unit.

[8] Incremental Costs are calculated as the difference in cost compared to the natural gas unit.

[9] NOx Cost-Effectiveness is calculated as the Incremental Lifetime Equipment Costs divided by the Lifetime NOx Emission Reductions

[10] Data obtained from Page 2-20 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[11] The Present Value Factor is part of the Discounted Cash Flow Method that uses expected future cash flows in conjunction with a discount rate to estimate present fair value. Based on South Coast AQMD Working Group Meeting #3 presentation slides. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12. Accessed: October 2024.

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Table A2. Cost-Effectiveness Calculations for the Replacement of a Residential Single-Family Home Natural Gas Furnace based on Data Presented by South Coast AQMD

Parameters for Cost-Effectiveness Analysis	Space Heating and Cooling		Space Heating Only		Units
	Natural Gas Furnace + Air Conditioner	Electric Heat Pump HVAC	Natural Gas Furnace	Electric Heat Pump HVAC	
NOx Emissions					
NOx Emission Factor	14.0	0.0	14.0	0.0	ng/J
Annual Energy Use by Technology Type[1]	3,822	565	3,822	565	kWh
Equipment Useful Life	25	25	25	25	years
Total Lifetime NOx Emissions[2]	5.3E-03	0.0E+00	5.3E-03	0.0E+00	tons
Capital Costs					
Capital Costs[3]	18,800	18,500	10,000	18,500	2022$
Infrastructure	--	750	--	750	2022$
Total Capital Costs	18,800	19,250	10,000	19,250	2022$
Operation and Maintenance (O&M) Costs					
Electricity Prices[4]	0.2639	0.2639	0.2639	0.2639	2022$/kWh
Natural Gas Prices[4]	0.0566		0.0566		2022$/kWh
Annual Electricity/Fuel Costs[5]	237	149	237	149	2022$/yr
Total Lifetime O&M Costs[6]	3,707	2,329	3,707	2,329	2022$
Cost-Effectiveness					
Lifetime NOx Emission Reductions[7]	--	5.3E-03	--	5.3E-03	tons
Incremental Capital Costs[8]	--	450	--	9,250	2022$
Incremental Lifetime Operation and Maintenance Costs[8]	--	(1,377)	--	(1,377)	2022$
Incremental Lifetime Equipment Costs[8]	--	(927)	--	7,873	2022$
NOx Cost-Effectiveness[9]	--	**(174,683)**	--	**1,483,017**	2022$/ton
South Coast AQMD Reported Cost-Effectiveness[10]		**(183,000)**		**921,000**	2022$/ton
South Coast AQMD NOx Cost-Effectiveness Threshold	349,000	349,000	349,000	349,000	2022$/ton

Abbreviations:
AQMD - Air Quality Management District
COP - coefficient of performance
hr - hour
kg - kilogram
kW - kilowatt
kWh - kilowatt hour
J - joule
MMBtu - million British thermal units
NOx - oxides of nitrogen
ng - nanogram
yr - year

Constants:
Present Value Factor[11] 15.622
Real Interest Rate 4%

Conversion Factors:
8,760 hr/yr
29.3 kWh/therm
2,000 lbs/ton
2.78E-07 kWh/J
1.0E+09 ng/g

Notes:

[1] Annual Energy Use obtained from South Coast AQMD Working Group Meetings #2: Proposed Amended Rule 1111 - Reduction of NOx Emissions from Natural-Gas-Fired Furnaces and PAR 1121 - Reduction of NOx Emissions from Residential Type, Natural-Gas-Fired Water Heaters, Slide 12. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm2-november-2023.pdf. Accessed: October 2024.

[2] Total Lifetime NOx emissions are estimated as the Annual Energy Use multiplied by the Equipment Useful Life, and the NOx Emission Factor.

[3] Capital Costs obtained from Page 2-18 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[4] Electricity/natural gas prices ($/kWh) data obtained from South Coast AQMD Working Group Meeting #4: Proposed Amended Rule 1111 - Reduction of NOx Emissions from Natural-Gas-Fired Furnaces and PAR 1121 - Reduction of NOx Emissions from Residential Type, Natural-Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm4-april-2024.pdf?sfvrsn=14. Accessed: October 2024. It appears that updates were made to the methodology used to estimate these prices in the Preliminary Draft Staff Report, however, the exact values that were used for the calculations in the staff report are not presented in the report.

[5] Annual Electricity/Fuel Costs is estimated at the product of the Annual Energy Use and the Electricity/Fuel Prices.

[6] Lifetime O&M Costs are estimated as the Annual Electricity/Fuel Costs multiplied by the Present Value Factor.

[7] Lifetime NOx Emission Reductions are calculated as the difference in Lifetime NOx emissions for the natural gas unit and the electric unit.

[8] Incremental Costs are calculated as the difference in cost compared to the natural gas unit.

[9] NOx Cost-Effectiveness is calculated as the Incremental Lifetime Equipment Costs divided by the Lifetime NOx Emission Reductions

[10] Data obtained from Page 2-18 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[11] The Present Value Factor is part of the Discounted Cash Flow Method that uses expected future cash flows in conjunction with a discount rate to estimate present fair value. Based on South Coast AQMD Working Group Meeting #3 presentation slides. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12. Accessed: October 2024.

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Table A3. Cost-Effectiveness Calculations for the Replacement of a Multi-Family Home Residential Natural Gas Furnace based on Data Presented by South Coast AQMD

Parameters for Cost-Effectiveness Analysis	Space Heating and Cooling		Space Heating Only		Units
	Natural Gas Furnace + Air Conditioner	Electric Heat Pump HVAC	Natural Gas Furnace	Electric Heat Pump HVAC	
NOx Emissions					
NOx Emission Factor	14.0	0.0	14.0	0.0	ng/J
Annual Energy Use by Technology Type[1]	3,822	565	3,822	565	kWh
Equipment Useful Life	25	25	25	25	years
Total Lifetime NOx Emissions[2]	5.3E-03	0.0E+00	5.3E-03	0.0E+00	kg
Capital Costs					
Capital Costs[3]	12,400	5,300	6,600	5,300	2022$
Infrastructure	--	750	--	750	2022$
Total Capital Costs	12,400	6,050	6,600	6,050	2022$
Operation and Maintenance (O&M) Costs					
Electricity Prices[4]	0.2639	0.2639	0.2639	0.2639	2022$/kWh
Natural Gas Prices[4]	0.0566		0.0566		2022$/kWh
Annual Electricity/Fuel Costs[5]	237	149	237	149	2022$/yr
Total Lifetime O&M Costs[6]	3,707	2,329	3,707	2,329	2022$
Cost-Effectiveness					
Lifetime NOx Emission Reductions[7]	--	5.3E-03	--	5.3E-03	tons
Incremental Capital Costs[8]	--	(6,350)	--	(550)	2022$
Incremental Lifetime Operation and Maintenance Costs[8]	--	(1,377)	--	(1,377)	2022$
Incremental Lifetime Equipment Costs[8]	--	(7,727)	--	(1,927)	2022$
NOx Cost-Effectiveness[9]	--	**(1,455,633)**	--	**(363,058)**	2022$/ton
South Coast AQMD Reported Cost-Effectiveness[10]		**(2,633,000)**		**(135,000)**	2022$/ton
South Coast AQMD NOx Cost-Effectiveness Threshold	349,000	349,000	349,000	349,000	2022$/ton

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Abbreviations:
AQMD - Air Quality Management District
COP - coefficient of performance
hr - hour
kg - kilogram
kW - kilowatt
kWh - kilowatt hour
J - joule
MMBtu - million British thermal units
NOx - oxides of nitrogen
ng - nanogram
yr - year

Constants:
Present Value Factor[11] 15.622
Real Interest Rate 4%

Conversion Factors:
8,760 hr/yr
29.3 kWh/therm
2,000 lbs/ton
2.78E-07 kWh/J
1.0.E+09 ng/g

Notes:

[1] Annual Energy Use obtained from South Coast AQMD Working Group Meetings #2: Proposed Amended Rule 1111 - Reduction of NOx Emissions from Natural-Gas-Fired Furnaces and PAR 1121 - Reduction of NOx Emissions from Residential Type, Natural-Gas-Fired Water Heaters, Slide 12. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm2-november-2023.pdf. Accessed: October 2024.

[2] Total Lifetime NOx emissions are estimated as the Annual Energy Use multiplied by the Equipment Useful Life, and the NOx Emission Factor.

[3] Capital Costs obtained from Page 2-19 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[4] Electricity/natural gas prices ($/kWh) data obtained from South Coast AQMD Working Group Meeting #4: Proposed Amended Rule 1111 - Reduction of NOx Emissions from Natural-Gas-Fired Furnaces and PAR 1121 - Reduction of NOx Emissions from Residential Type, Natural-Gas-Fired Water Heaters. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm4-april-2024.pdf?sfvrsn=14. Accessed: October 2024. It appears that updates were made to the methodology used to estimate these prices in the Preliminary Draft Staff Report, however, the exact values that were used for the calculations in the staff report are not presented in the report.

[5] Annual Electricity/Fuel Costs is estimated at the product of the Annual Energy Use and the Electricity/Fuel Prices.

[6] Lifetime O&M Costs are estimated as the Annual Electricity/Fuel Costs multiplied by the Present Value Factor.

[7] Lifetime NOx Emission Reductions are calculated as the difference in lifetime NOx emissions for the natural gas unit and the electric unit.

[8] Incremental Costs are calculated as the difference in cost compared to the natural gas unit.

[9] NOx Cost-Effectiveness is calculated as the Incremental Lifetime Equipment Costs divided by the Lifetime NOx Emission Reductions

[10] Data obtained from Page 2-19 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[11] The Present Value Factor is part of the Discounted Cash Flow Method that uses expected future cash flows in conjunction with a discount rate to estimate present fair value. Based on South Coast AQMD Working Group Meeting #3 presentation slides. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12. Accessed: October 2024.

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ATTACHMENT B
COST-EFFECTIVENESS CALCULATIONS
BASED ON UPDATED DATA PRESENTED IN
THIS COMMENT LETTER

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Table B1. Cost-Effectiveness Calculations for the Replacement of a Residential Single-Family Home Natural Gas Water Heater

Parameters for Cost-Effectiveness Analysis	Natural Gas Water Heater	Electric Heat Pump Water Heater	Units
NOx Emissions			
NOx Emission Factor	10.0	0.0	ng/J
Annual Energy Use by Technology Type[1]	7,618	1,905	kWh
Equipment Useful Life	15	15	years
Total Lifetime NOx Emissions[2]	4.5E-03	0.0E+00	tons
Capital Costs			
Capital Costs[3]	3,676	4,611	2022$
Infrastructure	--	3,000	2022$
Total Capital Costs	3,676	7,611	2022$
Operation and Maintenance (O&M) Costs			
Electricity/Fuel Prices[4,5]	0.0731	0.2950	2022$/kWh
Annual Electricity/Fuel Costs[6]	557	562	2022$/yr
Total Lifetime O&M Costs[7]	6,195	6,247	$
Cost-Effectiveness			
Lifetime NOx Emission Reductions[8]	--	4.5E-03	tons
Incremental Capital Costs[9]	--	3,935	2022$
Incremental Lifetime Operation and Maintenance Costs[9]	--	52	2022$
Incremental Lifetime Equipment Costs[9]	--	3,987	2022$
NOx Cost-Effectiveness[10]	**--**	**879,258**	2022$/ton
South Coast AQMD Reported Cost-Effectiveness[11]		**601,000**	2022$/ton
South Coast AQMD NOx Cost-Effectiveness Threshold	349,000	349,000	2022$/ton

Abbreviations:
AQMD - Air Quality Management District
COP - coefficient of performance
hr - hour
kg - kilogram
kW - kilowatt
kWh - kilowatt hour
J - joule
MMBtu - million British thermal units
NOx - oxides of nitrogen
ng - nanogram
yr - year

Constants:

Present Value Factor[12]	11.118
Real Interest Rate	4%

Conversion Factors:

8,760	hr/yr
29.3	kWh/therm
2,000	lbs/ton
2.78E-07	kWh/J
1.0.E+09	ng/g

Notes:

[1] Energy consumption of the natural gas water heater was obtained from Table 33 of the 2019 California Residential Appliance Saturation Study (RASS). Available at: https://www.energy.ca.gov/publications/2021/2019-california-residential-appliance-saturation-study-rass. Accessed: October 2024.
For the electric heat pump water heater energy consumption, Ramboll assumed it to be 4 times more efficient than the natural gas water heater based on this article: https://www.energystar.gov/products/ask-the-experts/what-uniform-energy-factor-and-why-does-it-matter. Accessed: October 2024.

[2] Total Lifetime NOx Emissions are estimated as the Annual Energy Use multiplied by the Equipment Useful Life, and the NOx Emission Factor.

[3] Capital Costs were derived based on Capital Cost Data of Zones 6, 9 and 10 from the E3 study, "Residential Building Electrification in in California." Available at: https://www.ethree.com/e3-quantifies-the-consumer-and-emissions-impacts-of-electrifying-california-homes/. Accessed: October 2024.
The costs were also converted from 2018$ to 2022$ based on a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2018. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

[4] As noted in the preliminary draft staff report (Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024), the electricity price is calculated as a population weighted average of 2026 to 2040 projected price averages for SCE and LADWP, i.e., 0.77 x SCE price + 0.23 x LADWP price. The 2026 to 2040 projected average price averages for SCE and LADWP were obtained from the 2023 IEPR. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253591. Accessed: October 2024.

[5] Natural gas price was estimated as the average of the 2026 to 2040 residential baseline rates from CEC. Note, these rates were provided in 2023$ and converted to 2022$ using a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2023. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

[6] Annual Electricity/Fuel Costs are estimated as the product of the Annual Energy Use and the Electricity/Fuel Prices.

[7] Total Lifetime O&M Costs are estimated as the Annual Electricity/Fuel Costs multiplied by the Present Value Factor.

[8] Lifetime NOx Emission Reductions are calculated as the difference in Lifetime NOx Emissions for the natural gas unit and the electric unit.

[9] Incremental Costs are calculated as the difference in cost compared to the natural gas unit.

[10] NOx Cost-Effectiveness is calculated as the Incremental Lifetime Equipment Costs divided by the Lifetime NOx Emission Reductions.

[11] Data obtained from Page 2-20 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[12] The Present Value Factor is part of the Discounted Cash Flow Method that uses expected future cash flows in conjunction with a discount rate to estimate present fair value. Based on South Coast AQMD Working Group Meeting #3 presentation slides. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12. Accessed: October 2024.

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COMMENT LETTER #2 – SoCalGas, October 17, 2024 (p. 32 of 37)

Table B2. Cost-Effectiveness Calculations for the Replacement of a Residential Single-Family Home Natural Gas Furnace

Parameters for Cost-Effectiveness Analysis	Space Heating and Cooling		Space Heating Only		Units
	Natural Gas Furnace + Air Conditioner	Electric Heat Pump HVAC	Natural Gas Furnace	Electric Heat Pump HVAC	
NOx Emissions					
NOx Emission Factor	14.0	0.0	14.0	0.0	ng/J
Annual Energy Use by Technology Type[1]	5,755	1,221	5,755	1,221	kWh
Equipment Useful Life	25	25	25	25	years
Total Lifetime NOx Emissions[2]	8.0E-03	0.0E+00	8.0E-03	0.0E+00	tons
Capital Costs					
Capital Costs[3]	19,495	16,230	9,957	16,230	2022$
Infrastructure	--	3000	--	3,000	2022$
Total Capital Costs	19,495	19,230	9,957	19,230	2022$
Operation and Maintenance (O&M) Costs					
Electricity Prices[4]	0.2950	0.2950	0.2950	0.2950	2022$/kWh
Natural Gas Prices[5]	0.0731	--	0.0731	--	2022$/kWh
Annual Electricity/Fuel Costs[6]	456	360	456	360	2022$/yr
Total Lifetime O&M Costs[7]	7,127	5,627	7,127	5,627	2022$
Cost-Effectiveness					
Lifetime NOx Emission Reductions[8]	--	8.0E-03	--	8.0E-03	tons
Incremental Capital Costs[9]	--	(265)	--	9,273	2022$
Incremental Lifetime Operation and Maintenance Costs[9]	--	(1,500)	--	(1,500)	2022$
Incremental Lifetime Equipment Costs[9]	--	(1,765)	--	7,773	2022$
NOx Cost-Effectiveness[10]	--	**(220,761)**	--	**972,443**	2022$/ton
South Coast AQMD Reported Cost-Effectiveness[11]		**(183,000)**		**921,000**	2022$/ton
South Coast AQMD NOx Cost-Effectiveness Threshold	349,000	349,000	349,000	349,000	2022$/ton

Abbreviations:
AQMD - Air Quality Management District
COP - coefficient of performance
hr - hour
kg - kilogram
kW - kilowatt
kWh - kilowatt hour
J - joule
MMBtu - million British thermal units
NOx - oxides of nitrogen
ng - nanogram
yr - year

Constants:
Present Value Factor[12] 15.622
Real Interest Rate 4%

Conversion Factors:
8,760 hr/yr
29.3 kWh/therm
2,000 lbs/ton
2.78E-07 kWh/J
1.0.E+09 ng/g

Notes:

[1] Energy consumptions of the natural gas and heat pump space heaters were obtained from the 2019 California Residential Appliance Saturation Study (RASS), Table 11 and Table 33. Natural gas furnace energy consumption includes 191 therms of natural gas per year and 159 kWh of electricity per year for the furnace fan. Available at: https://www.energy.ca.gov/publications/2021/2019-california-residential-appliance-saturation-study-rass. Accessed: October 2024.

[2] Total Lifetime NOx Emissions are estimated as the Annual Energy Use multiplied by the Equipment Useful Life, and the NOx Emission Factor.

[3] Capital Costs were derived based on Capital Cost Data of Zones 6, 9 and 10 from the E3 study, "Residential Building Electrification in in California." Available at: https://www.ethree.com/e3-quantifies-the-consumer-and-emissions-impacts-of-electrifying-california-homes/. Accessed: October 2024.
The costs were also converted from 2018$ to 2022$ based on a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2018. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

[4] As noted in the preliminary draft staff report (Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024), the electricity price is calculated as a population weighted average of 2026 to 2040 projected price averages for SCE and LADWP, i.e., 0.77 x SCE price + 0.23 x LADWP price. The 2026 to 2040 projected average price averages for SCE and LADWP were obtained from the 2023 IEPR. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253591. Accessed: October 2024.

[5] Natural gas price was estimated as the average of the 2026 to 2040 residential baseline rates from CEC. Note, these rates were provided in 2023$ and converted to 2022$ using a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2023. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

[6] Annual Electricity/Fuel Costs are estimated as the product of the Annual Energy Use and the Electricity/Fuel Prices.

[7] Total Lifetime O&M Costs are estimated as the Annual Electricity/Fuel Costs multiplied by the Present Value Factor.

[8] Lifetime NOx Emission Reductions are calculated as the difference in Lifetime NOx Emissions for the natural gas unit and the electric unit.

[9] Incremental Costs are calculated as the difference in cost compared to the natural gas unit.

[10] NOx Cost-Effectiveness is calculated as the Incremental Lifetime Equipment Costs divided by the Lifetime NOx Emission Reductions.

[11] Data obtained from Page 2-18 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[12] The Present Value Factor is part of the Discounted Cash Flow Method that uses expected future cash flows in conjunction with a discount rate to estimate present fair value. Based on South Coast AQMD Working Group Meeting #3 presentation slides. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12. Accessed: October 2024.

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COMMENT LETTER #2 – SoCalGas, October 17, 2024 (p. 33 of 37)

Table B3. Cost-Effectiveness Calculations for the Replacement of a Residential Multi-Family Home Natural Gas Furnace

Parameters for Cost-Effectiveness Analysis	Space Heating and Cooling		Space Heating Only		Units
	Natural Gas Furnace + Air Conditioner	Electric Heat Pump HVAC	Natural Gas Furnace	Electric Heat Pump HVAC	
NOx Emissions					
NOx Emission Factor	14.0	0.0	14.0	0.0	ng/J
Annual Energy Use by Technology Type[1]	2,039	537.67	2,039	537.67	kWh
Equipment Useful Life	25	25	25	25	years
Total Lifetime NOx Emissions[2]	2.8E-03	0.0E+00	2.8E-03	0.0E+00	kg
Capital Costs					
Capital Costs[3]	13,542	11,078	6,857	11,078	2022$
Infrastructure	--	3,000	--	3,000	2022$
Total Capital Costs	13,542	14,078	6,857	14,078	2022$
Operation and Maintenance (O&M) Costs					
Electricity Prices[4]	0.2950	0.2950	0.2950	0.2950	2022$/kWh
Natural Gas Prices[5]	0.0731	--	0.0731	--	2022$/kWh
Annual Electricity/Fuel Costs[6]	162	159	162	159	2022$/yr
Total Lifetime O&M Costs[7]	2,526	2,478	2,526	2,478	2022$
Cost-Effectiveness					
Lifetime NOx Emission Reductions[8]	--	5.3E-03	--	5.3E-03	tons
Incremental Capital Costs[9]	--	536	--	7,221	2022$
Incremental Lifetime Operation and Maintenance Costs[9]	--	(49)	--	(49)	2022$
Incremental Lifetime Equipment Costs[9]	--	487	--	7,172	2022$
NOx Cost-Effectiveness[10]	--	**91,831**	--	**1,351,118**	2022$/ton
South Coast AQMD Reported Cost-Effectiveness[11]		**(2,633,000)**		**(135,000)**	2022$/ton
South Coast AQMD NOx Cost-Effectiveness Threshold	349,000	349,000	349,000	349,000	2022$/ton

Abbreviations:
AQMD - Air Quality Management District
COP - coefficient of performance
hr - hour
kg - kilogram
kW - kilowatt
kWh - kilowatt hour
J - joule
MMBtu - million British thermal units
NOx - oxides of nitrogen
ng - nanogram
yr - year

Constants:
Present Value Factor[12] 15.622
Real Interest Rate 4%

Conversion Factors:
8,760 hr/yr
29.3 kWh/therm
2,000 lbs/ton
2.78E-07 kWh/J
1.0.E+09 ng/g

Notes:

[1] Energy consumptions of the natural gas and heat pump space heaters were obtained from the 2019 California Residential Appliance Saturation Study (RASS), Table 11 and Table 33. Averages of townhomes, 2-4 unit apartment, and 5-unit apartment energy consumptions were used. Natural Gas furnace energy consumption includes 67.7 therms of natural gas per year and 56.7 kWh electricity per year for the furnace fan. Available at: https://www.energy.ca.gov/publications/2021/2019-california-residential-appliance-saturation-study-rass. Accessed: October 2024.

[2] Total Lifetime NOx emissions are estimated as the Annual Energy Use multiplied by the Equipment Useful Life, and the NOx Emission Factor.

[3] Capital Costs were derived based on Capital Cost Data of Zones 6, 9 and 10 from the E3 study, "Residential Building Electrification in in California." Available at: https://www.ethree.com/e3-quantifies-the-consumer-and-emissions-impacts-of-electrifying-california-homes/. Accessed: October 2024.
The costs were also converted from 2018$ to 2022$ based on a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2018. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

[4] As noted in the preliminary draft staff report (Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024), the electricity price is calculated as a population weighted average of 2026 to 2040 projected price averages for SCE and LADWP, i.e., 0.77 x SCE price + 0.23 x LADWP price. The 2026 to 2040 projected average price averages for SCE and LADWP were obtained from the 2023 IEPR. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253591. Accessed: October 2024.

[5] Natural gas price was estimated as the average of the 2026 to 2040 residential baseline rates from CEC. Note, these rates were provided in 2023$ and converted to 2022$ using a CPI ratio of All Urban Customers in 2022 to All Urban Customers in 2023. CPI data available at: https://www.dir.ca.gov/oprl/CPI/EntireCCPI.PDF. Accessed: October 2024.

[6] Annual Electricity/Fuel Costs are estimated as the product of the Annual Energy Use and the Electricity/Fuel Prices.

[7] Total Lifetime O&M Costs are estimated as the Annual Electricity/Fuel Costs multiplied by the Present Value Factor.

[8] Lifetime NOx Emission Reductions are calculated as the difference in Lifetime NOx Emissions for the natural gas unit and the electric unit.

[9] Incremental Costs are calculated as the difference in cost compared to the natural gas unit.

[10] NOx Cost-Effectiveness is calculated as the Incremental Lifetime Equipment Costs divided by the Lifetime NOx Emission Reductions.

[11] Data obtained from Page 2-19 of the Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-preliminary-draft-staff-report.pdf?sfvrsn=18. Accessed: October 2024.

[12] The Present Value Factor is part of the Discounted Cash Flow Method that uses expected future cash flows in conjunction with a discount rate to estimate present fair value. Based on South Coast AQMD Working Group Meeting #3 presentation slides. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1111-and-1121-wgm3-january-2024.pdf?sfvrsn=12. Accessed: January 2024.

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Appendix B

COMMENT LETTER #2 – SoCalGas, October 17, 2024 (p. 35 of 37)

Comments on Draft Subsequent Environmental Assessment

1. The Draft SEA's air quality impacts analysis compares potential increases in electricity use under South Coast AQMD's 2022 Air Quality Management Plan with those under the proposed project. In doing so, the Draft SEA assumes that space heaters will operate 4 hours per day on 100 days per year when the temperature is below 70°F. (Draft SEA, Table 4-3, fn. 3.) However, the Draft SEA does not identify the source of this data, making it difficult for a reader to verify the reasonableness of the assumption. Additionally, Table 4-3 cites to the website of Silicon Valley Power of the City of Santa Clara for its estimates of zero-emission water heaters' and low-NOx space heaters' electricity use. (Draft SEA, Table 4-3, fn. 1.) However, the Draft SEA leaves unclear why it relies on data from Northern California in its analysis of anticipated electricity use for such appliances within South Coast AQMD's Southern California jurisdictional area, and whether electricity use in the two areas might differ. South Coast AQMD could rely on the Residential Appliance Saturation Survey (RASS) for energy consumption by appliance in various utility territories.[1] 2-9

2. The Draft SEA's energy impacts analysis, in its concluding section, states that "[t]he cumulative energy impacts from increased electricity and natural gas demand remain significant and unavoidable." (Draft SEA, p. 4-23.) It then continues: "However, the Final Program EIR for the 2022 AQMP also concluded that the use of energy to comply with ambient air quality standards and climate change goals, while contributing to overall electricity and natural gas demand, [] does not result in the wasteful, unnecessary, or inefficient use of energy. Therefore, the cumulative energy impacts are less than significant." (*Id.*) 2-10

The Draft SEA leaves unclear how to reconcile these two propositions. The mere passing reference to the 2022 FEIR does not explain how the significant and unavoidable energy demand impacts discussed at length in the preceding pages of the Draft SEA are negated or made less significant by the absence of waste or inefficiency in how this energy is used. In the end, the Draft SEA goes from finding significant and unavoidable impacts to less than significant impacts in the space of just a few sentences, without sufficient explanation.

3. The Draft SEA's energy impacts analysis incorporates the same assumption that that space heaters will operate 4 hours per day on 100 days per year when the temperature is below 70°F as the Draft SEA's air quality impacts analysis. (Draft SEA, Table 4-6, fn. 3.) And this energy impacts analysis relies on the same source for comparing potential increases in electricity use under South Coast AQMD's 2022 Air Quality Management Plan and under the proposed project as does the Draft SEA's air quality impacts analysis (Silicon Valley Power). (Draft SEA, Table 4-6, fn. 1.) As discussed in Paragraph 1 above, this analysis leaves unclear the source of data for the former proposition and the applicability of electricity use in Northern California for the latter comparison; SoCalGas recommends use of the RASS energy consumption datasets instead. 2-11

4. The Draft SEA's discussion of those potential impacts found not to be significant appears to contain an inconsistency. The Draft SEA's analysis of some of these impact areas assumes that installation of new furnaces and water heaters will not require construction activities. (See, e.g., 2-12

[1] California Energy Commission, California Residential Appliance Saturation Study, *https://rass.dnv.com/sign/in*

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pp. 4-25 [Aesthetics, Agriculture and Forestry Resources], 4-26 [Geology and Soils].) Yet the Draft SEA's discussion of other impact areas appears to assume at least the possibility of new construction. (See Draft SEA, p. 4-26 [Cultural and Tribal Resources: "In addition, if any new residential buildings are to be constructed, the project would be subject to project-level review, …."].) To the extent the Draft SEA relies on inconsistent assumptions about whether and how much new construction the proposed project might entail, it does not explain this inconsistency. 2-12

5. The Draft SEA's discussion of potential Population and Housing impacts (Draft SEA, p. 4-31) does not address whether owners of rental properties might pass the costs of new furnaces or space heaters on to tenants, thus potentially driving up rental rates. CEQA requires lead agencies, in analyzing Population and Housing impacts, to examine whether the proposed project will "displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere." (See CEQA Guidelines, Appendix G, § XIV(b).) The Draft SEA should address whether implementation of the project might result in renters within the South Coast Basin experiencing rent increases and moving to more affordable rental properties elsewhere as a result. Or, if South Coast AQMD views such a housing impact as insignificant, the Draft SEA should explain why. 2-13

6. The Draft SEA's project alternatives analysis includes a purportedly "Less Stringent Alternative ("Alternative C"). Under Alternative C, the suggested reduction in stringency comes from allowing the replacement of equipment in existing buildings with low NOx heaters in situations where alternative compliance options would be necessary under the proposed project. (Draft SEA, p. 5-2.) SoCalGas questions why South Coast AQMD's analysis of alternatives to the proposed project does not also incorporate into this "Less Stringent Proposed Project" delayed dates for implementation of the proposed project's required compliance dates. "Alternative B – More Stringent Proposed Project" sets compliance dates 12 months earlier than the proposed project. (See Draft SEA, p. 5-2.) Including a proposed project alternative that would instead defer these dates across the board would allow for a more like-to-like comparison with Alternative B.

Moreover, including an alternative with delayed compliance dates would be particularly helpful given some of the near-term environmental impacts that the Draft SEA identifies. For example, the Draft SEA's analysis of Alternative B explains that this alternative could cause more significant air quality impacts due to its compressed timeframe for implementation, based on the likelihood of more equipment replacement projects occurring on a peak day. (Draft SEA, p. 5-4.) Similarly, in analyzing Alternative B's potential energy impacts, the Draft SEA explains that "Alternative B would result in an earlier increase in electricity demand which is driven by the earlier deployment of zero-emission technologies." (Draft SEA, p. 5-6.) An alternative that incorporates deferred rather than accelerated compliance dates would allow a better comparison between its potential air quality and energy impacts and those of both the proposed project and alternatives like Alternative B.

SoCalGas acknowledges the proposition that a lead agency "need not consider every conceivable alternative to a project" (Cal. Code Regs., tit. 16, § 15126.6), as the Draft SEA states. But analyzing 2-14

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a project alternative that includes delayed compliance dates would make the Draft SEA a more informative document for the public and for decision makers. 2-14

RESPONSE TO COMMENT LETTER #2 – SoCalGas, October 17, 2024

Response 2-1
Comment 2-1 does not raise any issues relative to the analysis contained in the Draft SEA. Since this comment does not raise any issues relative to CEQA during the comment period for the Draft SEA, no further response is necessary under CEQA. [CEQA Guidelines Section 15088(a)]. Please refer to Response to Comment 37-1 in Appendix C of the Final Staff Report for PAR 1111 and PAR 1121.[1]

Response 2-2
Comment 2-2 does not raise any issues relative to the analysis contained in the Draft SEA. Since this comment does not raise any issues relative to CEQA during the comment period for the Draft SEA, no further response is necessary under CEQA. [CEQA Guidelines Section 15088(a)]. Please refer to Response to Comment 37-2 in Appendix C of the Final Staff Report for PAR 1111 and PAR 1121.

Response 2-3
Comment 2-3 does not raise any issues relative to the analysis contained in the Draft SEA. Since this comment does not raise any issues relative to CEQA during the comment period for the Draft SEA, no further response is necessary under CEQA. [CEQA Guidelines Section 15088(a)]. Please refer to Response to Comment 37-3 in Appendix C of the Final Staff Report for PAR 1111 and PAR 1121.

Response 2-4
Comment 2-4 contains summary remarks about the energy analysis in the Draft SEA for PAR 1111 and PAR 1121 which are explained in more detailed comments provided in Appendix B of this letter which are bracketed as Comments 2-9, 2-10 and 2-11. Please refer to Responses 2-9, 2-10 and 2-11.

Response 2-5
Comment 2-5 does not raise any issues relative to the analysis contained in the Draft SEA. Since this comment does not raise any issues relative to CEQA during the comment period for the Draft SEA, no further response is necessary under CEQA. [CEQA Guidelines Section 15088(a)]. Please refer to Response to Comment 37-5 in Appendix C of the Final Staff Report for PAR 1111 and PAR 1121.

Response 2-6
Comment 2-6 does not raise any issues relative to the analysis contained in the Draft SEA. Since this comment does not raise any issues relative to CEQA during the comment period for the Draft SEA, no further response is necessary under CEQA. [CEQA Guidelines Section 15088(a)]. Please refer to Response to Comment 37-6 in Appendix C of the Final Staff Report for PAR 1111 and PAR 1121.

Response 2-7
Comment 2-7 does not raise any issues relative to the analysis contained in the Draft SEA. Since this comment does not raise any issues relative to CEQA during the comment period for the Draft

[1] https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/draft-par-1111-par-1121-appendix-c-(1).pdf

SEA, no further response is necessary under CEQA. [CEQA Guidelines Section 15088(a)]. Please refer to Response to Comment 37-7 in Appendix C of the Final Staff Report for PAR 1111 and PAR 1121.

Response 2-8

Detailed analysis for the cost-effectiveness calculations can be found in Chapter 2 of the Draft Staff Report.[2] It is important to note that the calculation of fuel switching costs does not rely upon appliance efficiencies; instead, the fuel switching cost calculation relies on fuel use data provided in the 2019 California Residential Appliance Saturation Study.[3] Project costs for both PAR 1111 and PAR 1121 are derived from the TECH Clean California Installation Data, where the cost of electrical service upgrades are included in the project costs.

Please refer to Response to Comment 37-3 of Appendix C of the Draft Staff Report which provides a detailed explanation of how cost-effectiveness was calculated**.**

Response 2-9

Comment 2-9 questions the reasonableness of the assumed space heater operational hours and the reliance on the electricity use data for Northern California when the electricity use in Southern California might differ, and suggests that South Coast AQMD could rely on data from the Residential Appliance Saturation Survey (RASS) instead.

Public Resources Code Section 21159 allows an agency to utilize numerical ranges or averages where specific data is not available; however, the agency shall not be required to engage in speculation or conjecture in the environmental analysis. The Final Program EIR for the 2022 AQMP, upon which the analysis in the Draft SEA for PAR 1111 and PAR 1121 relies, quantified energy use from data provided by Silicon Valley Power which was presented in terms of kilowatt-hours (kWh) per hour of operation for each unit. In order to estimate the potential hours of operation for these appliances, an assumption of the annual operating hours usage rate for space heaters and the number of appliances utilized was applied to the calculation. Similarly, the RASS data presents statewide averages of electricity use for appliances in terms of watt-hours per year per unit and as such, would also require an assumption of the annual operating hours usage rate for space heaters and the number of appliances utilized. In addition, under CEQA Guidelines Sections 15151 and 15144, South Coast AQMD, as Lead Agency, has discretion to select reasonable assumptions and methodologies supported by substantial evidence. The existence of other data sources does not render the analysis invalid. Additionally, the commenter was provided an opportunity to comment on the Draft Program EIR for 2022 AQMP during the public review period, consistent with CEQA Guidelines Section 15207 and Public Resources Code Section 21091(d)(1), but did not raise this concern at that time.

Nonetheless, to explore the commenter's suggestion to rely on RASS data instead, the following table shows a subset of information from Table 4.3-2 of the Final Program EIR for the 2022 AQMP and Table 4-6 of the Draft SEA, relative to the initial assumptions and electricity estimates for Control Measures R-CMB-01, R-CMB-02, and C-CMB-02 for the 2022 AQMP and PAR 1111 and PAR 1121, respectively, and compares these estimates to the updated total electricity use that

[2] https://www.aqmd.gov/docs/default-source/rule-book/proposed-rules/1111-and-1121/par-1111-par-1121-draft-staff-report.pdf

[3] 2019 California Residential Appliance Saturation Study (RASS), https://www.energy.ca.gov/publications/2021/2019-california-residential-appliance-saturation-study-rass

would result from implementing PAR 1111 and PAR 1121 if the electricity use factors from the RASS were applied instead.

Comparison of Parameters To Calculate Electricity Use[1]

	Control Measure	Total Number of Affected Units	Estimated Electricity Use [(1)]	Estimated Total Electricity Use (GWh/yr)
Final Program EIR for 2022 AQMP	R-CMB-01	Of 2 million water heaters installed, 50% of residences will be zero-emission and 50% will be low NOx space heaters [(2)]	380-500 kWh/month	6,000
	R-CMB-02		1.5 kWh/hr	600
	C-CMB-02[(6)]	200,000 commercial buildings will convert to zero-emission technology with 50% of applicable sources replaced; mitigation fee for other 50% [(1), (3)]	10 kWh/hr	400
			Total	**7,000**
	Control Measure	**Total Number of Affected Units**	**Estimated Electricity Use [(1)]**	**Estimated Total Electricity Use (GWh/yr)**
Draft SEA for PAR 1111 and PAR 1121 (Original Rule Concept)	R-CMB-01	5,128,800 water heaters installed	380-500 kWh/month	30,768
	R-CMB-02	5,350,000 space heaters installed	1.5 kWh/hr	3,210
	C-CMB-02[(6)]	112,435 space heaters in commercial buildings will convert to zero-emission technology.	10 kWh/hr	450
			Total	**34,428**
	Control Measure	**Total Number of Affected Units**	**Estimated Electricity Use [(4)]**	**Estimated Total Electricity Use (GWh/yr)**
2019 California Residential Appliance Saturation Study	R-CMB-01	5,128,800 water heaters installed	2,401 kWh/yr per single-family home (RASS report, p. 20)	12,314
	R-CMB-02	5,350,000 space heaters installed	2,024 kWh/yr per single-family home (RASS report, p. 22)	10,828
	C-CMB-02[(6)]	112,435 space heaters in commercial buildings will convert to zero-emission technology.	789 kWh for apartments in buildings with five or more units [(5)]	89
			Total	**23,231**

[(1)] https://www.siliconvalleypower.com/residents/save-energy/appliance-energy-use-chart

[(2)] For purposes of calculating maximum electricity increases, all new units are assumed to be third-party provided power even though some portion will be solar powered.

[(3)] Assumes 4 hours of operation on 100 days per year when temperature is below 70 degrees Fahrenheit (refer to Table 4.2-6 of the Final Program EIR for 2022 AQMP).

[(4)] 2019 California Residential Appliance Saturation Study (RASS), https://rass.dnv.com/envodig/api/site/media/CEC-200-2021-005-RSLTS.pdf

[(5)] There is no data available for commercial buildings so closest scenario to commercial buildings was taken from page 25 of RASS report, https://rass.dnv.com/envodig/api/site/media/CEC-200-2021-005-RSLTS.pdf

[(6)] The revised rule concept removed Control Measure C-CMB-02 from PAR 1111, so the portion of electricity usage associated with commercial applications has been presented in this table for completeness for comparison purposes but will no longer contribute to the overall energy impacts of PAR 1111 and PAR 1121 (refer to Table 4-3 of the Final SEA for PAR 1111 and PAR 1121 which has been updated to reflect the revised rule concept).

If the electricity use rate data from the 2019 RASS is applied instead of the electricity use rate data from Silicon Valley Power, the total projected electricity use would be substantially less than what was presented in the Draft SEA, which would risk underestimating the overall electricity impacts from implementing PAR 1111 and PAR 1121. Specifically, the analysis conducted in the Draft SEA results in a substantially larger overall electricity use (34,428 GWh/yr) and represents a worst-case analysis when compared to relying on the electricity use rate data from the 2019 RASS (23,231 GWh/yr). The Draft SEA concluded that implementing PAR 1111 and PAR 1121 will result in significant adverse impacts to the environmental topic of air quality during construction and to the environmental topic of energy from electricity and natural gas demand. Even if the electricity use rate data from the 2019 RASS was applied instead, PAR 1111 and PAR 1121 will continue to result in significant adverse impacts to the environmental topic of air quality from the production of electricity and to the environmental topic of energy from electricity and natural gas demand, but these impacts would not represent worst-case conditions. Thus, the Draft SEA did not underestimate the electricity use impacts.

It is important to note that the electricity use impacts that were analyzed in the Draft SEA were based on the original rule concept which projected a wide distribution and deployment of zero-NOx emission installations. However, the revised rule concept, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and low-NOx units to be sold and installed for use. With the revised rule concept providing more flexibility to select appliances best suited to individual needs, consumers will be able to choose either zero-emission appliance options or conventional natural gas-fired appliance options that comply with emission limits. In addition, the revised rule concept removed Control Measure C-CMB-02 from PAR 1111, so the portion of electricity usage associated with commercial applications will no longer contribute to the energy impacts. As such, Table 4-3 of the Final SEA has been updated accordingly.

Since the revised rule concept is anticipated to result in fewer zero-NOx emission installations, the overall electricity use impacts will be less than what was analyzed for the original rule concept. Nonetheless, due to the large volume of equipment that is anticipated to be replaced over time under the revised rule concept, the electricity use impacts are expected to remain significant, though to a lesser extent than what would occur under the original rule concept.

Response 2-10

Comment 2-10 seeks clarification on the reasons why the energy impacts analysis concluded cumulatively significant increases in electricity and natural gas demand while the cumulative energy impacts were concluded to be less than significant.

The SEA for PAR 1111 and PAR 1121 is a subsequent analysis to the Final Program EIR for the 2022 AQMP, and the analysis in the Draft SEA indicated that the electricity demand, as noted in Response 2-9, and natural gas demand will be greater than the initial projections in the 2022 AQMP for specifically implementing Control Measures R-CMB-01, R-CMB-02, and C-CMB-02.

Regarding natural gas, the Final Program EIR for the 2022 AQMP acknowledged a short-term increase in natural gas use that would be needed for electricity generation. The Draft SEA updates this conclusion further and states that the total electric generation load from natural gas is expected to decline from 245 billion cubic feet in 2020 to 182 billion cubic feet in 2035, representing an annual decrease of approximately 2.0 percent. While the commenter projects the total natural gas demand to decline by one percent per year between 2020 and 2035, the near-term increase in

natural gas demand associated with additional electricity generation to meet 2035 goals was anticipated and this increase was considered in the cumulative impact determination. The temporary increase in natural gas consumption is expected to be balanced by the broader transition to zero-emission technologies to reduce NOx emissions which is consistent with California's goal of achieving 100 percent renewable electricity by 2045 under SB 100. The significant and unavoidable cumulative energy demand impacts are the direct result of efforts to reduce air pollution via zero-emission technology. In this context, the use of energy to support air pollution reduction efforts is not considered a wasteful, unnecessary, or inefficient use of energy which is criterion that was initially applied in the Notice of Preparation/Initial Study (NOP/IS) prepared for the 2022 AQMP as memorialized in the Final Program EIR for the 2022 AQMP.[4] Relative to the analysis of cumulative energy demand impacts, the Final Program EIR for the 2022 AQMP (see p. 4.3-43) made the following conclusion:

> "Cumulative impacts to energy demand for past, present, and reasonably foreseeable future projects would remain significant and unavoidable for electricity, natural gas, and hydrogen demand. The cumulative impacts on other energy resources are expected to be less than significant. In addition, use of energy to comply with ambient air quality standards, as well as climate change goals, would not result in the wasteful, unnecessary, or inefficient use of energy and these impacts are less than significant."

The Draft SEA for PAR 1111 and PAR 1121 (see p. 4-23) concluded "cumulative energy impacts from increased electricity and natural gas demand remain significant and unavoidable." The Draft SEA then states that, similar to the Final Program EIR for the 2022 AQMP, "the use of energy to comply with ambient air quality standards and climate change goals, while contributing to overall electricity and natural gas demand, does not result in the wasteful, unnecessary, or inefficient use of energy. Therefore, the cumulative energy impacts are less than significant."

Section 4.3.1 of the Draft SEA for PAR 1111 and PAR 1121 states that "implementation of the PAR 1111 and PAR 1121 would be considered to have significant adverse energy impacts if any of the following conditions occur:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable energy resources in a wasteful and/or inefficient manner.

The last criterion, use of non-renewable energy resources in a wasteful and/or inefficiency manner, is evaluated differently than the second or third criterion, which were determined to be significantly affected due to the increase in electricity and natural gas usage beyond one percent of the baseline. The potential emissions increase in energy usage will be balanced by corresponding, substantial reductions in NOx emissions due to the implementation of cleaner technologies; therefore, the energy use is not considered to be wasteful and/or inefficient.

[4] This criterion is taken directly from the Environmental Checklist from Appendix G of the CEQA Guidelines, Section VI a). This identical criterion is located in Section VI f) of the NOP/IS for the 2022 AQMP (see p. 2-24) which is also labeled as Appendix A of the Final Program EIR for the 2022 AQMP, (see p. A-74), https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-final-peir.pdf.

It is important to note that the revised rule concept, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and NOx-emitting units to be sold and installed for use. With the revised rule concept providing more flexibility to select appliances best suited to individual needs, consumers will be able to choose either zero-emission appliance options or conventional low-NOx appliance options. In addition, the revised rule concept removed Control Measure C-CMB-02 from PAR 1111, so the portion of electricity and natural gas usage associated with commercial applications will no longer contribute to the overall energy impacts.

As a practical matter, if more conventional low-NOx appliances are installed in lieu of zero-NOx emission units under the revised rule concept, the anticipated reduction of natural gas usage in the appliances themselves may not be realized to the same extent that was previously expected in the Draft SEA. Similarly for electricity production, if more conventional low-NOx appliances are installed in lieu of zero-NOx emission units under the revised rule concept, the amount of natural gas that may be needed to generate electricity to operate the zero-NOx emission units may not be as great as was previously expected in the Draft SEA. Nonetheless, even if the amount of natural gas that would be needed to produce electricity is not as great as originally projected, due to the large number of zero-NOx emission units that could be potentially installed, the conclusion of electricity and natural gas demand will remain significant if the revised rule concept is implemented. Further, even under the revised rule concept, the analysis and conclusion of cumulative impacts relative to whether the proposed project would result in wasteful, unnecessary, or inefficient use of energy will remain unchanged.

South Coast AQMD staff has clarified the last sentence to read: "Therefore, relative to the question of whether the proposed project would result in wasteful, unnecessary, or inefficient use of energy, the cumulative energy impacts are less than significant."

Response 2-11
Similar to Comment 2-9, this comment questions the reasonableness of the assumed space heater operational hours and the reliance on the electricity use data for Northern California when the electricity use in Southern California might differ, and suggests that South Coast AQMD could rely on data from the Residential Appliance Saturation Survey (RASS) instead. Please refer to Response 2-9.

Response 2-12
Comment 2-12 points to the discussion of environmental topic areas in "Potential Impacts Found Not to Be Significant" to assert that the Draft SEA relies on inconsistent assumptions about whether and how much new construction the proposed project might entail. However, in the discussions relative to the impacts of construction activities on the environmental topics of air quality and greenhouse gas emissions, and energy, which have been concluded to have significant impacts, the following statement was included in the Draft SEA, as follows:

"PAR 1111 and PAR 1121 will require zero-emission heating units for installations in both new and existing residences and commercial buildings. Alternative compliance options are available for emergency replacements and installations requiring construction to expand the space to house or relocate a compliant unit and associated equipment, perform a service upgrade for necessary power, or replace a furnace that does not require the simultaneous replacement of space cooling equipment. The alternative compliance options allow time for necessary construction to occur so that the zero-emission heating units can be installed. Expansion of space to house units and service

panel upgrades in residences are expected to be accomplished with hand tools, but service panel upgrades in commercial buildings are expected to require construction equipment."

Discussions of the environmental topic areas in "Potential Impacts Found Not to Be Significant" section of the Draft SEA have been updated in the Final SEA to clarify that construction is expected. It is important to note that the construction activities that were assumed to occur and their associated impacts that were analyzed in the Draft SEA were based on the original rule concept which projected a wider distribution and deployment of zero-NOx emission installations. However, the revised rule concept, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and low-NOx units to be sold and installed for use. With the revised rule concept providing more flexibility to select appliances best suited to individual needs, consumers will be able to choose either zero-emission appliance options or conventional low-NOx appliance options. In addition, the revised rule concept removed Control Measure C-CMB-02 from PAR 1111, and as a result, construction activities associated with commercial applications under C-CMB-02 are no longer expected. However, construction activities associated with R-CMB-01 and R-CMB-02 are still anticipated, and the Final SEA continues to conclude that construction-related air quality impacts to be potentially significant, though to a lesser extent than what was originally disclosed in the Draft SEA. As such, the Final SEA has been updated accordingly.

For these reasons, fewer zero-NOx emission installations are anticipated under the revised rule concept which means that the construction activities will also be less than the original rule concept because the replacement of an existing NOx-emitting natural gas-fired unit with a new low-NOx unit is expected to occur within an existing footprint and would require minimal construction activities primarily involving hand tools.

Response 2-13

Comment 2-13 seeks clarification on why the Draft SEA does not address whether implementation of the proposed project might result in renters experiencing rent increases and moving elsewhere.

CEQA Guidelines Section 15131 states that economic or social information may be included in a CEQA analysis or may be presented in whatever form the agency desires. South Coast AQMD practice is to address the economic effects of proposed projects in the staff report and Socioeconomic Impact Assessment, and not in the CEQA analysis, because economic effects typically do not cause environmental impacts. Further, pursuant to CEQA Guidelines Section 15131(a) the economic or social effects of a project shall not be treated as significant effects on the environment. A CEQA document may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes. [CEQA Guidelines Section 15131(a)] Public Resources Code Sections 21100 and 21151 also state that significant effects are limited to physical conditions. No direct or indirect economic or social effects that could cause physical impacts to the environment were identified as a result of implementing PAR 1111 and PAR 1121. The proposed project does not require the displacement of existing tenants or construction of replacement housing. Moreover, any impact on rental rates does not make the physical changes that may occur from implementing PAR 1111 and PAR 1121 significant.

It is important to note that the equipment replacement activities that were assumed to occur and the associated construction impacts that were analyzed in the Draft SEA were based on the original rule concept which projected a wider distribution and deployment of zero-NOx emission installations. However, the revised rule, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and low-NOx units to be sold and installed for use. Under the revised rule concept, the decision to replace appliances at residences will occur at the end of the existing equipment's useful life. Also, under the revised rule concept, consumers, including rental property owners, will be able to choose either zero-emission appliance options or conventional low-NOx appliance options which will provide more flexibility to consumers to select appliances best suited to individual needs. Specifically, rental property owners will have a wide variety of options to purchase and install PAR 1111/PAR 1121-compliant equipment that will fit within the existing footprint, which will in turn minimize construction activities since like-for-like replacements tend to involve minimal construction activities primarily involving hand tools. The revised rule concept has been crafted in a way that is expected to involve minimal, if any, disruptions to renters when property owners replace the affected equipment. Also, because the revised rule concept does not require equipment replacements earlier than the end of the existing equipment's useful life, the costs of replacement will incur on an as needed basis, which is no different than the existing setting.

A separate Socioeconomic Impact Assessment for PAR 1111 and PAR 1121 has been prepared which analyzed the costs of upgrading to new, compliant furnaces and space heaters. The analysis in the Draft Socioeconomic Impact Assessment concluded that implementation of PAR 1111 and PAR 1121 is not expected to cause sweeping increases in rental rates. The Draft Socioeconomic Impact Assessment for PAR 1111 and PAR 1121 was released on April 1, 2025 and is available from South Coast AQMD's website at: https://www.aqmd.gov/home/rules-compliance/socioeconomic-analysis/socioeconomic-analyses---year-2025. The Final Socioeconomic Impact Assessment for PAR 1111 and PAR 1121 will be available as an attachment to the June 6, 2025 Governing Board package which will be posted on this webpage no later than 72 hours prior to the public hearing:
https://www.aqmd.gov/home/news-events/meeting-agendas-minutes?filter=Governing%20Board

Response 2-14
Comment 2-14 recommends incorporating delayed compliance dates into Alternative C: Less Stringent than the Proposed Project, as a contrast to Alternative B: More Stringent than the Proposed Project, which has expedited compliance dates.

The purpose of the alternatives analysis is to identify other scenarios that could achieve fewer impacts than the proposed project or eliminate the impacts altogether. Further, when alternatives are crafted, their ability to meet the project objectives is compared to the proposed project's ability to meet the project objectives as a means to determine the overall effectiveness of the alternative in achieving the project objectives.

In theory, lengthening the compliance timelines could be expected to potentially reduce a portion of the short-term air quality construction impacts under very limited circumstances when construction equipment may be needed for the equipment installations (e.g. for larger residential buildings needing an electrical panel upgrade) since the installation activities will be spread out over a longer period of time. As a practical matter, however, the extent of the potential reduction in air quality impacts during construction would not likely be substantial because there are multiple

possibilities or permutations of what type of equipment the property owners would install combined with the fact that the majority of equipment installations would not be expected to require the use of construction equipment since most installations can be accomplished with hand tools. Further, lengthening the compliance timelines will undermine the need for and ability to achieve the required NOx emission reductions according to the timing set forth in the 2022 AQMP (e.g., 0.30 tpd of NOx emission reductions by 2031 for Control Measure R-CMB-01 and 0.28 tpd of NOx emission reductions by 2031 for Control Measure R-CMB-02) and thus, would risk not satisfying the basic project objectives of PAR 1111 and PAR 1121, thereby making such an alternative infeasible under CEQA. For these reasons, an alternative for lengthening the compliance timelines in the manner suggested by the comment was not included in the SEA.

Instead, there are two other alternatives, referred to Alternatives B and C which considered a wider variety of options to examine whether the potentially significant impacts to air quality during construction and energy due to electricity and natural gas demand could be reduced or eliminated.

Under the original rule concept, the installation of zero-NOx emission heating units in new residences and commercial buildings would be required to occur by a certain compliance date, while the replacement of associated equipment in existing buildings would occur at the end of the existing equipment's useful life. Alternatives B and C considered variations of the compliance timing and the affected equipment, as summarized in the following bullet points:

Alternative B:

- New Equipment - The compliance date will start one year earlier than proposed project;
- Existing Equipment - The compliance date will be the same as for the proposed project; and
- 100% of zero-emission equipment will be required and deployed at the compliance date.

Alternative C:

- Existing and New Equipment: The compliance date will be the same as for the proposed project but a mix of 50% low NOx equipment and 50% zero-emission equipment will be deployed.

While Alternative C has the same compliance dates as the proposed project, the feature that makes Alternative C less stringent than the proposed project is the assumption that a mix of 50% low NOx equipment and 50% zero-emission units would be utilized, which would have the effect of reducing the adverse impacts associated with construction activities occurring in existing buildings which tend to bear the brunt of the construction impacts. Alternative C was deliberately crafted to have the same compliance dates as the proposed project to illustrate the relationship between how having fewer adverse impacts associated with construction activities overlap the reduced benefits. Alternative C would result in fewer NOx emission reductions than what would occur when compared to the proposed project.

For contrast, under Alternative B, the compliance dates are not only shifted to one year earlier than for the proposed project, but existing equipment would be required to be replaced by zero-emission heating technology by specified compliance dates as opposed to waiting until the end of the equipment's useful life. Alternative C considered a situation where zero-emission heating technology is not required to be installed at all for a certain subset of the equipment universe.

It is important to note that the equipment replacement activities that were assumed to occur for the proposed project and for Alternative C as analyzed in the Draft SEA were based on the original rule concept which projected a wider distribution and deployment of zero-NOx emission installations. However, the revised rule concept, which includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and low-NOx units to be sold and installed for use. Under the revised rule concept for the proposed project, the decision to replace appliances will occur at the end of the existing equipment's useful life. Also, under the revised rule concept, consumers will be able to choose either zero-emission appliance options or conventional low-NOx appliance options.

The revised rule concept of the proposed project itself now includes extended compliance timelines. Specifically, PAR 1111 and PAR 1121 have been modified to:

1) extend the zero-emission requirements by one year;
2) remove commercial fan-type central furnaces; and
3) exempt existing mobile homes from the zero-emission standards set forth in PAR 1111 and PAR 1121.

The Final SEA, including the alternatives analysis in Chapter 5, has been updated to reflect the revised rule concept. For both the original rule concept and the revised rule concept, implementation of PAR 1111 and PAR 1121 and Alternative C are both expected to result in significant and unavoidable increases in electricity and natural gas demand impacts. Please also see Response to Comment 2-9 for a detailed discussion on these energy impacts.

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Los Angeles County Business Federation
Strengthening the Voice of Business Since 2006

October 31, 2024

By Email: jafshar@aqmd.gov

Jivar Afshar
Air Quality Specialist
South Coast Air Quality Management District
21865 Copley Dr, Diamond Bar, CA 91765

Re: Comments on Draft Supplemental Environmental Assessment for Proposed Amended Regulations 1111 and 1121

Dear Ms. Afshar:

We write on behalf of BizFed, the Los Angeles County Business Federation, an alliance of more than 200 business organizations representing more than 400,000 employers in Los Angeles County, including large and small businesses in a wide range of industries throughout the South Coast Air Basin (SCAB). We are writing regarding Proposed Amended Rule (PAR) 1111 – Reduction of NOx Emissions From Natural Gas-Fired Furnaces and PAR 1121 – Reduction of NOx Emissions From Natural Gas-Fired Water Heaters (collectively, Rules), specifically in regards to the Draft Supplemental Environmental Assessment (a Supplemental Environmental Impact Report (EIR)-equivalent document prepared under the California Environmental Quality Act (CEQA) by the South Coast Air Quality Management District (SCAQMD) pursuant to its Certified Regulatory Program) (Draft SEA). The Draft SEA was released for public comment on September 26, 2024.

As we are sure you are aware, we have previously submitted comments and provided extensive information addressing the impacts on the business community as a whole, as well as the specific concerns of our diverse membership, regarding the Rules. We continue to be concerned about these impacts and, as outlined more fully below, we do not believe that the Draft SEA satisfies the requirements of CEQA. In particular the Draft SEA fails to contain the required analysis of socioeconomic impacts proximately caused by, or resulting from, adoption of the Rules. The Draft SEA also does not include a legally sufficient alternatives analysis. In addition, the Draft SEA fails to mitigate significant energy impacts.

3-1

Background and Prior CEQA Analysis

As you know, and as described in the Draft SEA, PAR 1121 is intended to implement 2022 Air Quality Management Plan (2022 AQMP) Control Measure R-CMB-01. PAR 1111 is intended to implement 2022 AQMP Control Measures R-CMB-02 and C-CMB-02. (These three 2022 AQMP Control Measures are referred to collectively as the Control Measures in the remainder of this letter). The Control Measures were evaluated in an Environmental

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Impact Report for the 2022 AQMP (2022 Final Program EIR).[1] The 2022 Final Program EIR describes the Control Measures as follows:

> "**R-CMB-01: Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Water Heating:** This control measure seeks to reduce NOx emissions from residential building water heating sources that are subject to Rule 1121 – Control of Oxides of Nitrogen (NOx) from Residential Type, Natural Gas-Fired Water Heaters. The measure proposes to 1) develop a rule to require zero emission water heating units for installations in both new and existing residences; and 2) allow low NOx technologies as a transitional alternative when installing a zero-emission unit is determined to be infeasible (e.g., colder climate zones, or architecture design obstacles). This control measure would include incentive funds to facilitate the transition to zero emission technologies and promote further emission reductions earlier than required. A primary zero emission residential water heating technology is currently available with the all-electric heat pump water heater.
>
> **R-CMB-02: Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Space Heating:** This control measure seeks to reduce NOx emissions from residential space heating sources regulated by Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces (Rule 1111). This control measure proposes to 1) develop a rule to require zero emission space heating units for installations in both new and existing residences; and 2) allowing low NOx technologies as a transitional alternative when installing a zero-emission unit is determined to be infeasible. This control measure would also provide incentive funds to facilitate adoption of zero emission technologies that would promote further emission reductions earlier than required.
>
> **C-CMB-02: Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Commercial Space Heating:** This control measure seeks to reduce NOx emissions from commercial building space heating sources. (i.e., forced air furnaces) with a rated heat input capacity between 175,000 and 2,000,000 British Thermal Units per hour (BTU/hr). Those sources are currently not subject to the South Coast AQMD NOx rules. The measure proposes to 1) develop rules to require zero emission commercial space heating units for installations in both new and existing buildings; and 2) allow low NOx technologies as a transitional alternative when installing a zero-emission unit is determined to be infeasible. This control measure would also provide incentive funds to facilitate adoption of zero emission technologies that would promote further emission reductions earlier than required. Heat pumps have been broadly applied in commercial applications as the primary zero emission technology." 2022 Final Program EIR, pgs. 2-16 – 2-17.

3-2

Control Measures R-CMB-01 and R-CMB-02 were expected to affect 2 million residential water and space heaters, respectively, and were evaluated with an implementation date of

[1] Final Program Environmental Impact Report for Proposed 2022 Air Quality Management Plan, November 2022, State Clearinghouse No, 2022050287.

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2029 in the 2022 Final Program EIR. See, 2022 Final Program EIR, Table 4.2-6, pg. 4.2-32 and Table 2.7-1, pg. 2-14. Control Measure C-CMB-02 was expected to affect 200,000 commercial space heaters and was evaluated with an implementation date of 2031. See, 2022 Final Program EIR, Table 4.2-6, pg. 4.2-32 and Table 2.7-1, pg. 2-14. The 2022 Final Program EIR concluded that implementation of the Control Measures would have potentially significant adverse air quality impacts from construction necessary to install lower and zero emission units, and from operational energy impacts related to electricity demand and increased use of natural gas to generate electricity caused by electrifying space and water heating appliances that are currently natural gas-fired. 2022 Final Program EIR pgs. 4.3-10 – 4.3-11.

As described in the Draft SEA, which tiers off of the 2022 Final Program EIR, PAR 1111 is expected to affect 5,350,000 space heaters. Draft SEA, pg. 1-16. PAR 1111 requires zero-NOx space heaters in new construction starting on January 1, 2026, and zero-NOx replacement space heaters at the end of appliance life starting on January 1, 2028 for units in existing buildings. Par 1121 is expected to affect 5,128,000 water heaters. Draft SEA, pg. 1-16. PAR 1121 requires zero-NOx water heaters in new construction starting on January 1, 2026, and zero-NOx replacement water heaters at the end of appliance life starting on January 1, 2028 for units in existing buildings. Thus, together, the Rules are expected to affect nearly 10.5 million natural gas-fired appliances in the SCAB. 3-2

The Draft SEA analysis concludes that the potentially significant adverse air quality impacts from construction and from energy impacts due to electricity and natural gas demand found in the 2022 Final Program EIR "will be substantially made more severe if [the Rules] are implemented." Draft SEA, pg. 1-5. For the types of physical changes resulting from the implementing of the Rules, the Draft SEA attributes the increase in severity to the increased number of units affected. Draft SEA pg. 1-16. However, the Draft SEA fails to fully acknowledge that some of the increased severity of the environmental impacts is due to accelerating implementation of low- and zero-NOx appliance replacements compared to implementing the Control Measures as analyzed in the 2022 Final Program EIR. As set forth more fully below, this failure results in the Draft SEA failing to comport with the requirements of CEQA.

The Draft SEA Fails To Analyze Impacts Reasonably Foreseeable from Implementing the Rules

CEQA requires an analysis of socioeconomic impacts when proximately caused by, or resulting from, an agency action.[2] Urban decay, or blight, is required to be evaluated by SCAQMD and the absence of this analysis is a fatal flaw in the Draft SEA for the Rules. The proposed rules impose billions of dollars of unfunded mandates on owners of residential and commercial properties, as well as landlords – who are legally entitled to pass these costs on to renters. Owners of structures who are unable or unwilling to pay these costs will be operating illegal structures, which insurance policies and mortgage covenants prohibit – 3-3

[2] *Bakersfield Citizens for Local Control v City of Bakersfield* (2004) 124 Cal.App.4th 1184; *Anderson First Coalition v. City of Anderson* (2005) 130 Cal.App.4th 1173.

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resulting in foreclosures, uninsured structures, and blight from vacant or underutilized properties. This blight outcome extends to both commercial and residential structures.

The commercial market is already staggering with vacancies from hybrid/remote work and job losses in critical industries such as entertainment; the retail market is similarly staggering with the ever-increasing volumes of e-commerce. Large commercial structures are already defaulting on loans, and other structures are selling at steep discounts with uncertain future utilization rates. Just a small fraction of the largest commercial property defaults is reported in this recently published article.[3]

Housing is even more challenging. The median price of a California home (not simply a home in a coastal county) now exceeds $900,000 – 10 times more than median income; a healthy housing market includes ample supplies of homes priced at 3-5 times median income.[4] Average monthly rents in Los Angeles County are already $2,452, and a chronic and growing shortage of less expensive housing, made worse by the continued growth of the homeless population, has caused about 59% of LA households to pay more than 30% of their income on rent[5] – a level considered unaffordable by federal government standards. There are about 650,000 apartments covered by rent control, and hundreds of thousands of newer apartments not covered by rent control. All of the older apartments, and most of the new apartments, will eventually need costly retrofits to comply with the ban on gas-fired appliances contained in the Rules. And the evidence is clear: landlords and lenders do not have the resources to make the extraordinarily costly modifications needed to comply with the Rules. In a 2024 article,[6] for example, it is reported that multi-family housing is already struggling to renew loans. Construction of new multi-family units have slowed significantly in markets like Los Angeles – data reflects that by the end of the first half of 2024, there was a decline of 34.6% in the completion of new apartments, and the sale volumes for multi-family apartment buildings worth more than $5 million have dropped by 40%.[7] 3-3

The Rules also assume massive increases in electric supplies, and electric transmission, distribution, and substation equipment – none of which is funded, and all of which will further burden ratepayers who already pay among the highest electricity costs in the nation. There continues to be a shortfall of electric supplies, and a shortage of critical infrastructure needed to bring supplies to where people live and work. Imposing a premature transition to all-electric appliances will foreseeably result in brownouts and blackouts that have caused catastrophic public safety and health consequences, especially to sensitive needs

[3] https://therealdeal.com/la/2024/01/02/brookfield-dtla-towers-lead-socals-top-defaults-in-2023/
[4] https://www.metroabundance.org/what-would-it-look-like-to-take-an-outcome-oriented-approach-to-housing-abundance/
[5] https://laist.com/news/housing-homelessness/los-angeles-housing-rent-control-increase-caps-rso-limits-economic-roundtable-report
[6] https://www.globest.com/2024/08/14/refinancing-hurdles-and-market-slowdown-in-la-multifamily-sector/?slreturn=20241030133840
[7] https://www2.naicapital.com/l-a-county-multifamily-market-shifts-as-vacancies-rise-and-rents-reach-new-highs-offering-opportunities-for-capital-ready-investors/#:~:text=Elevated%20interest%20rates%20have%20made,Recently%2C%20Blackstone%20Inc.

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populations dependent on critical medical equipment.[8] The Draft SEA analysis ignores this immediate adverse health consequence while asserting via "models" purported health benefits of removing gas-fired appliances from people's homes. These appliances have been safely operated for a century or more.

The unfunded mandates represented by the Rules impose billions of dollars of cost burdens on a region already suffering from unaffordable cost burdens. Imposing these unfunded mandates will make the housing crisis worse, drive even more commercial and retail businesses out of the region (and eliminate associated jobs), and result in vacant and underutilized buildings, reduce the tax revenues needed for critical public services like fire, public safety and medical care, and cause disproportionate harms to already distressed disadvantaged communities. It is fiscally, socially and environmentally reckless to impose these costs to obtain the miniscule fraction of NOx reductions attributable to these widespread retrofits mandated by the Rules. 3-3

Our region has many pressing needs, but we are at the end of an era where each special interest agency can, within its own silo, unilaterally impose billions of dollars of unfunded mandates without considering the adverse consequences to health, safety, and critical crises like our housing, homeless and poverty crises. The CEQA analysis performed by SCAQMD for the Rules is fundamentally flawed, and must be revised to acknowledge, analyze, and mitigate for these consequences – and importantly must include a thorough alternatives analysis that includes achieving the purported health benefits of removing safe gas appliances from structures through other, far less damaging and costly, methods.

The Draft SEA Fails To Analyze Adequate Alternatives

The Draft SEA is further inadequate because it fails to properly analyze a reasonable range of alternatives. Under CEQA, a proper analysis of alternatives is essential to comply with CEQA's mandate that significant environmental impacts be avoided or substantially lessened where feasible.[9] The analysis of alternatives lies at the "core of an EIR," [10] and an EIR must "ensure that all reasonable alternatives to proposed projects are thoroughly assessed by the responsible official."[11] 3-4

The purpose of the requirement to contemplate alternatives is to identify ways to mitigate or avoid the significant effects of a project.[12] "[A]n agency may not approve a proposed project if feasible alternatives exist that would substantially lessen its significant

[8] https://pinkerton.com/our-insights/blog/the-impact-of-power-outages#:~:text=Power%20outages%20and%20impact%20on,heat%20stroke%2C%20and%20food%20insecurity.
[9] Pub. Resources Code, § 21002; CEQA Guidelines, §§ 15002(a)(3), 15021(a)(2), 15126(d); *Citizens for Quality Growth v. City of Mount Shasta* (1988) 198 Cal.App.3d 433, 443–45.
[10] *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564.
[11] *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 735; see also Pub. Resources Code, § 21002.1(a).
[12] Pub. Resources Code, § 21002.1.

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environmental effects."[13] The alternatives discussion must be "meaningful" and must "contain analysis sufficient to allow informed decision making."[14] The alternatives analysis is critical to the integrity of an EIR.[15] An EIR must "ensure that all reasonable alternatives to proposed projects are thoroughly assessed by the responsible official."[16] An alternatives analysis under CEQA must focus on potentially feasible alternatives to the project, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly.[17]

As noted above, the 2022 Final Program EIR concluded that implementing the Control Measures would result in significant and unavoidable impacts in the environmental topic areas of air quality and energy. The Draft SEA concludes that implementing the Rules would make those impacts substantially more severe. As noted above, the Draft SEA attributes that increased severity to the greater number of units affected by the Rules.

In addition to the "No Project" alternative ("Alternative A") required to be analyzed under CEQA, the Draft SEA evaluates three other alternatives – "Alternative B" is described as the "more stringent" alternative (advances the compliance date for new construction to January 1, 2025 for PAR 1111 and mandates changeout of existing appliances by the compliance date at which end of life replacements would occur under the Rules as drafted); "Alternative C" is described as the "less stringent" alternative (keeps same compliance dates and structure as the Rules as drafted, but allows replacement of existing units with low-NOx (rather than zero-NOx) units where the Rules as drafted allow temporary alternative compliance options (estimated to be 50% of replacements)); and "Alternative D" (keeps the compliance dates and rule structure the same as the Rules as drafted, but provides additional incentive funding which is estimated to result in about 1% (rather than .5%) of existing units being changed out before the end of useful life). 3-4

Notably, none of the alternatives examines the effect of a compliance date later than January 1, 2028 for space heaters and January 1, 2030 for water heaters. This is the case despite the fact that The 2022 Final Program EIR analyzed 2029 and 2031 compliance dates for these appliances respectively. This is a fundamental failure to present an adequate and legally

[13] *Save Panoche Valley v. San Benito County* (2013) 217 Cal.App.4th 503, 52 (citations omitted); see also Pub. Resources Code, §21081(a); CEQA Guidelines, §15091(a)(3); *Cal. Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1002.
[14] *Laurel Heights Improvement Association of San Francisco, Inc. v. Regents of the University of California* (1988) 47 Cal.3d 376 at 403–04.
[15] *In re Bay-Delta Programmatic Envtl. Impact Report Coordinated Proceedings*, 43 Cal.4th 1143, 1162 (2008) ("The EIR is the heart of CEQA, and the mitigation and alternatives discussion forms the core of the EIR.").
[16] *San Joaquin Raptor/Wildlife Rescue Center, supra*, 27 Cal.App.4th at 735; see also Pub. Resources Code, § 21002.1(a).
[17] CEQA Guidelines, § 15126.6(b), (f); see also Pub. Resources Code, § 21102.1(a) ("The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided.").

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sufficient alternatives analysis that examines all reasonable alternatives to inform the public and the responsible officials of feasible alternatives as required by CEQA.[18]

Moreover, although the Draft SEA acknowledges that the impacts on natural gas demand that the Draft SEA finds severe and unavoidable will diminish as renewable energy use grows and reliance on natural gas for heating appliances decreases (Draft SEA, pg. 5-6), no alternative is analyzed that takes this into account. Indeed, California Senate Bill 100 (2018) established a goal for grid power of 60% renewable and zero-carbon resources by 2030. In light of this fact, a legally sufficient alternatives analysis would include at least one alternative that examines whether extending the compliance date until more renewables are available on the grid would ameliorate some or all of the severe and unavoidable impacts found. For example, an alternative that tied the compliance date to the accomplishment of a defined level of renewable power on the grid would inform decision makers and the public about the important trade-offs inherent in the decision making around the Rules as required by CEQA. Whether these or other reasonable and feasible alternatives would decrease the impacts of the Rules cannot be known because the Draft SEA fails in its fundamental purpose to present them for consideration. The Draft SEA for the Rules is fundamentally flawed and must be revised to properly analyze all reasonable and feasible alternatives as outlined above. The Revised SEA must then be recirculated for public comment before it and the Rules can be further considered by SCAQMD. 3-4

The Draft SEA Fails to Mitigate Significant Energy Impacts

The discussion of a proposed project's environmental impacts is an essential component of an EIR.[19] The fundamental purpose of CEQA is to "inform the public and its responsible officials of the environmental consequences of their decisions before they are made."[20] To do so, an EIR must contain facts and analysis, not just an agency's bare conclusions.[21]

CEQA also requires an EIR to describe and adopt all feasible mitigation measures to address a project's significant environmental impacts.[22] Mitigation measures must be "fully enforceable through permit conditions, agreements, or other legally binding instruments."[23] Generally, the "[f]ormulation of mitigation measures should not be deferred until some future time."[24] As an exception, "measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way."[25] Crucially, there is a "distinction between stating a generalized goal and 3-5

[18] That these later compliance dates are reasonable and feasible alternatives is further demonstrated by the fact that the Bay Area Air Quality Management District (Bay Area AQMD) adopted amendments in March of 2023 to its Regulation 9, Rule 6 which sets forth a zero-NOx compliance date of January 1, 2031 for typical residential water heaters, and its Regulation 9, Rule 4 which contains a zero-NOx compliance date of January 1, 2029 for furnaces.

[19] See CEQA Guidelines, § 15126.2(a) ("An EIR *shall* identify and focus on the significant effects of the proposed project on the environment.") (emphasis added).

[20] *Laurel Heights, supra*, 6 Cal.4th at 1123.

[21] *Citizens of Goleta Valley, supra*, 52 Cal.3d at 568.

[22] Pub. Resources Code, § 21002; CEQA Guidelines, § 15126.4(a)(1).

[23] CEQA Guidelines, § 15126.4(a)(1)(B), (a)(2).

[24] CEQA Guidelines, § 15126.4(a)(1)(B).

[25] *King & Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814, 856.

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adopting specific performance criteria," and "[s]imply stating a generalized goal for mitigating an impact does not allow the measure to qualify for the exception to the general rule against the deferred formulation of mitigation measures."[26] Further, even where the deferred formulation of mitigation might be allowable, there is a point beyond which delayed implementation is not allowed: "[o]nce the project reaches the point where activity will have a significant adverse effect on the environment, the mitigation measures must be in place."[27] "Where several measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified."[28]

All of the mitigation for energy impacts identified in the Draft SEA are lifted from the 2022 Final Program EIR. The Draft SEA states as follows:

> "The following mitigation measures have been identified for reducing potential electricity demand impacts:
>
> E-1 Project sponsors should pursue incentives to encourage the use of energy efficient equipment and vehicles and promote energy conservation during electricity generation.
>
> E-2 Utilities should increase capacity of existing transmission lines to meet forecast demand that supports sustainable growth where feasible and appropriate in coordination with local planning agencies.
>
> E-3 Project sponsors should submit projected electricity calculations to the local electricity provider for any project anticipated to require substantial electricity consumption. Any infrastructure improvements necessary should be completed according to the specifications of the electricity provider.
>
> E-4 Project sponsors should include energy analyses in environmental documentation with the goal of conserving energy through the wise and efficient use of energy.
>
> E-7 Project sponsors should evaluate the potential for reducing peak energy demand by encouraging the use of electrified stationary sources during off-peak hours."
>
> Draft SEA, pgs. 4-20 – 4-21.

3-5

None of these mitigation measures were adequate when they were included in the 2022 Final Program EIR and they remain inadequate in the context of the Draft SEA. Even a cursory examination of these "measures" reveals that they express aspirational goals at best. None of the measures are enforceable, as required by CEQA, through "permit conditions, agreements, or other binding instruments" by South Coast AQMD or anyone else. In addition, none of these measures specifies any sort of performance standard that could lead to formulation of appropriate mitigation in the future. Moreover, other than explaining that

[26] *Id.* at 856.
[27] *Id.* at 860, quoting *POET, LLC v. Cal. Air Resources Bd.* (2013) 218 Cal.App.4th 681, 738.
[28] CEQA Guidelines, § 15126.4(a)(1)(B).

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some of the measures that were included in the 2022 Final Program EIR are inapplicable to mitigating energy impacts, the Draft SEA provides no explanation for the assertion that these specific measures will address the energy impacts that the Draft SEA describes as more severe than the impacts found in the 2022 Final Program EIR. See Draft SEA, pg. 4-20. In short, the mitigation measures identified in the Draft SEA that purport to reduce the potential electricity demand impacts that have been identified are wholly inadequate under CEQA. To address this inadequacy, the Draft SEA must be revised to identify and analyze appropriate mitigation measures for energy impact. The revised Draft SEA must then be recirculated for public comment before it and the Rules can be further considered by SCAQMD. 3-5

For the reasons set forth above, we urge SCAQMD to revise its analysis, prepare and circulate a revised Draft SEA, and, ultimately, to reject the Rules. We reserve the right to identify new issues, provide additional information, and propose additional mitigation measures during SCAQMD's ongoing decision-making process for the Rules.

Thank you for your thoughtful consideration of these critical issues.

Sincerely,

Fran Inman
BizFed 2024 Chair
Majestic Realty

David Fleming
BizFed Founding Chair

Tracy Hernandez
BizFed Founding CEO
IMPOWER, Inc.

David Englin
BizFed President

CC: Governing Board

BizFed Association Members

Action Apartment Association
Advanced Medical Technology Association
Alhambra Chamber
American Beverage Association
Antelope Valley Chamber formerly Lancaster Chamber of Commerce
Apartment Association of Greater Los Angeles
Apartment Association of Orange County
Apartment Association, CA Southern Cities, Inc.
Apartment Association of California
Arcadia Association of Realtors
AREAA North Los Angeles SFV SCV
Armenian American Business Association
Armenian Trade & Labor Association
Arts District Los Angeles
ASCM Inland Empire Chapter
Associated Builders & Contractors SoCal (ABC SoCal)
Associated General Contractors
Association of Independent Commercial Producers
AV Edge California
Azusa Chamber
Bell Chamber
Beverly Hills Chamber
BioCom
Black Business Association
Black Professional Network
Boyle Heights Chamber of Commerce
Bridge Compton Org
Building Industry Association - LA/Ventura Counties
Building Industry Association of Southern California
Building Industry Association- Baldyview
Building Owners & Managers Association of Greater Los Angeles
Burbank Association of Realtors
Burbank Chamber of Commerce
Business and Industry Council for Emergency Planning and Preparedness
Business Resource Group
CalAsian Chamber
CalChamber
California African American Chamber of Commerce
California Apartment Association- Los Angeles
California Asphalt Pavement Association
California Bankers Association
California Black Chamber of Commerce
California Business Properties
California Business Roundtable
California Cleaners Association
California Contract Cities Association
California Council for Environmental & Economic Balance (CCEEB)
California Fuels & Convenience Alliance- Formerly
California Independent Oil Marketers Association (CIOMA)
California Gaming Association
California Grocers Association
California Hispanic Chamber
California Hotel & Lodging Association
California Independent Petroleum Association
California Infrastructure Delivery Coalition
California Life Sciences Association
California Manufacturers & Technology Association
California Metals Coalition
California Natural Gas Producers Association
California Restaurant Association
California Retailers Association
California Self Storage Association
California Small Business Alliance
California Travel Association (CalTravel)
California Trucking Association
Californians For Smarter Sustainability
Carson Chamber of Commerce
Carson Dominguez Employers Alliance
Central City Association
Century City Chamber of Commerce
Chatsworth Porter Ranch Chamber of Commerce
Citrus Valley Association of Realtors
Civil Justice Association of California CJAC
Claremont Chamber of Commerce

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Commerce Business Council formerly Commercial Industrial Council/Chamber of Commerce
Compton Chamber of Commerce
Compton Community Development Corporation
Compton Entertainment Chamber of Commerce
Construction Industry Air Quality Coalition
Construction Industry Coalition on Water Quality
Council of Infill Builders
Crenshaw Chamber of Commerce
Culver City Chamber of Commerce
Downey Chamber of Commerce
Downtown Alliance
Downtown Long Beach Alliance
DTLA Chamber of Commerce
El Monte/South El Monte Chamber
El Salvador Corridor Association
El Segundo Chamber of Commerce
Employers Group
Energy Independence Now EIN
Engineering Contractor's Association
EXP The Opportunity Engine
FastLink DTLA
Filipino American Chamber of Commerce
Friends of Hollywood Central Park
FuturePorts
Gardena Valley Chamber
Gateway to LA
Glendale Association of Realtors
Glendale Chamber
Glendora Chamber
Greater Antelope Valley AOR
Greater Bakersfield Chamber of Commerce
Greater Coachella Valley Chamber of Commerce
Greater Downey Association of REALTORS
Greater Lakewood Chamber of Commerce
Greater Leimert Park Crenshaw Corridor BID
Greater Los Angeles African American Chamber
Greater Los Angeles Association of Realtors
Greater Los Angeles New Car Dealers Association
Greater San Fernando Valley Chamber
Harbor Association of Industry and Commerce
Harbor Trucking Association
Historic Core BID of Downtown Los Angeles
Hollywood Chamber
Hospital Association of Southern California
Hotel Association of Los Angeles
ICSWA- International Cannabis Women Business Association
Independent Cities Association
Independent Hospitality Coalition
Industrial Environmental Association
Industry Business Council
Inglewood Board of Realtors
Inland Empire Economic Partnership
Irwindale Chamber of Commerce
Kombucha Brewers International
La Cañada Flintridge Chamber
LA County Medical Association
LA Fashion District BID
LA South Chamber of Commerce
Larchmont Boulevard Association
Latin Business Association
Latino Food Industry Association
Latino Golfers Association
Latino Restaurant Association
LAX Coastal Area Chamber
Licensed Adult Residential Care Association-LARCA
Long Beach Area Chamber
Long Beach Economic Partnership
Long Beach Major Arts Consortium
Los Angeles Area Chamber
Los Angeles Economic Development Center
Los Angeles Gateway Chamber of Commerce
Los Angeles Latino Chamber
Los Angeles LGBTQ Chamber of Commerce
Los Angeles Parking Association
Los Angeles Regional Food Bank
MADIA Tech Launch
Malibu Chamber of Commerce
Manhattan Beach Chamber of Commerce
Manhattan Beach Downtown Business & Professional Association
Marina Del Rey Lessees Association
Marketplace Industry Association
Monrovia Chamber
Motion Picture Association of America, Inc.
MoveLA
MultiCultural Business Alliance
NAIOP Southern California Chapter
NAREIT
National Association of Minority Contractors
National Association of Theatre Owners CA/Nevada
National Association of Women Business Owners
National Association of Women Business Owners - LA
National Association of Women Business Owners-California
National Federation of Independent Business
Owners California
National Hookah
National Latina Business Women's Association
Norwegian American Chamber of Commerce
Ofiso Community Foundation
Orange County Business Council
Orange County Hispanic Chamber of Commerce
Pacific Merchant Shipping Association
Panorama City Chamber of Commerce
Paramount Chamber of Commerce
Pasadena Chamber
Pasadena Foothills Association of Realtors
PGA
Pharmaceutical Care Management Association
PhRMA
Pico Rivera Chamber of Commerce
Pomona Chamber
Rancho Southeast REALTORS
ReadyNation California
Recording Industry Association of America
Regional CAL Black Chamber, SVF
Regional Hispanic Chambers
San Gabriel Valley Economic Partnership
San Pedro Peninsula Chamber of Commerce
Santa Clarita Valley Chamber
Santa Clarita Valley Economic Development Corp.
Santa Monica Chamber of Commerce
Secure Water Alliance
Sherman Oaks Chamber
Signal Hill Chamber
South Bay Association of Chambers
South Bay Association of Realtors
South Gate Chamber of Commerce
Southern California Contractors Association
Southern California Golf Association
Southern California Grantmakers
Southern California KFC Franchise
Southern California Leadership Council
Southern California Minority Suppliers Development Council Inc.
Southern California Water Coalition
Southland Regional Association of Realtors
Specialty Equipment Market Association
Structural Engineers Association of Southern California
Sunland/Tujunga Chamber
Sunset Strip Business Improvement District
Swiss American Chamber of Commerce
Thai American Chamber of Commerce
The Bridge Network
The LA Coalition for the Economy & Jobs
The Los Angeles Taxpayers Association
The Two Hundred for Homeownership
Torrance Area Chamber
Tri-Counties Association of Realtors
United Chambers – San Fernando Valley & Region
United Contractors
United States-Mexico Chamber
Unmanned Autonomous Vehicle Systems Association
Urban Business Council
US Green Building Council
US Resiliency Council
Valley Economic Alliance, The
Valley Industry & Commerce Association
Venice Chamber of Commerce
Vermont Slauson Economic Development Corporation
Veterans in Business
Vietnamese American Chamber
Village of Sherman Oaks BID
Warner Center Association
West Covina Chamber
West Hollywood Chamber
West Hollywood Design District
West Los Angeles Chamber
West San Gabriel Valley Association of Realtors
West Valley/Warner Center Chamber
Westchester BID
Western Electrical Contractors Association
Western Manufactured Housing Association
Western Propane Gas Association
Western States Petroleum Association
Westside Council of Chambers
Westwood Community Council
Whittier Chamber of Commerce
Wilmington Chamber
World Trade Center
Yes in My Backyard
7-Eleven Franchise Owners Association of Southern California

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RESPONSE TO COMMENT LETTER #3 – BizFed Los Angele Business Federation, October 31, 2024

Response 3-1
Comment 3-1 contains introductory remarks which summarize the concerns regarding the Draft SEA for PAR 1111 and PAR 1121. Specifically, BizFed raises issues about the sufficiency of the Draft SEA, particularly regarding its analysis of socioeconomic impacts, alternatives analysis, and energy impacts. More detailed comments relating to these topics are provided in Comments 3-2 to 3-5. See Responses to Comments 3-2 to 3-5 regarding each concern.

Response 3-2
Comment 3-2 provides a summary of the CEQA history for: 1) Control Measures R-CMB-01, R-CMB-02, and C-CMB-02 and the evaluation of the associated environmental impacts in the Final Program EIR for 2022 AQMP; and 2) PAR 1111 and PAR 1121 and the updated analysis provided in the Draft SEA. Comment 3-2 also alleges that the Draft SEA failed to acknowledge the fact that the increased severity of certain environmental impacts stems from the accelerated implementation date of low- and zero-NOx appliance replacements in comparison to what was analyzed in the Final Program EIR for the 2022 AQMP.

The entire analysis of the Draft SEA focused on the potential impacts of having more appliances installed according to the applicable timelines presented in PAR 1111 and PAR 1121, and compared them to what was contemplated in the Final Program EIR for the 2022 AQMP. Moreover, the alternatives analysis in Chapter 5 of the Draft SEA contemplated an even more expedited implementation schedule under Alternative B to illustrate the potential intensity and worsening of the significant adverse air quality and energy impacts. As required by CEQA for when potentially significant impacts are identified, the Draft SEA also included a full suite of mitigation measures as required to address the potentially significant air quality impacts during construction and the potentially significant energy impacts.

The rule development team received extensive comments about the original rule concept, including comments expressing concerns about the accelerated implementation timeline. In response to these comments, a revised rule concept was developed which: 1) includes zero-NOx emission sales targets for manufacturers; and 2) allows for both zero-NOx emission units and low-NOx units to be sold and installed for use. Under the revised rule concept, the decision to replace appliances will occur at the end of the existing equipment's useful life. Also, under the revised rule concept, consumers will be able to choose either zero-emission appliance options or conventional low-NOx appliance options. The analysis in the Final SEA has been updated to reflect the revised rule concept and the implementation timeline.

Response 3-3
Comment 3-3 alleges that the Draft SEA fails to properly analyze the socioeconomic impacts that could result from the proposed project, specifically highlighting potential adverse consequences such as urban blight, foreclosures, and economic harm to low-income households, commercial property owners, and tenants. The comment also suggests that PAR 1111 and PAR 1121 could impose billions of dollars in unfunded mandates that may lead to disproportionate burdens on these groups, exacerbating the region's existing housing crisis, poverty, and economic instability. Lastly, the comment alleges that the SEA fails to adequately consider the socioeconomic costs and impacts on small businesses, including potential disruptions to the broader regional economy.

CEQA Guidelines Section 15131 states that economic or social information may be included in a CEQA analysis or may be presented in whatever form the agency desires. South Coast AQMD practice is to address the economic effects of proposed projects in the staff report and Socioeconomic Impact Assessment, instead of the CEQA analysis, because economic effects typically do not cause environmental impacts. Further, pursuant to CEQA Guidelines Section 15131(a) the economic or social effects of a project shall not be treated as significant effects on the environment. A CEQA document may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes. [CEQA Guidelines Section 15131(a)] Public Resources Code Sections 21100 and 21151 also state that significant effects are limited to physical conditions. No direct or indirect economic or social effects that could cause physical impacts to the environment were identified as a result of implementing PAR 1111 and PAR 1121.

The rule development team received extensive comments about the original rule concept, including comments expressing concerns about the costs associated with implementing the proposed project according to the accelerated. In response to these comments, a revised rule concept was developed which: 1) includes zero-NOx emission sales targets for manufacturers; and 2) allows for both zero-NOx emission units and low-NOx units to be sold and installed for use. Under the revised rule concept, the decision to replace appliances will occur at the end of the existing equipment's useful life. Also, under the revised rule concept, consumers will be able to choose either zero-emission appliance options or conventional low-NOx appliance options. In addition, the revised rule concept removed Control Measure C-CMB-02 from PAR 1111, which means commercial businesses will no longer be affected. As such, PAR 1111 and PAR 1121 will not contribute to vacant or underutilized commercial buildings, because the revised rule concept no longer contains provisions that would be applicable to commercial buildings. Thus, there will be no costs to small businesses.

In addition, PAR 1111 and PAR 1121 will not contribute to vacant or underutilized residential buildings and any associated socioeconomic impacts because there is an existing housing shortage within the South Coast AQMD jurisdiction and the replacement of affected units with PAR 1111/PAR 1121-compliant units would occur at the end of the existing equipment's useful life. Moreover, PAR 1111 and PAR 1121 provide flexibility and financial incentives to choose either zero-NOx or low-NOx equipment, whenever the replacements actually occur. Occupants of residential dwellings would not be expected to abandon their residences simply because their water or space heating equipment is no longer functioning. Instead, the property owners will likely seek to quickly find replacement equipment that will fit within the existing footprint. Owners of rental properties would be required to replace the equipment to provide tenants with the same features available in the terms of the existing lease agreements. PAR 1111 and PAR 1121 contain no provisions that would require modifications to a renter's lease agreement. Please also see Response to General Comment 2 in Appendix A of the Final Staff Report for more information on costs and incentive programs that will be available to consumers to help offset the costs.

In addition, a separate Socioeconomic Impact Assessment for PAR 1111 and PAR 1121 has been prepared which analyzed the costs of upgrading to new, compliant furnaces and space heaters. The analysis considered the range of probable costs or savings, and impact on employment and the

regional economy. The preliminary analysis estimates overall unit lifetime savings as the lower operational costs would offset the higher upfront costs. The Draft Socioeconomic Impact Assessment for PAR 1111 and PAR 1121 was released on April 1, 2025 and is available from South Coast AQMD's website at: https://www.aqmd.gov/home/rules-compliance/socioeconomic-analysis/socioeconomic-analyses---year-2025. The Final Socioeconomic Impact Assessment for PAR 1111 and PAR 1121 is available as an attachment to the June 6, 2025 Governing Board package which is available from the following webpage: https://www.aqmd.gov/home/news-events/meeting-agendas-minutes?filter=Governing%20Board.

Response 3-4

Comment 3-4 alleges that the Draft SEA fails to properly analyze a reasonable range of alternatives in accordance with the requirements of CEQA that would reduce or eliminate the potentially significant air quality and energy impacts, and suggests that the Draft SEA needs to be revised and recirculated. The comment also suggests evaluating an alternative that would propose delayed compliance dates.

The rule development team received extensive comments about the original rule concept, including comments expressing concerns about the timing and the circumstances when equipment replacements would occur. In response to these comments, a revised rule concept was developed which: 1) includes zero-NOx emission sales targets for manufacturers; and 2) allows for both zero-NOx emission units and low-NOx units to be sold and installed for use. Under the revised rule concept, the decision to replace existing appliances will occur at the end of the existing equipment's useful life. For new construction, implementation of PAR 1111 and PAR 1121 under the revised rule concept proposes to delay the 2026 compliance date to 2027 to align with when the building code which will also require new buildings to be "electric ready."

The Final SEA, including the alternatives analysis in Chapter 5, has been updated to reflect these changes to the proposed project under the revised rule concept. Nonetheless, the environmental impacts as a result of this update will continue to result in significant and unavoidable adverse air quality and energy impacts, even after the mitigation measures are applied, though to a lesser extent than what would occur under the original rule concept. Lastly, since implementation of the revised rule concept allows for both zero-NOx emission units and low-NOx units to be sold and installed as opposed to only zero-NOx emission units, and allows for replacements to occur at the end of the equipment's useful life, the commenter's requested revision seeking an additional alternative that contemplates a delayed compliance date is moot.

It is important to note that lengthening the compliance timelines will undermine the need for and ability to achieve the required NOx emission reductions according to the timing set forth in the 2022 AQMP (e.g., 030 tpd of NOx emission reductions by 2031 for Control Measure R-CMB-01 and 0.28 tpd of NOx emission reductions by 2031 for Control Measure R-CMB-02) and thus, would risk not satisfying the basic project objectives of PAR 1111 and PAR 1121, thereby making such an alternative infeasible under CEQA. For these reasons, an alternative for lengthening the compliance timelines in the manner suggested by the comment was not included in the SEA.

Evaluation of the modifications made to PAR 1111 and PAR 1121 in response to the revised rule concept, which occurred after the release of the Draft SEA for public review and comment, concluded that none of the revisions constitute significant new information, because: 1) no new significant environmental impacts would result from the proposed project; 2) there is no substantial

increase in the severity of an environmental impact; 3) no other feasible project alternative or mitigation measure was identified that would clearly lessen the environmental impacts of the project and was considerably different from others previously analyzed, and 4) the Draft SEA did not deprive the public from meaningful review and comment. Consequently, revisions to PAR 1111 and PAR 1121 and the updated analysis in the SEA would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the Draft SEA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5.

Response 3-5

Comment 3-5 alleges that the mitigation measures identified in the certified Final Program EIR for the 2022 AQMP which were crafted to address the potentially significant energy impacts from implementing all of control measures, including Control Measures R-CMB-01, R-CMB-02, and C-CMB-02 (the control measures upon which the original rule concept was based), were inadequate and cannot be relied upon in the Draft SEA to mitigate the potentially significant energy impacts that will be worsened if PAR 1111 and PAR 1121 are implemented. This comment also alleges that other mitigation measures need to be identified specific to reducing the energy impacts that will result from PAR 1111 and PAR 1121 such that the Draft SEA will need to be revised and recirculated accordingly.

The Final Program EIR for the 2022 AQMP identified feasible mitigation measures for the following environmental topic areas: 1) air quality during construction; 2) energy due to increased electricity, natural gas, and hydrogen demand; 3) hazards and hazardous materials due to accidental release of ammonia, and potential fire hazard from reformulations of coatings, solvents, adhesives and lubricants; 4) hydrology (water demand and water supply) and water quality; 5) construction noise and vibration at roadways; and 6) solid and hazardous waste from construction and early retirement of equipment. However, only the mitigation measures for reducing potential hazards and hazardous materials impacts related to flammable reformulations of coatings, solvents, adhesives, and lubricants were determined to be capable of reducing these impacts to less than significant levels. Thus, mitigation measures were made a condition of project approval and were adopted. Further, since mitigation measures were adopted, a Mitigation, Monitoring, and Reporting Plan, pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines 15097 was also required and adopted. In addition to the adopted mitigation measures, the Final Program EIR for the 2022 AQMP included an alternatives analysis as required by CEQA Guidelines 15126. The South Coast AQMD Governing Board certified the Final Program EIR for the 2022 AQMP and the Mitigation, Monitoring, and Reporting Plan and approved the project on December 2, 2022.

Energy mitigation measures for project-specific impacts are identified in the Mitigation Monitoring and Reporting Plan of the Final Program EIR for the 2022 AQMP (e.g., E-1 through E-7 for electricity demand, E-8 through E-9 for natural gas demand, and E-10 through E-12 for hydrogen demand). Relative to the claim that these adopted energy mitigation measures to address the potentially significant increased electricity, natural gas, and hydrogen demand as identified in the Final Program EIR for the 2022 AQMP were inadequate, the administrative record indicates that the commenter did not provide any written comments relative to the Draft Program EIR during the public review and comment period. For reference, the list of commenters, their letters and their responses are included in Appendix C of the Final Program EIR.[5] In addition, as part of the South

[5] South Coast AQMD, 2022. Final Program EIR for the 2022 AQMP, available at: https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-final-peir.pdf

Coast AQMD Governing Board's certification of the Final Program EIR for the 2022 AQMP, a Mitigation, Monitoring, and Reporting Plan, which included these aforementioned energy mitigation measures, was also adopted in accordance with CEQA Guidelines Section 15097.[6] The Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP has been incorporated by reference in this Final SEA and is included as an appendix to the Findings and Statement of Overriding Considerations that has been prepared for PAR 1111 and PAR 1121 which is labeled as Attachment 1 to the Governing Board Resolution (see Attachment F of the Governing Board package).

As explained in the Draft SEA, when comparing the types of activities and associated environmental impacts with implementing Control Measures R-CMB-01, R-CMB-02, and C-CMB-02 that were previously analyzed in the Final Program EIR for the 2022 AQMP, to the changes associated with the proposed NOx limits and compliance dates presented in the original rule concept, the types of physical changes were expected to be similar and would cause similar secondary adverse environmental impacts for the same environmental topic areas that were identified and previously analyzed in the Final Program EIR for the 2022 AQMP. However, regarding the scope of the affected equipment universe under the 2022 AQMP, Control Measures R-CMB-02 and C-CMB-02 were estimated to affect two million residential space heaters and 200,000 commercial space heaters, whereas over five million space heaters would be affected under the original rule concept for PAR 1111. Similarly, Control Measure R-CMB-01 was estimated to affect two million residential water heaters, whereas over five million water heaters would be affected under the original rule concept for PAR 1121.

The original rule concept was expected to have similar secondary adverse environmental impacts as would occur for the 2022 AQMP for the environmental topic areas of construction air quality and GHG emissions, but that there would be increased and more severe operational air quality and GHG emissions from the production of electricity, increased electricity and natural gas demand, construction noise, and generation of solid waste from construction and disposal of old equipment when compared to what was previously analyzed in the Final Program EIR for the 2022 AQMP.

The Draft SEA also explained that the Final Program EIR for the 2022 AQMP, relative to the implementation of Control Measures R-CMB-01, R-CMB-02, and C-CMB-02, concluded less than significant impacts to operational air quality, greenhouse gas emissions, noise, and solid and hazardous waste and that these impacts will remain the same under the original rule concept. In addition, the Draft SEA explained that the Final Program EIR for the 2022 AQMP concluded that the implementation of Control Measures R-CMB-01, R-CMB-02, and C-CMB-02 would have potentially significant adverse air quality impacts from construction and energy impacts from electricity and natural gas demand and the analysis in the Draft SEA determined that these impacts will be made more severe if the original rule concept was implemented.

Because the energy impacts from implementing the 2022 AQMP were expected to be significant for electricity demand, the Final Program EIR for the 2022 AQMP provided feasible mitigation measures E-1 to E-7 for reducing impacts related to potential electricity demand. However, in the context of PAR 1111 and PAR 1121, since mitigation measure E-5 minimizes impacts from charging electric vehicles and mobile sources, and mitigation measure E-6 pertains to use of electrical transportation systems, these mitigation measures are not applicable to the original rule

[6] South Coast AQMD, 2022. Attachment 1 to the Governing Board Resolution for the Final Program EIR for the 2022 AQMP - Findings, Statement of Overriding Considerations, and Mitigation, Monitoring, and Reporting Plan, available at: https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-attachment1toresolution.pdf

concept since these electric vehicles and mobile sources are not affected by Control Measures R-CMB-01, R-CMB-02, and C-CMB-02.

Thus, the Draft SEA concluded that only mitigation measures E-1 to E-4, and E-7 are applicable to minimizing energy impacts from increased electricity demand due to implementation of the original rule concept. No other feasible mitigation measures were identified.

It is important to note that under the revised rule concept which was developed after the Draft SEA was released for public review and comment, requirements applicable to commercial facilities under Control Measure C-CMB-02 were no longer included in PAR 1111. In addition, the revised rule concept includes zero-NOx emission sales targets for manufacturers, will allow for both zero-NOx emission units and low-NOx units to be sold and installed for use.

Also, under the revised rule concept, the decision to replace existing appliances will occur at the end of the existing equipment's useful life. For new construction, implementation of PAR 1111 and PAR 1121 under the revised rule concept proposes to delay the 2026 compliance date to 2027 to align with when the building code which will also require new buildings to be "electric ready." Thus, if low-NOx units are installed in lieu of zero-NOx units, the need for electricity from the grid will be lesser than what was analyzed in the Draft SEA. Moreover, by allowing replacements to occur at the end of each existing unit's useful life, the concentration or intensity of zero-NOx units' demand for electricity will be less than what was analyzed and disclosed in the Draft SEA.

As a result, the revised rule concept will result in fewer affected units upon full implementation than what was analyzed in the Draft SEA under the original rule concept, and the potential increased electrical demand from all control measures in the 2022 AQMP would increase from 10.9 percent to 30.3 percent. Similarly for natural gas, while significant impacts are also concluded for increased natural gas demand under the revised rule concept, more units are anticipated to be replaced with more efficient low-NOx units in lieu of zero-NOx units than what was analyzed in the Draft SEA for the original rule concept. As a result, the anticipated increase in natural gas demand needed for electricity production will be significant under the revised rule concept but to a lesser extent than what was initially estimated in the Draft SEA for the original rule concept. The Final SEA has been updated accordingly.

Energy mitigation measures E-1 to E-4, and E-7 from the Final Program EIR for the 2022 AQMP were developed to target electricity producers (e.g., utilities) and the projects they would implement to provide sufficient electricity in support of the 2022 AQMP Control Measures R-CMB-01, R-CMB-02, and C-CMB-02. The Draft SEA also included these energy mitigation measures since the changes that utility providers may employ would help provide electricity for the operation of 100 percent of zero-NOx units under the original rule concept. While the revised rule concept only implements Control Measures R-CMB-01 and R-CMB-02, the same energy mitigation measures remain germane to the utility providers in the event they make facility modifications to help provide electricity to support the operation of zero-NOx units, even if fewer zero-NOx units would be installed under the revised rule concept. Thus, under the revised rule concept, energy mitigation measures E-1 to E-4, and E-7 will remain in effect and enforceable. [CEQA Guidelines Section 15168 (c)(3)].

It is important to note, that as of the date of publication, South Coast AQMD has not received any details from the utility providers regarding any proposed modifications to their infrastructure to support generating more electricity. However, when the utility providers embark on future

modifications to their electricity generation equipment, air permits will be needed and these projects will be subject to CEQA review, and mitigation measures will be required and enforced if significant impacts are identified. For these future utility-specific projects, the CEQA evaluation will examine whether additional mitigation measures are necessary, and whether the applicable aforementioned mitigation measures as adopted in the Final Program EIR for the 2022 AQMP and the corresponding Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP, need to be modified. For these reasons, no additional feasible mitigation measures have been identified in this SEA.

Regarding the enforceability of mitigation measures, CEQA Guidelines Section 15097 requires a Mitigation, Monitoring, and Reporting Program to ensure that mitigation measures are fully implemented and enforceable. The Mitigation, Monitoring, and Reporting Program for the 2022 AQMP, in particular Table A which contains implementation requirements and specified monitoring actions along with an identification of the enforcement agency, and monitoring agency and monitoring phase, provided the framework to enforce these measures, including requirements for tracking and verifying the completion of mitigation actions.[7] Therefore, the mitigation measures presented in the SEA are enforceable through the Mitigation, Monitoring, and Reporting Plan adopted for the 2022 AQMP, ensuring that any identified energy impacts will be addressed and mitigated in a legally binding manner. Moreover, Public Resources Code Section 21081.6 further supports the enforceability of mitigation measures by requiring the lead agency to adopt a program for monitoring the implementation of mitigation measures and ensuring compliance with CEQA. The Final Program EIR for the 2022 AQMP and the Findings, a Statement of Overriding Considerations, and a Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP, upon which the Final SEA relies, were incorporated by reference pursuant to CEQA Guidelines Section 15150. Thus, mitigation measures AQ-1 through AQ-26, E-1 to E-4, and E-7 to E-9 and the corresponding components of the Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP applicable to these aforementioned mitigation measures will remain in effect and enforceable. [CEQA Guidelines Section 15168 (c)(3)]. Thus, the mitigation measures are not merely aspirational but are embedded within an enforceable framework through the aforementioned Mitigation, Monitoring, and Reporting Plan for the 2022 AQMP and corresponding compliance mechanisms, such as permit conditions, in accordance with CEQA's requirements for enforceability.

Regarding the suggestion that the Draft SEA needs to be recirculated, the analysis and calculations have been updated to reflect the revised rule concept which resulted in fewer affected units overall and fewer impacts than what was identified in the Draft SEA. However, none of the revisions made contain the type of significant new information that would require recirculation of the Draft SEA for further public review under CEQA Guidelines Sections 15073.5 and 15088.5. Further, none of the comments indicate that the proposed project will result in a significant new environmental impact not previously disclosed in the Draft SEA. Also, none of the comments provided specific recommendations for new or revised mitigation, including those relating to electricity impacts. Additionally, none of comments indicate that there would be a substantial increase in the severity of a previously identified environmental impact that will not be mitigated, or that there would be any of the other circumstances requiring recirculation as described in CEQA Guidelines Sections 15073.5 and 15088.5. Thus, recirculation of the Draft SEA is not required.

[7] South Coast AQMD, 2022. Attachment 1 to the Governing Board Resolution for: Final Program Environmental Impact Report (EIR) for the 2022 Air Quality Management Plan (AQMP), Findings, Statement of Overriding Considerations, and Mitigation, Monitoring, and Reporting Plan, https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-attachment1toresolution.pdf.

ATTACHMENT K

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Socioeconomic Impact Assessment For Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential-Type Natural Gas-Fired Water Heaters

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EXECUTIVE SUMMARY

On March 17, 1989, the South Coast Air Quality Management District (South Coast AQMD) Governing Board adopted a resolution which requires an analysis of the economic impacts associated with adopting and amending rules and regulations. In addition, Health and Safety Code Section 40440.8 requires a socioeconomic impact assessment for any proposed rule, rule amendment, or rule repeal which "will significantly affect air quality or emissions limitations." Health and Safety Code Section 40728.5 requires the South Coast AQMD Governing Board to actively consider the socioeconomic impacts of regulations, make a good faith effort to minimize adverse socioeconomic impacts and include small business impacts. Lastly, Health and Safety Code Section 40920.6 requires an incremental cost-effectiveness analysis for a proposed rule or amendment which imposes Best Available Retrofit Control Technology (BARCT) or "all feasible measures" requirements relating to emissions of ozone, carbon monoxide (CO), sulfur oxides (SOx), nitrogen oxides (NOx), volatile organic compounds (VOC), and their precursors.

Proposed Amended Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces (PAR 1111) aims to further reduce NOx emissions from natural gas-fired furnaces and implement the 2022 Air Quality Management Plan (AQMP) Control Measure R-CMB-02 – Emission Reductions from Replacement with Zero Emission or Low NOx Appliances, targeting emission reductions from the replacement of gas-fired furnaces used for interior space heating with zero-emission options. Similarly, Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type Natural Gas-Fired Water Heaters (PAR 1121) focuses on reducing NOx emissions from residential natural gas-fired water heaters and aims to implement the 2022 AQMP Control Measure R-CMB-01 – Emission Reductions from Replacement with Zero Emissions or Low NOx Appliances – Residential Water Heating.

A socioeconomic impact assessment has been conducted to assess the impacts from implementing the new rule concept for PAR 1111 and PAR 1121 which was- released on February 7, 2025 (~~the~~ proposed project) and the following presents a summary of the analysis and findings.

Key Elements of PAR 1111 and 1121

PAR 1111 and PAR 1121 establish zero NOx-emission limits for space and water heating appliances, with separate compliance dates for units installed in new and existing buildings. The proposed project also includes a Zero-NOx Manufacturer (ZEM) alternative compliance option, which sets progressive sales targets for both NOx-emitting and zero-NOx appliances, aiming to transition to zero-NOx technology over time. Manufacturers are required to pay a mitigation fee for each NOx-emitting appliance sold, which is substantially higher for the sales beyond the established compliance targets.

Affected Facilities and Industries

The proposed project is applicable to manufacturers, distributors, retailers, resellers, and installers of space- and water-heating systems, and would affect over 10 million furnaces and water heaters in more than five million buildings, which are mostly residential. Due to the widespread use of space furnaces and water heaters, the proposed project is expected to apply to nearly all the residents in the four-county region. Since the proposed project would mostly apply to residential buildings, a small-business analysis is not conducted.

Analytical Assumptions

This analysis is based on an estimated universe of approximately 10.37 million affected units, including 5.24 million residential furnaces and 5.13 million residential water heaters. Approximately 96% of the affected universe is assumed to be installed in conventional homes, while the remaining 4% is assumed to be installed in mobile homes. Additionally, 90% of the affected units are for existing buildings, with the remaining 10% will be installed in newly constructed buildings. The analysis is based on compliance beginning in 2027 and continuing through year 2060, the latest forecast year available in the Regional Economic Modeling Inc. (REMI) model.

Based on the 2023 United States Census American Housing Survey, 87% of homes in the four-county region are assumed to have both an air conditioner (AC) and a furnace, while the remaining 13% only have a furnace. For the homes with both an AC and a furnace, a heat pump with heating and cooling dual functionality will replace the furnace and AC.

The analysis assumes that manufacturers would choose the ZEM alternative compliance option, which has compliance targets by phases with the last phase having a 90% zero-emission compliance target starting in 2036, resulting in the replacement of 90% of the affected units with zero-emission units by the end of the forecast period. This analysis also assumes that the age of all existing units is uniformly distributed over the full useful life, indicating a linear transition of units to zero-emission. Specifically, each year, an equal number of units are assumed to reach the end of its useful life, with 90% of these units to be replaced with zero-emission units while the remaining 10% will be replaced with NOx-emitting natural gas-fired units. By 2060, 90% of the entire universe of affected units will be zero-NOx emitting. Additionally, the analysis assumes that electrical panel upgrades may be needed for 4% and 16% of existing homes replacing gas-fired furnaces and water heaters with heat pumps, respectively, based on TECH Clean California real-world 2024 installation data.[1]

The recurring fuel switching costs/savings have been estimated using data from the 2019 Residential Appliance Saturation Survey[2], combined with utility price forecasts from the California Energy Commission Integrated Energy Policy Report for years 2023 and 2024.[3,4]

The proposed project is expected to yield overall cost savings, mainly due to energy bill savings over the equipment lifetime. For some equipment categories, there will be upfront incremental costs for purchasing and installing zero-

[1] TECH Clean California, Heat Pump Data – Download Data, "TECH Working Data Set – Single-Family", https://techcleanca.com/heat-pump-data/download-data/, accessed March 2025.

[2] Cost data contained in the sheet "Original capital cost from AECOM": https://www.ethree.com/e3-quantifies-the-consumer-and-emissions-impacts-of-electrifying-california-homes/, accessed March 2025.

[3] California Energy Commission, Baseline Demand Forecast File for Natural Gas, https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2023-integrated-energy-policy-report/2023-1, accessed March 2025.

[4] California Energy Commission, 2024 IEPR Electricity Rate Forecast SCE and LADWP https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report-iepr/2024-integrated-energy-policy-report, accessed March 2025.

emission units, which will be offset by an energy-cost saving over time, resulting in overall savings. The present value of cost savings over the forecast period is estimated to be $5.14 billion and $2.68 billion, for a discount rate of 1% and 4%, respectively. The annual average savings are estimated to be $250.34 million and $191.25 million, for a 1% and 4% real interest rate, respectively.

The following table presents the average annual costs/savings of the proposed project by equipment category. Note that the fuel-switching savings outweigh the upfront incremental costs, leading to an overall average annual cost saving.

Cost Categories	Annual Average (2027-2060)	
	1% Interest Rate	4% Interest Rate
Capital Costs		
Furnace Only Replaced by Heat Pump	$52,346,553	$79,253,111
Wall & Floor Furnace Replaced by Heat Pump	$3,196,274	$4,839,185
Water Heater Replaced by Heat Pump	$33,903,189	$51,329,707
Furnace & AC Replaced by New NOx-Emitting Gas Unit	$622,810	$942,939
Furnace only Replaced by New NOx-Emitting Gas Unit	$93,064	$140,899
Wall & Floor Furnace Replaced by New NOx-Emitting Gas Unit	$176,752	$267,605
Water Heater Replaced by New NOx-Emitting Gas Unit	$437,023	$661,657
Electrical Panel upgrade - Furnace & AC Replaced by Heat pump	$3,430,435	$5,193,707
Electrical Panel Upgrade - Furnace Only Replaced by Heat Pump	$512,594	$776,071
Electrical Panel Upgrade - Wall & Floor Furnace Replaced by Heat Pump	$973,553	$1,473,967
Electrical Panel Upgrade - Water Heater Replaced by Heat Pump	$19,257,003	$29,155,260
Recurring Savings		
Furnace & AC Replaced by Heat Pump	($79,093,570)	($79,093,570)
Furnace Only Replaced by Heat Pump	($11,818,580)	($11,818,580)
Wall & Floor Furnace Replaced by Heat Pump	($6,601,954)	($6,601,954)
Water Heater Replaced by Heat Pump	($267,773,180)	($267,773,180)
Total	**($250,338,033)**	**($191,253,176)**

Note: Costs are presented in black text and savings are presented in green text in parentheses.

Job Impacts

The direct effects of the proposed project are used as inputs to the REMI model to assess the secondary induced impacts for all the industries in the four-county economy over the period from 2027 – 2060.

When the costs/savings from compliance are annualized using a 4% real interest rate, the REMI analysis forecasts 580 net jobs gained annually in the four-county economy on average over the forecast period, representing 0.0045% of total jobs in the region.

The largest job impact will occur in 2027, the first assumed compliance year, with a forecast of 1,792 jobs gained, relative to the baseline scenario. Among all the industries, the Retail Trade industry (NAICS 44-45) is projected to have the most jobs gained (319 jobs) over the forecast period, while the Utilities sector (NAICS 22) has the most jobs foregone (172 jobs) over the period.

Sensitivity Analysis

To explore cost- and job-impacts under different assumptions, staff performed a sensitivity analysis, which assumed no savings would occur from fuel-switching when transitioning to zero-emission (ZE) units. The sensitivity analysis estimated the cost of transitioning to ZE units at $174.03 million for a 4% real interest rate, with 500 jobs gained annually forecasted over the 2027 to 2060 period.

Health Benefits

Upon full implementation, PAR 1111 and PAR 1121 are projected to reduce NOx emissions by 4.05 and 2.07 tons per day (tpd), respectively, which would have substantial positive impacts (benefits) on public health. This analysis employs an incidence-per-ton (IPT) and benefit-per-ton (BPT) method based on the results of the health benefit analysis in the 2022 AQMP to estimate benefits from the proposed project. The analysis period spans from 2027 to 2053, as it is based on the first compliance year and the useful life of the affected appliances, which can vary. The last appliances will reach the end of their useful life by 2053, which is the reason why the health benefits analysis extends through that year. NOx emission reductions that may be achieved from implementing PAR 1111 and PAR 1121 are anticipated to prevent approximately 2,490 premature ~~mortalities~~deaths, 10,200 cases of newly onset asthma, 170,000 school loss days, 2,484 emergency room visits, 1,170,000 minor restricted activity days, and many other negative health outcomes within the South Coast AQMD jurisdiction. The monetized present value of these health benefits is estimated to be $25.43 billion with a 4% discount rate, over the 2027 to 2053 period.

Competitive-ness and Prices

All industries in the region are anticipated to experience a slight increase in relative delivered price and cost of production by 0.0007% and 0.0008%, respectively, over the forecast period.

Impacts of CEQA Alternatives

Four alternatives to the proposed project were developed for the CEQA analysis in the Final ~~Draft~~ Subsequent Environmental Assessment (SEA): Alternative A – No Project, Alternative B – More Stringent, Alternative C – Less Stringent,

and Alternative D – Additional Incentives. The average annual job impacts of these alternatives range from 369 to 1,025 jobs gained. Additionally, the annual average cost savings range from $139.66 million to $287.35 million, based on a 4% real interest rate, over the forecast period.

INTRODUCTION

Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces reduces nitrogen oxide emissions (NOx) from gas-fired fan-type space heating furnaces with a rated heat input capacity of less than 175,000 British thermal units per hour (Btu/hr) or, for combination heating and cooling units, with a cooling rate of less than 65,000 Btu per hour. Rule 1111 also requires fan-type central furnaces to meet a NOx emission limit of 14 nanograms per Joule (ng/J) but allows the installation of mobile home furnaces that meet a NOx emission limit of 40 ng/J if a mitigation fee is paid by the manufacturer. PAR 1111 proposes zero-NOx emission limits for space heating appliances with compliance dates differentiated for units installed in new or existing buildings.

Rule 1121 – Control of Nitrogen Oxides from Residential Type, Natural Gas-Fired Water Heaters aims to reduce NOx emissions from natural gas-fired residential water heaters with a rated heat input capacity less than 75,000 Btu/hr. Rule 1121 also requires water heaters to meet a NOx emission limit of 10 ng/J except for mobile home water heaters, which need to meet a NOx emission limit of 40 ng/J. This rule does not apply to water heaters used in recreational vehicles or large water heaters subject to Rule 1146.2.[5] PAR 1121 proposes zero-NOx emission limits for water heating appliances with compliance dates differentiated for units installed in new or existing buildings.

PAR 1111 and PAR 1121 apply to manufacturers, distributors, retailers, resellers, and installers of specified space heating equipment and water heaters. Both PAR 1111 and PAR 1121 exempt space and water heating appliances in existing mobile homes from the zero-NOx emission standards. Mobile home appliances must meet zero-NOx emission standards in new mobile homes or when existing mobile homes are replaced with new mobile homes. PAR 1111 and PAR 1121 provide a ZEM alternative compliance option, which sets targets for the sale of NOx-emitting and zero-NOx appliances that evolve over time to transition the market to zero-NOx appliances. This option also requires manufacturers to pay mitigation fees for all NOx-emitting appliances sold for use within South Coast AQMD jurisdiction, with higher fees applied to those exceeding the established compliance targets. Mitigation fees for NOx-emitting appliances will be adjusted for California CPI after 2027, with the adjustment capped at 3%. Due to the widespread usage of space heating equipment and water heaters, the proposed project is anticipated to affect over five million existing and new buildings in the four-county region.

Upon full implementation, PAR 1111 and PAR 1121 are projected to reduce NOx emissions by 4.05 and 2.07 tons per day (tpd), respectively.

LEGISLATIVE MANDATES

The legal mandates directly related to the assessment of PAR 1111 and PAR 1121 include South Coast AQMD Governing Board resolutions and various sections of the Health and Safety Code.

South Coast AQMD Governing Board Resolution

On March 17, 1989, the South Coast AQMD Governing Board adopted a resolution that calls for an economic analysis associated with adopting and amending rules and regulations that considers all of the following elements:

[5] South Coast AQMD, June 2024, Rule 1146.2, https://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1146-2.pdf, accessed March 2025

- Affected industries
- Range of probable costs
- Cost-effectiveness of control alternatives
- Public health benefits

Health and Safety Code Requirements

The state legislature adopted legislation which reinforces and expands the South Coast AQMD Governing Board resolution requiring socioeconomic impact assessments for rule development projects. Health and Safety Code Section 40440.8, which went into effect on January 1, 1991, requires a socioeconomic impact assessment for any proposed rule, rule amendment, or rule repeal which "will significantly affect air quality or emissions limitations."

To satisfy the requirements in Health and Safety Code Section 40440.8, the scope of the socioeconomic impact assessment should include all of the following information:

- Type of affected industries;
- Impact on employment and the regional economy;
- Range of probable costs, including those to industry;
- Availability and cost-effectiveness of alternatives to the rule;
- Emission reduction potential; and
- Necessity of adopting, amending, or repealing the rule in order to attain state and federal ambient air quality standards.

Health and Safety Code Section 40728.5, which went into effect on January 1, 1992, requires the South Coast AQMD Governing Board to: 1) actively consider the socioeconomic impacts of regulations; 2) make a good faith effort to minimize adverse socioeconomic impacts; and 3) include small business impacts. To satisfy the requirements in Health and Safety Code Section 40728.5, the socioeconomic impact assessment should include the following information:

- Type of industries or business affected, including small businesses; and
- Range of probable costs, including costs to industry or business, including small business.

Finally, Health and Safety Code Section 40920.6, which went into effect on January 1, 1996, requires an incremental cost-effectiveness analysis for a proposed rule or amendment which imposes BARCT or “all feasible measures” requirements relating to emissions of ozone, carbon monoxide (CO), sulfur oxides (SOx), NOx, volatile organic compounds (VOC) and their precursors. The BARCT and cost-effectiveness analyses for the PAR 1111 and PAR 1121 were conducted and are included in Chapters 2 and 5 of the Final ~~Draft~~ Staff Report, respectively.[6]

[6] South Coast AQMD, Draft Staff Report for Proposed Amended Rule 1111 - Reduction of NOx Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type Natural Gas-Fired Water Heaters, https://www.aqmd.gov/home/rules-compliance/residential-and-commercial-building-appliances, accessed March 2025. The Final Staff Report is located in Attachment I of the June 6, 2025 Governing Board Package for PAR 1111 and PAR 1121, which will be available 72 hours prior to the Governing Board meeting at https://www.aqmd.gov/home/news-events/meeting-agendas-minutes?filter=Governing%20Board.

AFFECTED EQUIPMENT

The proposed project would affect furnaces and water heaters primarily used in residential settings. Specifically, PAR 1111 applies to residential furnaces for space heating with a rated heat input capacity of less than 175,000 Btu/hr, or for combination heating and cooling units with a cooling rate of less than 65,000 Btu per hour. In addition, PAR 1121 pertains to water heaters with a rated heat input capacity of less than 75,000 Btu/hr, used in residential settings for domestic hot water needs. Thus, the proposed project would directly affect the type of equipment used in residences rather than industrial and commercial facilities in the jurisdiction of South Coast AQMD.

Data from the 2023 United States Census American Community Survey (ACS)[7] was relied upon to estimate the universe of the affected units of furnaces and water heaters. Table 1 shows that the estimated universe includes almost 10.37 million affected units in South Coast AQMD jurisdiction, which are in conventional residential dwellings and mobile homes. This analysis assumed that 96% of all affected units are located in conventional residential dwellings, while the remaining 4% are located in mobile homes. Additionally, 90% of the affected units are assumed to be in existing buildings, while the remaining 10% are projected to be installed in new buildings, for both conventional and mobile homes. Note that existing mobile homes will be exempt from the zero-emission mandates. Therefore, this analysis does not account for existing mobile homes even though the owners may voluntarily replace their units with zero-emission equipment.

Table 1: Estimated Universe of Affected Units

Rule	Equipment Categories	Subcategories	Estimated Universe
PAR 1111	Residential Fan-Type Central Furnace	Residential Fan-Type Central Furnace (Furnace & AC)	3,654,000
		Residential Fan-Type Central Furnace (Furnace only)	546,000
	Wall Furnaces and Floor Furnaces	NA	1,037,000
PAR 1121	Water Heaters	NA	5,128,000
		Total	**10,365,000**

Small Business Analysis

PAR 1111 and PAR 1121 are applicable to furnaces and water heaters in residential settings. Since the proposed project is not applicable to facilities, a small business analysis is not required and thus, was not conducted.

COMPLIANCE COSTS

This section provides estimates of the compliance costs of implementing PAR 1111 and PAR 1121, related to the purchase, installation, and operation of zero-emission space/water heating equipment. Note that some values in this section may not sum due to rounding, and all costs/savings have been adjusted to 2024 dollars.

[7] United States Census Bureau, 2023 American Community Survey, https://www.census.gov/programs-surveys/ahs/data.html, accessed March 2025.

For the cost analysis, the unit costs for equipment purchase and installation of heat pumps were derived from the TECH Clean California incentive program public data set, which tracks real-world project costs for heat pump installations.[8] For natural-gas units, the cost assumptions were derived from the 2019 Energy and Environmental Economics (E3) Residential Building Electrification in California study (E3 study), which contains detailed project-level cost estimates for both gas-fired and electric heating, ventilation, and air conditioning (HVAC) appliances and water heaters.[9] The project-level cost includes the equipment price, ductwork or wiring modifications, and installation costs.[10] The same cost assumptions were applied to both existing and new buildings, and conventional residential dwellings and mobile homes.

This socioeconomic analysis assumes that all the manufacturers of furnaces and water heaters will opt for the ZEM compliance option, such that 90% of the affected units will be gradually replaced with zero-NOx emitting units, with the remaining 10% will be replaced with new NOx-emitting gas-fired units. Specifically, the remaining useful life of the affected units is assumed to be uniformly distributed over their entire useful life. Thus, each year, an equal number of units will need to be replaced. This linear transition to zero-emission units will occur over a forecast period from 2027 to 2060[11]; by the year 2060, 90% of all affected units in each equipment category will have transitioned to zero-emission equipment, while the remaining 10% will continue to be NOx-emitting gas-fired units. Finally, this analysis assumes that the manufacturers will pass through all the mitigation fees for NOx-emitting natural-gas units onto consumers, resulting in an increase in the price of NOx-emitting natural-gas units. Table 2 presents the mitigation fee per unit for different natural gas-fired equipment. Assuming that 100% of the cost will be passed through to consumers, the prices of natural gas-fired furnaces and water heaters will be increased by $100 and $50, respectively, after the proposed project is implemented. The higher prices will constitute incremental costs for the 10% NOx-emitting natural gas-fired units when they expire and need to be replaced with new NOx-emitting natural gas-fired units. Table 2 summarizes the cost assumptions used in this analysis.

Table 2: Mitigation Fee by Rule

Rule	Mitigation Fee
PAR 1111	$100/NOx-emitting furnace in 2027 and CPI adjusted after 2027
PAR 1121	$50/NOx-emitting water heater in 2027 and CPI adjusted after 2027

[8] TECH Clean California, Heat Pump Data – Download Data, "TECH Working Data Set – Single-Family", https://techcleanca.com/heat-pump-data/download-data/, accessed March 2025.

[9] Cost data contained in the sheet "Original capital cost from AECOM": https://www.ethree.com/e3-quantifies-the-consumer-and-emissions-impacts-of-electrifying-california-homes/, accessed March 2025.

[10] The installation costs usually include both labor and design expenses.

[11] Note that 2027 is the first year in which the proposed project will be implemented, and the REMI analysis cannot analyze impacts beyond year 2060.

Capital/One-Time Costs

Residential Fan-Type Central Furnace and AC Replaced with Heat Pump

According to the United States Census American Housing Survey (AHS), approximately 87% of residential buildings in the counties of Los Angeles, Orange, San Bernardino, and Riverside have both a furnace and an AC.[12] Given the dual heating and cooling functionality of heat pumps, this analysis assumes that a heat pump will replace both the existing furnace and AC and bases the incremental capital costs on the difference between a single heat pump unit relative to the combined cost of both furnace and AC replacement. The cost to replace both an AC unit and natural gas furnace is $20,600, while a new heat pump costs $17,200 without including electrical upgrade costs which are considered separately, resulting in an incremental savings of $3,400 per unit. However, considering that heat pump is a relatively new technology and its price in the future is quite uncertain, the analysis takes a conservative approach by assuming that a new heat pump will cost $20,600 – the same cost of replacing an AC and natural gas furnace. As such, the incremental cost of transitioning to zero-emission units is zero for this equipment category.

Residential Fan-Type Central Furnace-Only Replacements with Heat Pumps

According to AHS data, 13% of existing homes in the counties of Los Angeles, Orange, San Bernardino, and Riverside do not have air conditioners. Thus, this analysis assumes that 13% of the Residential Fan-Type Central Furnace equipment category will consist of furnace-only replacements, for both existing and new buildings. The estimated equipment and installation costs for a natural gas furnace and a heat pump are $11,000 and $17,200, respectively. This results in an incremental capital cost of $6,200 for replacing a natural gas furnace with a heat pump, totaling $2.94 billion if 473,928 new heat pumps are installed. The assumption that 473,928 furnace-only units will be replaced by heat pumps is based on an estimated universe of 4.2 million Residential Fan-Type Central Furnaces, with 13% assumed to be furnace-only replacements (546,000 units). Of these, 96% are assumed to be located in conventional homes (524,160), with 90% replaced by heat pumps (471,744), and 4% are assumed to be located in mobile homes (21,840), with 10% replaced by heat pumps (2,184). Table 3 presents the calculation steps.

Table 3: Calculations for Estimating Furnace-only Replacements with Heat Pumps

Total Universe of Fan-Type Central Furnaces	4,200,000
Furnace-Only Replacements (13%)	4,200,000 x 0.13 = 546,000
Units in Conventional Homes (96%)	546,000 x 0.96 = 524,160
Units in Mobile Homes (4%)	546,000 x 0.04 = 21,840
Conventional Homes Transitioning to Heat Pump (90%)	524,160 x 0.90 = 471,744
Mobile Homes Transitioning to Heat Pump (10%)	21,840 x 0.10 = 2,184
Total Number of Furnace-Only Replacements with Heat Pumps	471,744 + 2,184 = **473,928**

[12] United States Census Bureau, 2023 American Housing Survey, https://www.census.gov/programs-surveys/ahs/data.html, accessed March 2025.

The total number of furnace-only replacements with heat pumps is 473,928. After applying the incremental capital cost of $6,200 per unit, the total cost of furnace-only replacements with heat pumps is $2.94 billion, as shown in the following equation:

473,928 (estimated units to be replaced) x $6,200 (incremental cost to transition to heat pump) = $2.94 Billion (total cost)

Wall and Floor Furnace Replacements with Heat Pumps

According to AHS data, approximately 1,037,000 existing residences use wall and floor furnaces for heating. The estimated capital cost for replacing each of these furnaces with a heat pump is $5,900, while replacing them with a natural gas furnace is estimated at $5,700, resulting in an incremental cost of $200 per unit. The total capital costs amount to $180.02 million for roughly 900,116 new heat pumps that will be installed in both existing and new buildings. The assumption that 900,116 units will be replaced with heat pumps is based on an estimated universe of 1,037,000 existing units. Of these, 96% are assumed to be located in conventional residential dwellings (995,520), with 90% replaced by heat pumps (895,968), and 4% are assumed to be located in mobile homes (41,480), with 10% replaced by heat pumps (4,148). The total will be 895,968 replacements in conventional residential dwellings plus 4,148 replacements in mobile homes, which totals 900,116 units. Table 4 presents the calculation steps.

Table 4: Calculations for Estimating Wall and Floor Furnace Replacements with Heat Pumps

Total Universe of Wall and Floor Furnaces	1,037,000
Units in Conventional Homes (96%)	1,037,000 x 0.96 = 995,520
Units in Mobile Homes (4%)	1,037,000 x 0.04 = 41,480
Conventional Homes Transitioning to Heat Pump (90%)	995,520 x 0.90 = 895,968
Mobile Homes Transitioning to Heat Pump (10%)	41,480 x 0.10 = 4,148
Total Number of Wall and Floor Furnace Replacements with Heat Pumps	895,968 + 4,148 = **900,116**

The total number of wall and floor furnace replacements with heat pumps is 900,116. After applying the incremental capital cost of $200 per unit, the total cost of replacing wall and floor furnaces with heat pumps is $180.02 million, as shown in the following equation:

900,116 (estimated units to be replaced) x $200 (incremental cost to transition to heat pump) = $180.02 Million (total cost)

Natural Gas Water Heater Replacements with Heat Pump Water Heaters

Heat pump water heaters are projected to cost an average of $3,700 for equipment and installation, compared to $3,300 for natural gas units. This results in an estimated incremental cost of $400 per unit. When applied to an estimated 4,451,104 water heaters, this translates to a total incremental equipment cost of $1.78 billion. The assumption that 4,451,104 units will be replaced to heat pump water heaters is based on an estimated universe of 5.13 million water heaters. Of these 96% are

assumed to be located in conventional homes (4,922,880), with 90% replaced by heat pump water heaters (4,430,592), and 4% are assumed to be located in mobile homes (205,120), with 10% replaced by heat pump water heaters (20,512). The total will be 4,430,592 replacements in conventional homes plus 20,512 replacements in mobile homes, which totals 4,451,104 units. Table 5 presents the calculation steps.

Table 5: Calculations for Estimating Water Heater Replacements with Heat Pumps

Total Universe of Natural Gas Water Heaters	5,128,000
Units in Conventional Homes (96%)	5,128,000 x 0.96 = 4,922,880
Units in Mobile Homes (4%)	5,128,000 x 0.04 = 205,120
Conventional Homes Transitioning to Heat Pump (90%)	4,922,880 x 0.90 = 4,430,592
Mobile Homes Transitioning to Heat Pump (10%)	205,120 x 0.10 = 20,512
Total Number of Natural Gas Water Heater Replacements with Heat Pump Water Heaters	4,430,592 + 20,512 = **4,451,104**

The total number of natural gas water heater replacements with heat pump water heaters is 4,451,104. After applying the incremental capital cost of $400 per unit, the total cost of replacing natural gas water heaters with heat pump water heaters is $1.78 billion, as shown in the following equation:

4,451,104 (estimated units to be replaced) * $400 (incremental cost to transition to heat pump) = $1.78 Billion (total cost)

Residential Fan-Type Central Furnace and AC Replaced with New NOx -Emitting Gas Furnace and AC Unit, Residential Fan-Type Central Furnace Only Replaced with New NOx-Emitting Gas Furnace, Wall and Floor Furnace Replaced with New NOx-Emitting Gas Wall and Floor Furnace, and Natural Gas Water Heater Replaced with New NOx-Emitting Gas Water Heater

Based on the ZEM compliance option, this analysis assumes that at the end of the forecast period, 10% of the affected units for each equipment category and subcategory will not be expected to transition to zero-NOx emitting units and instead, will be replaced with new NOx-emitting gas units at the end of each unit's useful life. Assuming that 100% of the mitigation fee of $100 per-unit for a gas-fired furnace (e.g., a central furnace and AC unit, a fan-type central furnace only unit, or a gas-fired wall and floor furnace) will be passed through onto the consumer, the incremental cost of replacing an old furnace with a new NOx-emitting gas unit will be exactly $100. Similarly, the mitigation fee of $50 per-unit for a NOx-emitting gas-fired water heater will be passed through onto the consumer such that the incremental cost of replacing an old gas-fired water heater with a new NOx-emitting gas unit will be $50.

Electrical Panel Upgrades

According to the TECH dataset, 4% of existing residences in the region required electrical panel upgrades to add more amperage needed to operate electric space heaters, while 16% needed electrical panel upgrades for operating electric water heaters. This analysis applies these estimates and assumes that 4% of all residences will require electrical panel upgrades for electric space heaters, and 16% for water heaters. The cost of each electrical panel upgrade will be $1,700 with a useful life of 30 years. In total, an estimated 800,897 existing buildings will require electrical panel upgrades, with the total projected cost of approximately $1.36 billion as shown in the following equation:

800,897 (estimated existing residences needing an electrical panel upgrade) * $1,700 (electrical panel upgrade cost) = $1.36 Billion (total cost)

Operation & Maintenance (O&M) Costs

Fuel-Switching Costs or Savings

In addition to incremental upfront costs, the implementation of the proposed project will also result in recurring fuel-switching costs or savings due to the transition from natural gas-fired units to zero-emission electric units. In general, electricity is more expensive on a per-unit basis than natural gas. However, the higher electricity cost is often offset by the increased efficiency of heat pump units which collect heat from the ambient air and produce more heat energy than the electricity used, while natural gas heaters can only produce as much heat energy as is contained in the gas consumed.

To estimate the fuel switching costs and savings of transitioning from natural gas to electric water and air heating, the analysis considered the anticipated energy demand and forecasted prices in the future for both natural gas and electricity. The forecasted electricity rates are sourced from the 2024 California Energy Commission (CEC) Integrated Energy Policy Report (IEPR) and the forecasted natural gas rates are sourced from the 2023 CEC IEPR.[13,14] Note that the CEC has a separate electricity price forecast for both the Los Angeles Department of Water and Power (LADWP) and Southern California Edison (SCE) planning areas. The analysis relied upon an average of the two forecasted rates weighted by population. Specifically, since LADWP serves roughly 23% of the population in the region, it is assigned a weight of 0.23, while the weight of SCE is 0.77. For natural gas, the analysis solely relied on the Southern California Gas (SCG) forecast, since it is the primary gas utility in the South Coast AQMD region. The analysis also relied upon the forecasted residential utility rate forecast for all categories. For each category of units, the steps used to estimate the recurring fuel switching cost/saving are:

[13] California Energy Commission, 2024 IEPR Electricity Rate Forecast SCE and LADWP https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report-iepr/2024-integrated-energy-policy-report, accessed March 2025.

[14] California Energy Commission, Baseline Demand Forecast File for Natural Gas, https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2023-integrated-energy-policy-report/2023-1, accessed March 2025.

1. Estimate the annual electricity demand for heat pump and natural gas units by relying on the 2019 Residential Appliance Saturation Study (RASS)[15] released by the CEC to estimate demand. The RASS includes information on the energy use of both electric and natural gas appliances in homes located throughout California.
2. Calculate the average forecasted utility rates for electricity and natural gas from the CEC IEPR forecast.
3. Calculate the annual average energy cost by multiplying the energy demand for each appliance by its respective forecasted utility rate.
4. Take the difference between the annual average energy cost of the electric unit and natural gas unit.

Table 6 presents average annual demand and price forecasts for natural gas and electricity and the resulting annual fuel switching costs and savings for each category. Note that the average rates are based on the equipment's useful lifespan, which may lead to different forecast rates across equipment types, as shown in Table 6. For a detailed description of the methods used to estimate energy inputs, please refer to Chapter 2 of the PAR 1111 and PAR 1121 Final ~~Draft~~ Staff Report.[16]

Table 6: Energy Demand, and Fuel Switching Costs (Savings) by Unit Type

Unit Type	Annual Natural Gas Demand (Therms)	Annual Electric Demand Equivalent (kWh)	Natural Gas Rate ($/therm)	Electricity Rate ($/kWh)	Annual Fuel Switching Cost (Savings)
Furnace & AC Replacement by Heat Pump (PAR 1111)	173	1190	$2.55	$0.33	($48.45)
Furnace Replacement by Heat Pump (PAR 1111)	173	1190	$2.55	$0.33	($48.45)
Wall & Floor Furnace Replacement by Heat Pump (PAR1111)	69	490	$2.55	$0.33	($14.25)
Water Heater Replacement by Heat Pump (PAR 1121)	190	1,036	$2.36	$0.32	($116.88)

Note: The average natural gas and electricity rates are based on the useful life of each unit type. PAR 1111 units have a useful life of 25 years, while PAR 1121 units have a useful life of 15 years. As a result, averages are calculated over different time periods, which leads to differing average rates for PAR 1111 and PAR 1121 units.

[15] California Energy Commission, 2019 California Residential Appliance Saturation Study (RASS), https://www.energy.ca.gov/publications/2021/2019-california-residential-appliance-saturation-study-rass, accessed October 2024.

[16] South Coast AQMD, Draft Staff Report for Proposed Amended Rule 1111 - Reduction of NOx Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NOx Emissions from Residential Type Natural Gas-Fired Water Heaters, https://www.aqmd.gov/home/rules-compliance/residential-and-commercial-building-appliances, accessed March 2025.

It is important to note that the forecasted utility rates may not match observed electric and natural gas prices in any given year and may differ materially. Current prices are affected by demand and supply shocks, geopolitical factors, and other considerations which are all unforecastable. However, the CEC forecasts are created through a rigorous modeling process which considers population change, electrification of vehicles and buildings, anticipated effects of climate change, and many other variables, thus reflecting the best available expectation for future prices in the region.

Total Compliance Costs of PAR 1111 and PAR 1121

The compliance cost analysis covers the period from 2027, which represents the first year the units are expected to be replaced, to 2060, which is the latest forecast year the REMI model is capable of analyzing. The analysis in this Socioeconomic Impact Assessment relies on discount rates which consider the real rate of return on long-term U.S. government debt, risk and the long period of analysis among others, which is consistent with guidance provided in Circular No. A-4.[17]

It is important to note, however, that nominal interest rates, such as published financial rates in bank advertisements for a mortgage, etc., are not utilized for quantifying compliance costs because there is no reliable way to forecast inflation rates for projects with long implementation timelines such as PAR 1111 and PAR 1121. The following equation illustrates the relationship between nominal and real interest rates:

Nominal Interest Rate = Real Interest Rate + Inflation rate

For this reason, all costs in this Socioeconomic Impact Assessment are presented in real terms, adjusted for inflation to 2024 dollars; the real interest rates are used in the amortization or annualization process. The capital cost for each equipment type subject to PAR 1111 and PAR 1121 is amortized over its useful life and added to the recurring cost or savings in each year. Note that the mitigation fee for each gas unit sold will be adjusted for California CPI after 2027, and the annual adjustment will be capped at 3%.

Due primarily to the savings on recurring energy cost, PAR 1111 and PAR 1121 are anticipated to result in overall net savings. The present value of cost savings over the forecast period is estimated to be $5.14 billion and $2.68 billion, respectively, for a discount rate of 1% and 4%. The annual average savings are estimated to be $250.34 million or $191.25 million for a 1% and 4% real interest rate, respectively. Note that while average savings are anticipated for full implementation of both PAR 1111 and PAR 1121, certain equipment categories and specific circumstances may lead to higher purchase, construction and installation costs for individual consumers. Table 7 presents both the present value and annual average savings for each equipment category of PAR 1111 and PAR 1121.[18] [19]

[17] Circular No. A-4, Regulatory Analysis - November 9, 2023, p.76, https://whitehouse.gov/wp-content/uploads/2023/11/CircularA-4.pdf, accessed May 2025.

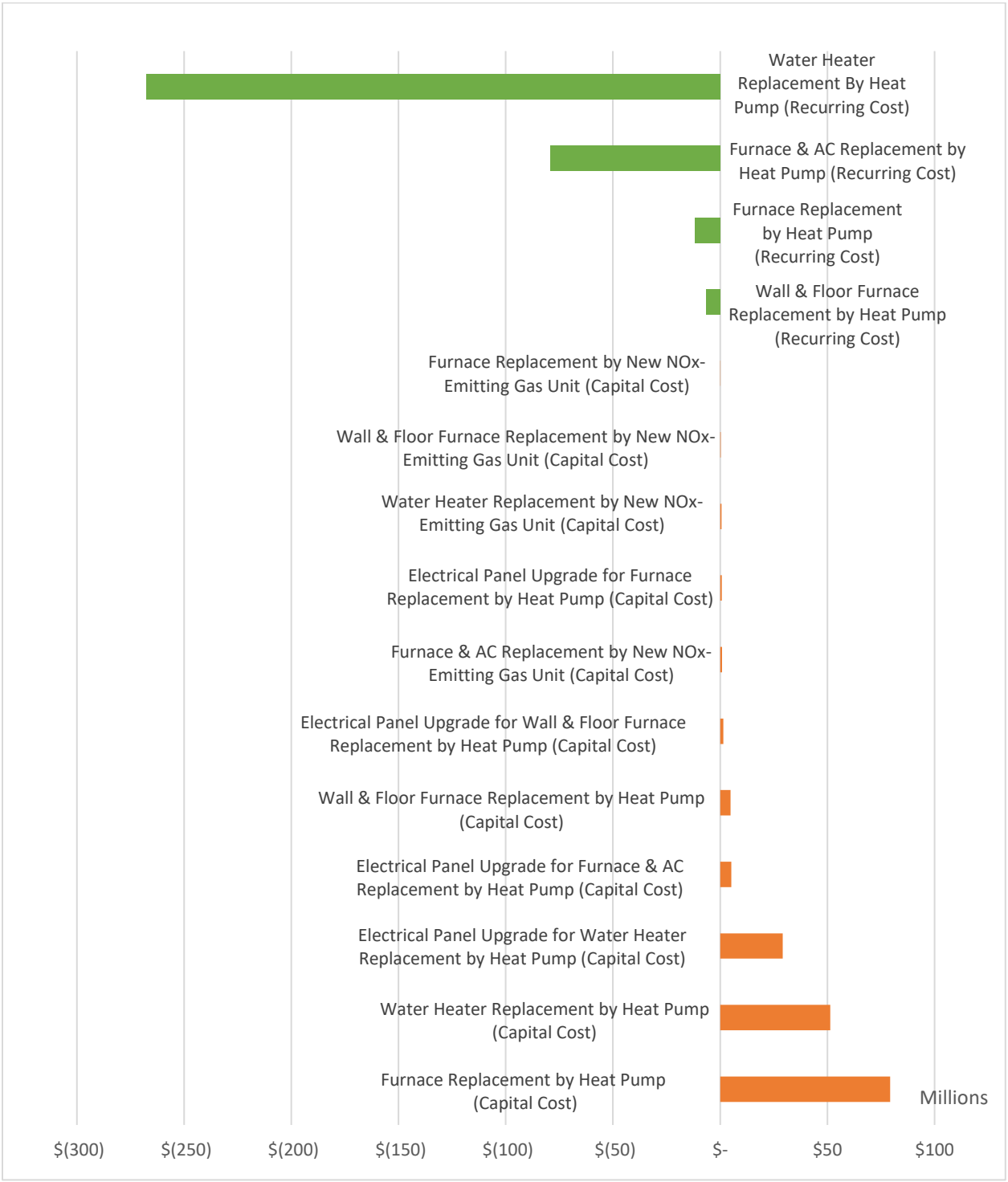
[18] In Table 7, the capital cost for each category includes the equipment price, installation costs (covering contractor labor and design), as well as costs related to ductwork or wiring modifications.

[19] The overall annual net saving implies that tenants' rent is not likely to go up in the region upon the implementation of the proposed project, which alleviates stakeholders' concern about the burden on home renters.

Table 7: Present Value and Average Annual Estimated Costs and Savings of PAR 1111 and PAR 1121

Cost Categories	Present Value (2025)		Annual Average (2027-2060)	
	1% Discount Rate	4% Discount Rate	1% Interest Rate	4% Interest Rate
	Capital Costs			
Furnace Only Replaced by Heat Pump	$2,129,229,077	$1,108,985,584	$52,346,553	$79,253,111
Wall & Floor Furnace Replaced by Heat Pump	$130,010,460	$67,714,521	$3,196,274	$4,839,185
Water Heater Replaced by Heat Pump	$1,379,033,616	$718,254,516	$33,903,189	$51,329,707
Furnace & AC Replaced by New NOx-Emitting Gas Unit	$25,333,173	$13,194,505	$622,810	$942,939
Furnace Only Replaced by New NOx-Emitting Gas Unit	$3,785,417	$1,971,593	$93,064	$140,899
Wall & Floor Furnace Replaced by New NOx-Emitting Gas Unit	$7,189,519	$3,744,582	$176,752	$267,605
Water Heater Replaced by New NOx-Emitting Gas Unit	$17,776,206	$9,258,542	$437,023	$661,657
Electrical Panel upgrade - Furnace & AC Replaced by Heat pump	$139,535,119	$72,675,334	$3,430,435	$5,193,707
Electrical Panel Upgrade - Furnace Only Replaced by Heat Pump	$20,850,075	$10,859,533	$512,594	$776,071
Electrical Panel Upgrade - Wall & Floor Furnace Replaced by Heat Pump	$39,599,868	$20,625,156	$973,553	$1,473,967
Electrical Panel Upgrade - Water Heater Replaced by Heat Pump	$783,290,738	$407,968,380	$19,257,003	$29,155,260
	Recurring Savings			
Furnace & AC Replaced by Heat Pump	($2,124,942,833)	($1,106,753,141)	($79,093,570)	($79,093,570)
Furnace Only Replaced by Heat Pump	($317,520,193)	($165,376,906)	($11,818,580)	($11,818,580)
Wall & Floor Furnace Replaced by Heat Pump	($177,369,339)	($92,380,872)	($6,601,954)	($6,601,954)
Water Heater Replaced by Heat Pump	($7,194,044,931)	($3,746,939,304)	($267,773,180)	($267,773,180)
Total	**($5,138,244,028)**	**($2,676,197,979)**	**($250,338,033)**	**($191,253,176)**

Figure 1: Annual Average Estimated Costs and Savings of PARs 1111 and 1121 by Cost Category



Note: Green bars indicate savings while orange bars indicate costs.

To better understand the distribution of the costs across categories, Figure 1 presents the estimated annual average compliance costs or savings of the proposed project, categorized by equipment type, using a 4% real interest rate. Negative values indicate cost savings, while positive values

indicate costs. The largest cost saving is roughly $267.77 million per year on energy for heat pump water heaters, while the largest capital cost is $79.25 million per year for furnaces replaced by heat pumps.

Sensitivity Analysis

The primary analysis, referred to as the "standard case," estimates fuel-switching savings associated with the transition from natural gas to electric water and space heating. In response to stakeholders' concerns over the uncertainty of future electricity costs, staff conducted a sensitivity analysis which explores an alternate scenario where all the recurring fuel-switching savings will be removed from the calculations. This sensitivity analysis offers a more conservative approach by assuming that no savings will be realized from transitioning to zero-NOx appliances. Table 8 summarizes the estimated costs and savings of the proposed project for both the standard case, which includes the fuel-switching savings, and the sensitivity analysis which excludes the fuel-switching savings. In contrast to the estimated savings for the standard case, the sensitivity analysis estimates an annual average cost of $174.03 million with a 4% real interest rate; and the present value of the costs over the forecast period is estimated at $2.44 billion with a 4% discount rate.

Table 8: Present Value and Annual Average Cost and Savings for Standard and Sensitivity Analyses

	Present Value (2025)		Annual Average (2027-2060)	
Scenario	**1% Discount Rate**	**4% Discount Rate**	**1% Interest Rate**	**4% Interest Rate**
Standard Case	($5,138,244,028)	($2,676,197,979)	($250,338,033)	($191,253,176)
Sensitivity Analysis	**$4,675,633,268**	**$2,435,252,245**	**$114,949,250**	**$174,034,108**

Note: Costs are presented in black text and savings are presented in green text in parentheses.

MACROECONOMIC IMPACTS ON THE REGIONAL ECONOMY

The Regional Economic Modeling Inc. (REMI, PI+ v3) model was used to assess the total socioeconomic impacts of the anticipated implementation of PARs 1111 and 1121.[20, 21] The model, which is comprised of analytical modules with embedded datasets and econometric features, links the economic activities occurring in the counties of Los Angeles, Orange, Riverside, and San Bernardino, and for each county and considers five interrelated blocks: 1) output and demand; 2)

[20] Regional Economic Modeling Inc. (REMI). Policy Insight® for the South Coast Area (70-sector model). Version 3. 2023.

[21] REMI v3 has been updated based on The U.S. Economic Outlook for 2022-2024 from the University of Michigan's Research Seminar in Quantitative Economics (RSQE) release on May 19, 2023, The Long-Term Economic Projections from CBO (supplementing CBO's March 2023 report, The 2023 Long-Term Budget Outlook).

labor and capital; 3) population and labor force; 4) wages, prices and costs; and 5) market shares.[22] It should be noted that the REMI model is not designed to assess impacts on individual operations. The model was used to assess the impacts of the proposed project on various industries that make up the local economy.

Impacts of PAR 1111 and PAR 1121

The assessment herein is performed relative to a baseline ("business as usual") forecast where the PAR 1111 and PAR 1121 would not be implemented. This analysis assumes that the affected households and industries would finance the capital and installation costs of zero-emission appliances at a 4% real interest rate and that these one-time costs are amortized and incurred over the life of the equipment. These amortized capital costs are added to the recurring fuel switching costs or savings, the sum of which are used as inputs to the REMI model.

Compliance costs from the proposed project are used as inputs to the REMI model in order to assess secondary and induced impacts for all the industries in the four-county economy on an annual basis and across a user-defined horizon. This assessment begins in 2027, the earliest date when equipment replacements are expected to occur, and ends in 2060, which is the latest forecast year the REMI model is capable of analyzing. Direct effects of the proposed project that were used as inputs to the model include:

1. Costs from equipment purchase and installation of zero-emission air and water heating equipment, as well as electrical panels. The costs resulting from residential appliances are modeled as changes in disposable income that affect households' consumption.
2. Increase in the revenues of equipment suppliers and electrical panel installers. Incremental upfront costs will be modeled as increases in their revenues. To capture the impacts of spending changes across the supply chain, 50% of total increased spending on equipment is assumed to impact retailers (NAICS 44-45) in South Coast AQMD jurisdiction; 30% is allocated to wholesalers/distributors (NAICS 42), and the remaining 20% to manufacturers (NAICS 332 and 335), based on a discussion with REMI staff. Within the manufacturing sector, 18% of total increased spending is allocated to the electrical equipment, appliance, and component manufacturing industry (NAICS 335), and 2% is allocated to the fabricated metal product manufacturing industry (NAICS 332).
3. Decrease in the revenues of utility companies (NAICS 22) resulting from anticipated energy cost savings due to the shift to electric powered equipment.
4. Increase in the revenues of construction companies (NAICS 23) resulting from increased demand for electrical panel upgrades in 4% and 16% of existing homes replacing gas-fired furnaces and water heaters with heat pumps, respectively.
5. Increase in the revenues of local government (NAICS 92) due to the collection of mitigation fees.

[22] Within each county, the industrial sectors are made up of 156 private non-farm industries and sectors, three government sectors, and a farm sector. Trade flows are captured between sectors as well as across the four counties and the rest of U.S. Market shares of industries are dependent upon their product prices, access to production inputs, and local infrastructure. The demographic/migration component has 160 ages/gender/race/ethnicity cohorts and captures population changes in births, deaths, and migration. For details, please refer to REMI online documentation at http://www.remi.com/products/pi.

Table 9 presents the categories of costs and savings along with the industries and households that will incur the costs or benefit from the savings, and the industries that will be directly affected by the compliance costs and savings due to implementation of the proposed project.

Table 9: Industries Affected by Compliance Costs and Savings of PAR 1111 and PAR 1121

Source of Compliance Costs and Savings	REMI Industries Incurring Costs and Savings	REMI Industries Affected by Costs and Savings (NAICS)
Heat Pump + Install Capital Costs	Private Households	Fabricated Metal Product Manufacturing (332) Electrical Equipment, Appliance, and Component Manufacturing (335) Wholesale Trade (42) Retail Trade (44-45)
New NOx-Emitting Natural-Gas Unit + Install Capital Cost		
Electrical Panel Upgrades		Construction (23)
Fuel Switching		Utilities (22)
Mitigation Fee		State and Local Government (92)

Regional Job Impacts

When the compliance cost is annualized using a 4% real interest rate, the model predicts an annual average of 580 jobs gained over the forecast period 2027-2060, relative to the baseline forecast, which represents 0.0045% of total employment in South Coast AQMD jurisdiction. The sectors with the most jobs gained include Retail Trade (NAICS 44-45) and Wholesale Trade (NAICS 42), which benefit from increased spending on the purchase and installation of zero-emission heat pumps. In addition, households will benefit from the overall savings, and thus consume more, which will lead to increased revenues and jobs gained in other sectors. On the other hand, the sector of Utilities (NAICS 22) will undergo the most jobs foregone, mainly due to lost revenues as a result of massive savings resulting from fuel-switching. Overall, the positive job impacts will outweigh the negative job impacts, and therefore, lead to net jobs gained on average over the forecast period.

Note that the projected job impacts are based on the assumptions and analysis using the REMI model. The actual job impacts may vary depending on various factors in the economy and evolving industry dynamics. Table 10 presents simulated job impacts for selected industries and years and shows that many sectors in the regional economy which are not directly affected by the

implementation of the proposed project will undergo job impacts sooner or later because of the secondary or induced effects of PAR 1111 and PAR 1121.

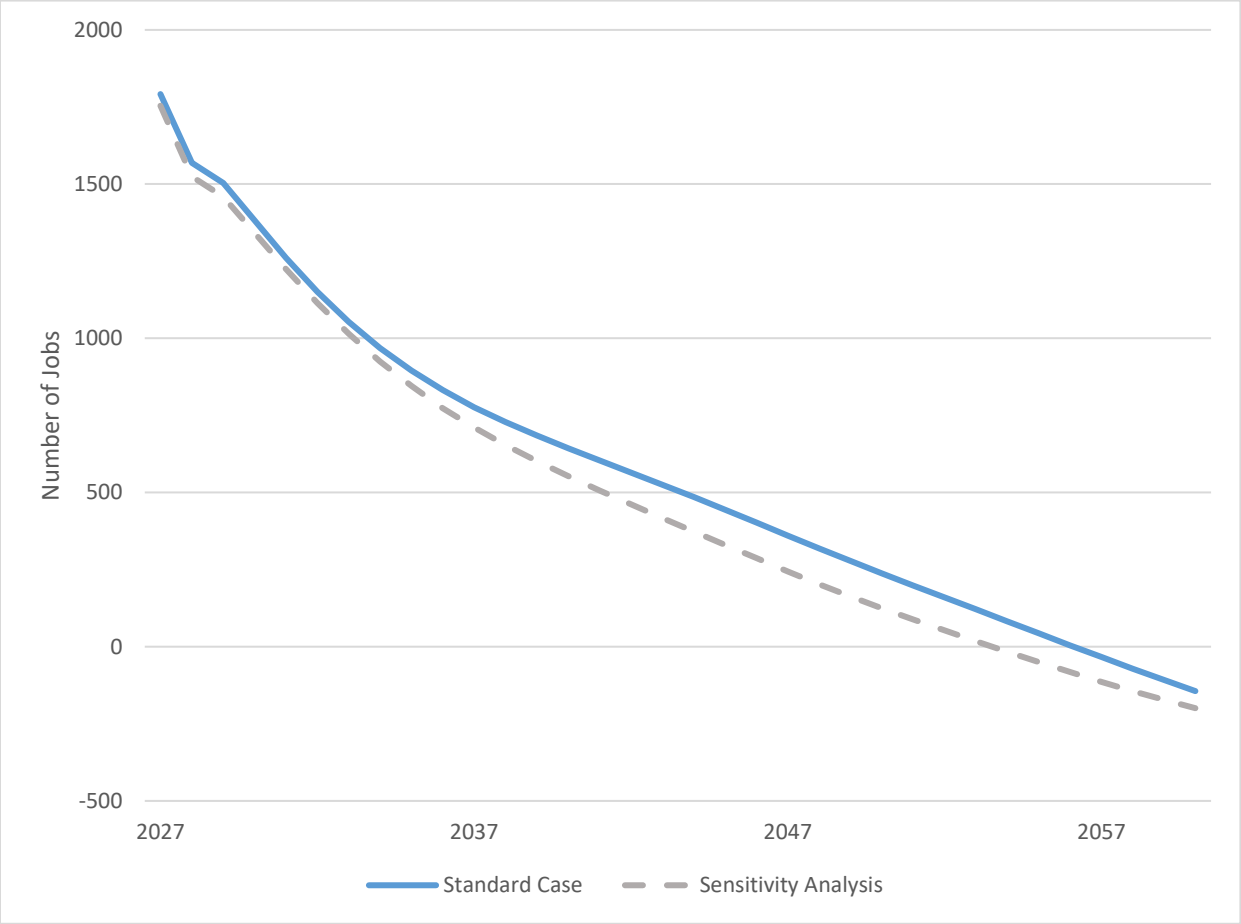
Table 10: Projected Job Impacts of PAR 1111 and PAR 1121 for Selected Industries and Years

Industry	2030	2040	2050	2060	Average (2027 - 2060)	Baseline Number of Jobs	% of Baseline
Utilities (22)	-48	-154	-233	-291	-172	21,163	0.8127
Professional, scientific, and technical services (54)	44	-58	-152	-234	-88	1,083,637	0.0081
Construction (23)	211	-72	-153	-209	-52	588,717	0.0088
Administrative and support services (561)	46	-16	-54	-84	-23	895,295	0.0026
Fabricated metal product manufacturing (332)	11	2	-1	-3	3	68,740	.0044
Electrical equipment, appliance, and component manufacturing (335)	5	4	3	3	4	14,867	.0269
State and Local Government (NA)	92	31	-14	-48	19	985,260	0.0019
Social assistance (624)	22	36	45	45	37	689,252	0.0054
Personal and laundry services (812)	34	53	69	78	57	452,017	0.0126
Wholesale trade (42)	101	72	56	43	70	412,166	0.0170
Ambulatory health care services (621)	62	106	141	153	114	752,937	0.0151
Retail trade (44-45)	456	337	255	188	319	874,680	0.0365
All other industries	345	302	278	215	293	6,186,652	0.0047
Total	**1382**	**644**	**238**	**-144**	**580**	**13,025,381**	**0.0045**

Note: Totals may not sum due to rounding.

For the sensitivity analysis which excludes the savings due to fuel-switching, the REMI analysis resulted in an annual average of approximately 500 jobs gained in the South Coast AQMD jurisdiction over the forecast period, which is about 0.0038% of total jobs in the region. Figure 2 presents a time series of projected job impacts over the 2027 - 2060 period for both the standard case and sensitivity analysis.

Figure 2: Projected Regional Job Impacts, 2027-2060



Health Benefits

The emissions reductions anticipated from PAR 1111 and PAR 1121 would have substantial public health benefits. This assessment estimates these benefits using incidence-per-ton (IPT) and benefit-per-ton (BPT) values derived from estimated health benefits and the projected NOx emission reductions in the Final Socioeconomic Report for the 2022 AQMP.[23] The IPT and BPT method provides robust, reasonable estimates of the magnitude of health benefits and is consistent with previously employed approaches by South Coast AQMD, as well as the United States Environmental Protection Agency (USEPA) and the California Air Resources Board

[23] South Coast AQMD, Final Socioeconomic Report for the 2022 AQMP, https://www.aqmd.gov/docs/default-source/clean-air-plans/socioeconomic-analysis/final/aqmp-2022-socioeconomic-report-main-final.pdf accessed March 2025.

(CARB).[24,25,26] The Final Socioeconomic Impact Report for the 2022 AQMP estimated the health benefits for year 2032 and 2037 based on: 1) modeled reductions in ambient ozone and PM2.5 concentrations across the Basin; and 2) USEPA's Environmental Benefits Mapping and Analysis Program – Community Edition (BenMAP-CE) model. This analysis utilizes the projected NOx emissions reductions and associated health benefits attributed to the 2022 AQMP to generate average IPT and BPT estimates. These estimated IPT and BPT factors were then used to generate estimates of the quantity and monetized value of health benefits resulting from anticipated emission reductions from PAR 1111 and PAR 1121. Since NOx is a key precursor to the formation of PM2.5 and ozone, the IPT and BPT estimates for both PM2.5-specific and ozone-specific benefits were developed by dividing the results of the health benefits from the 2022 by the total NOx emission reductions from the 2022 AQMP.

This reduced-form approach relies upon an estimate of the average health impact for each ton of pollutant emissions (and/or its precursors) reduced. This average estimate is based on the benefits derived from the 2022 AQMP air quality modeling, which accounts for potential nonlinearities between NOx emissions and ozone concentrations in the Basin. Thus, although a variable marginal impact of emissions on benefits is not employed, the average IPT and BPT of the 2022 AQMP implementation implicitly reflects the impacts of nonlinear air quality chemistry on the overall expected health benefits. Additional methodological assumptions include:

- Changes in incidence are proportional to ambient PM2.5 or ozone concentrations.
- Changes in primary pollutant concentrations are proportional to changes in directly emitted NOx.
- The IPT and BPT values are specific to the year (2032 and 2037) being evaluated.
- For years prior to 2032, IPT and BPT values are not calculated. Instead, health benefits grow linearly from zero benefits in 2026 to the estimated 2032 total benefits (based upon 2032 IPT and BPT values).
- For intermediate years between 2032 and 2037, IPT and BPT values grow linearly.
- For years beyond 2037, 2037 IPT and BPT values are projected through 2053 based on either future population growth (IPT and cost-of-illness based BPT estimates), or both future population growth and income growth (willingness-to-pay based BPT estimates).

This analysis assesses the public health benefits for which epidemiological studies have demonstrated an association between increases in ambient air pollution exposure and increases in illness and other health effects (morbidity endpoints) or increases in death rates from various causes (mortality endpoints) and are the same health endpoints quantified in the Final

[24] IPT and BPT estimates were used in the health benefits analysis of the South Coast AQMD August 2024 amendment process for Rule 2306 – Freight Rail Yards, http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2024/2024-aug2-026.pdf, accessed March 2025.

[25] U.S. EPA, Technical Support Document: Estimating the Benefit per Ton of Reducing PM2.5 Precursors from 17 Sectors, https://www.epa.gov/sites/default/files/2018-02/documents/sourceapportionmentbpttsd_2018.pdf, accessed March 2025.

[26] CARB, Estimating the Community Level Health Benefits from Air Pollution Control Programs, https://ww2.arb.ca.gov/resources/documents/estimating-community-level-health-benefits-air-pollution-control-programs#:~:text=CARB%20uses%20a%20California%20specific,available%20on%20the%20CARB%20website, accessed March 2025.

Socioeconomic Report for the 2022 AQMP. Additional details concerning the selection of quantified health effects, and the generation of health benefits results are available in Chapter 3 and Appendices 3-A and 3-B of the Final Socioeconomic Report for the 2022 AQMP.[27]

Table 11 presents the estimated NOx emissions inventory for PAR 1111 and PAR 1121. In this analysis, NOx emission reductions are assumed to be zero in the year before implementation for each category; and then grow linearly to the year of full implementation, which is 2053. Upon full implementation, PAR 1111 is expected to reduce NOx emissions by 4.05 tpd, while PAR 1121 will reduce NOx emissions by 2.07 tpd, with a total of 6.12 tpd.

Table 11: NOx Emission Reductions for PAR 1111 and PAR 1121

Proposed Amended Rule	NOx Emission Reductions (tpd)
1111	4.05
1121	2.07
Total	**6.12**

The estimated IPT factors were used in conjunction with projected annual NOx emission reductions to estimate the health benefits presented in Table 12. In total, PAR 1111 and PAR 1121 are estimated to prevent approximately 2,490 premature deaths, 10,200 cases of newly onset asthma, 1.17 million minor restricted activity days, and other outcomes, from 2027 to 2053.

[27] South Coast AQMD, Appendices to the Final Socioeconomic Report for the 2022 AQMP, https://www.aqmd.gov/docs/default-source/clean-air-plans/socioeconomic-analysis/final/aqmp-2022-socioeconomic-report-appendices-final.pdf, accessed March 2025.

Table 12: Health Effect Estimates of PAR 1111 and PAR 1121

Health Effects	Annual Average	Total 2027-2053
Premature Deaths Avoided, All Cause		
Long-Term Ozone Exposure	22	590
Long-Term PM2.5 Exposure	69	1,900
Reduced Morbidity Incidence		
Long-Term Ozone Exposure		
Asthma, New Onset	280	7,500
Short-Term Ozone Exposure		
Asthma Symptoms (Chest Tightness, Cough, Shortness of Breath, Wheeze)	51,000	1,400,000
Emergency Room Visits (ED), Asthma	19	510
ED Visits, All Respiratory	44	1,200
HA, Asthma	530	14,000
Minor Restricted Activity Days	21,000	560,000
School Loss Days, All Cause	6,100	170,000
Long-Term PM2.5 Exposure		
Asthma, New Onset	99	2,700
HA, Alzheimer's Disease	7.1	190
HA, Parkinson's Disease	3.0	80
Incidence, Hay Fever/Rhinitis	470	13,000
Incidence, Lung Cancer (non-fatal)	5.7	150
Short-Term PM2.5 Exposure		
Acute Myocardial Infarction, Nonfatal	1.0	28
Asthma Symptoms, Albuterol use	17,000	450,000
ED Visits, Asthma	3.5	94
ED Visits, All Cardiac Outcomes	7.6	210
ED Visits, All Respiratory	17	470
Emergency Hospitalizations (EHA), Asthma	0.18	4.9
HA, All Cardiac Outcomes	2.6	70
HA, All Respiratory	7.3	200
Incidence, Ischemic Stroke	4.1	110
Incidence, Out-of-Hospital Cardiac Arrest	0.69	19
Minor Restricted Activity Days	23,000	610,000
Work Loss Days	3,900	100,000

[1] Health effects of ozone are quantified for the summer planning period only (i.e., May 1 to September 30). There are potentially more premature mortalities and morbidity conditions avoided outside the ozone peak season.
[2] Expressed in person-days. Minor Restricted Activity Days refer to days when some normal activities are avoided due to illness.
[3] Values are rounded to two significant figures.

In addition, Table 13 presents the monetized value of the anticipated health benefits. Roughly 98% of the monetized value of these health benefits are attributable to avoided premature mortalities. The estimates are based on a value of statistical life (VSL) of $12.74 million[28] and the assumption that the willingness-to-pay for mortality risk reductions will increase as per-capita income grows. Specifically, a one percent increase in income is assumed to raise the VSL by 1.1%. These assumptions result in a total undiscounted public health benefit of $59.08 billion dollars over the 2027-2053 implementation period, or a $25.43 billion present value at a 4% discount rate.

Table 13: Monetized Value of Health Benefits from PAR 1111 and PAR 1121 (Billions of 2024 Dollars)

Type of Health Benefit	Total (2027-2053)	Annual Average (2027-2053)	Present Value - 4% Discount Rate
Mortality-related benefits	$57.71	$2.14	$24.80
Long-Term Ozone Exposure	$14.02	$0.52	$5.98
Long-Term PM2.5 Exposure	$43.69	$1.62	$18.82
Morbidity-related benefits	$1.37	$0.05	$0.63
Total	**$59.08**	**$2.19**	**$25.43**

***Note**: numbers may not sum due to rounding.

Competitiveness and Prices

According to the REMI modeling results, PAR 1111 and PAR 1121 would increase the relative cost of production in the region by 0.0008% on average and raise the relative delivered price of products in the region by 0.0007%. The slight increase in production costs may reduce the region's competitive advantage relative to equipment manufacturers located outside the region. Additionally, this overall increase in prices could negatively impact consumers by reducing their purchasing power. However, these effects are considered minimal.

CEQA ALTERNATIVES

The California Environmental Quality Act (CEQA) requires an evaluation of alternatives when a proposed project may have significant adverse environmental impacts. The implementation of PAR 1111 and PAR 1121 has the potential to result in energy impacts from increased electricity demand that are more severe than was previously analyzed in the Final Program EIR for the 2022 AQMP[29] for Control Measures R-CMB-01 and R-CMB-02. For this reason, four alternatives were developed for the CEQA analysis conducted in the Final ~~Draft~~ Subsequent Environmental Assessment (SEA): Alternative A – No Project, Alternative B – More Stringent, Alternative C –

[28] Industrial Economics Inc. and Lisa Robinson, Review of Mortality Risk Reduction Valuation Estimates for 2016 Socioeconomic Assessment, https://www.aqmd.gov/docs/default-source/clean-air-plans/socioeconomic-analysis/iecmemos_november2016/scmortalityvaluation_112816.pdf, accessed March 2025.

[29] South Coast AQMD, November 2022, Final Program EIR for the 2022 AQMP, https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-final-peir.pdf, accessed March 2025.

Less Stringent, and Alternative D – Additional Incentives.[30] This section provides a description of each CEQA alternative as well as an assessment of the possible socioeconomic impacts resulting from the event that any of these alternatives are implemented in lieu of the proposed project.

The socioeconomic analysis of the CEQA alternatives assumes that all the affected units will transition to zero-emissions by the specific compliance dates as specified in Table 2 in the rule languages of both PAR 1111 and PAR 1121.

Alternative A – No Project

The No Project Alternative outlines what would happen if PAR 1111 and PAR 1121 were not implemented. In this case, all the affected units in new and existing residential buildings would not need to comply with the proposed zero-emission limit. As a result, the No Project alternative would not involve any new capital or recurring costs and thus would have no socioeconomic impacts.

Alternative B – More Stringent

The More Stringent Alternative would involve imposing earlier compliance dates. Under Alternative B, the deadline for installing compliant equipment in new buildings is 12 months earlier than for the proposed project. Existing equipment in existing buildings would be required to be replaced by the compliance date listed in PAR 1111 and PAR 1121, rather than being replaced at the end of useful life. This rapidly accelerates the installation of zero-emission units relative to the proposed project. This more stringent alternative will begin the phase-in process for existing households in 2026 and will achieve full compliance by 2029. Overall, Alternative B proposes a much more stringent approach by requiring earlier compliance with the proposed zero-emission limits for existing households. These more stringent deadlines would place considerable stress on supply chains for zero-emission units and on equipment installers.

Alternative C – Less Stringent

Under Alternative C, equipment in new buildings would meet the proposed NOx emission limits as specified in PAR 1111 and PAR 1121. Furnaces and water heaters in existing buildings, however, would be allowed to be replaced with low-NOx equipment in situations where alternative compliance options would be necessary. This analysis assumes that 50% of equipment in existing buildings would be replaced with zero-emission equipment, while the remaining 50% would be low NOx.

Alternative D – Additional Incentive Funding

Alternative D considers the effect of providing financial incentives to encourage the early replacement of furnaces and water heaters, while holding all other aspects of the proposed project the same. The standard forecast for the proposed project does not currently evaluate the impact of any incentives. Incentives would help offset any upfront costs and would enable households and to install zero-emission units sooner than they otherwise would. This alternative assumes that a

[30] South Coast AQMD, Draft Subsequent Environmental Assessment for PAR 1111 and PAR 1121, https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2024/draft-sea---par-1111-amp-1121.pdf , accessed March 2025. The Final Subsequent Environmental Assessment is located in Attachment J of the June 6, 2025 Governing Board Package for PAR 1111 and PAR 1121, which will be available 72 hours prior to the Governing Board meeting at https://www.aqmd.gov/home/news-events/meeting-agendas-minutes?filter=Governing%20Board.

$1,000 incentive will be provided to the units that are replaced early, and 1% of the affected units are assumed to be replaced before the end of their useful life in this alternative.

Summary of CEQA Alternatives Analysis

Table 14 summarizes the estimated annual average costs, net present value (NPV) of those costs, and the annual average job impacts for the CEQA alternatives. Alternatives B, C, and D will all result in annual cost savings and job gains, ranging from 369 to 1,025 jobs. One possible reason for the large number of jobs gained in Alternative B is that there is substantial spending occurring at the beginning of the forecast period, which brings about a large number of new jobs in labor-intensive sectors such as retail and wholesale trade.

Table 14: Average Annual Costs and Savings, NPV and Job Impacts For CEQA Alternatives

Comparison of Proposed Project with CEQA Alternatives[1]	NPV (4% Discount Rate)	Average Annual Costs/Savings at 4% Interest Rate	Average Annual Job Impacts
Proposed Project (PAR 1111 and PAR 1121)	($3,728,247,520)	($241,106,932)	677
Alternative A – No Project[1]	$0	$0	0
Alternative B - More Stringent	($5,121,252,536)	($287,353,276)	1,025
Alternative C - Less Stringent	($2,097,479,701)	($139,655,355)	369
Alternative D - Additional Incentives	($3,831,434,444)	($246,468,195)	658

Note: Costs are presented in black text and savings are presented in green text in parentheses.

[1] Analyses of the proposed project and the other CEQA alternatives are based on the assumption that all affected units will transition to zero-emissions by the specific compliance dates as specified in Table 2 – Zero-Emission Limits and Compliance Schedule of both PAR 1111 and PAR 1121.

[2] Alternative A would not result in any compliance expenditure and thus has no costs or job impacts.

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Proposed Amended Rule 1111 – Reduction Of NOx Emissions From Natural Gas-Fired Furnaces

Proposed Amended Rule 1121 – Reduction of NOx Emissions From Residential Type, Natural Gas-Fired Water Heaters

Governing Board Meeting
June 6, 2025

Attachment L

Background

Rules 1111 and 1121

- Adopted in 1978
- Establishes NOx emission limits for natural gas space and water heaters
- Regulated through manufacturer, distributor, retailer and installer

Applicability

- Rule 1111 applies to residential-sized furnaces less than 175,000 Btu/hr
- Rule 1121 applies to residential-sized water heaters less than 75,000 Btu/hr
- Over 10 million furnaces and water heaters covered by the rules
- Implemented through natural replacement or purchase of new unit

Need for PAR 1111 and PAR 1121

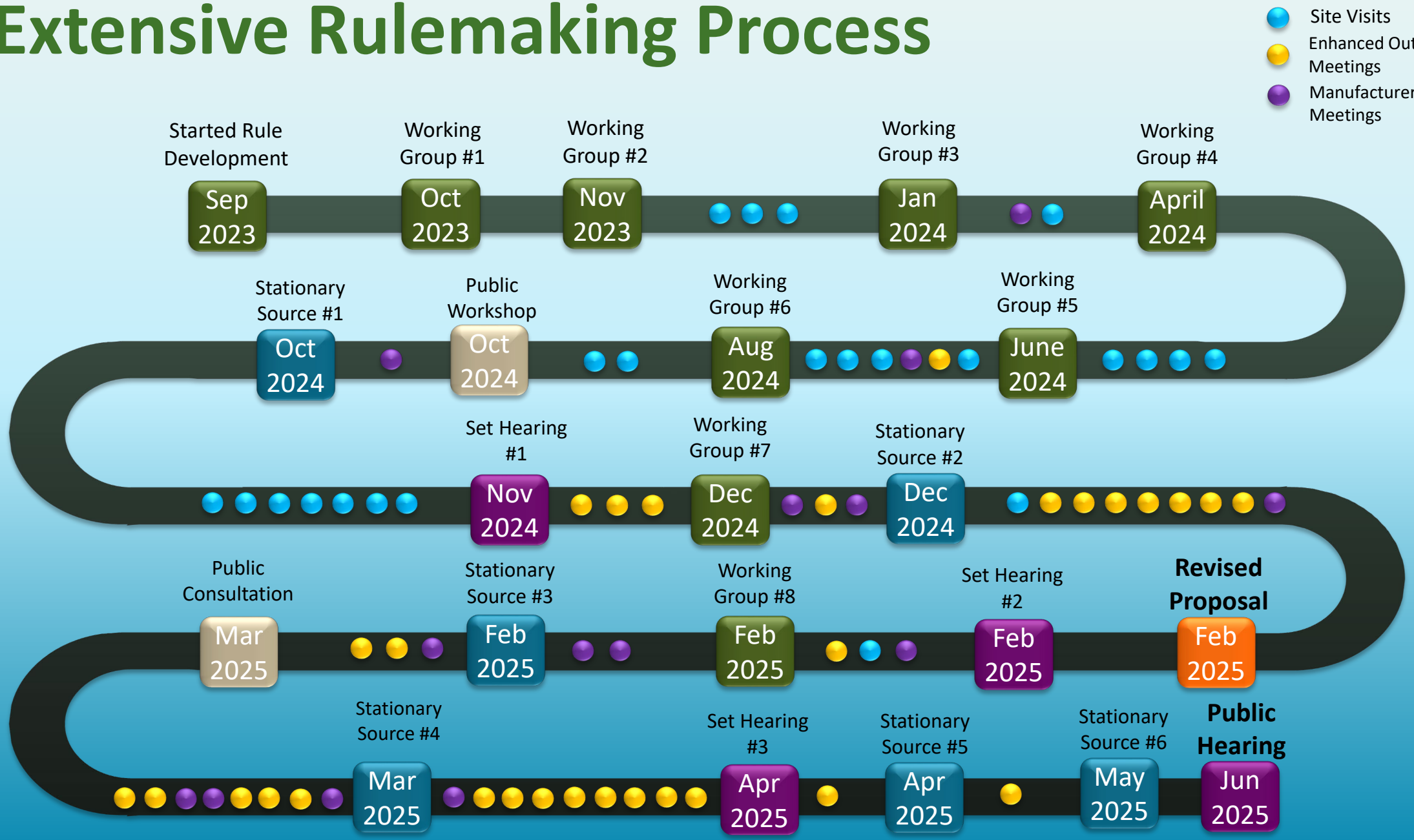
NOx reductions needed to meet federal ozone ambient air quality standards

Under the federal Clean Air Act, failure to meet air quality standards can result in sanctions and other more stringent measures

Proposed amended rules will reduce **6.1 tons of NOx per day** based on proposed sales targets

Implements R-CMB-01 – Residential Water Heating and
R-CMB-02 – Residential Space Heating in 2022 AQMP

Extensive Rulemaking Process



Outreach Efforts

40

Presentations to Cities, COGS and Other Orgs
Presented original and revised rule concept

14,500+

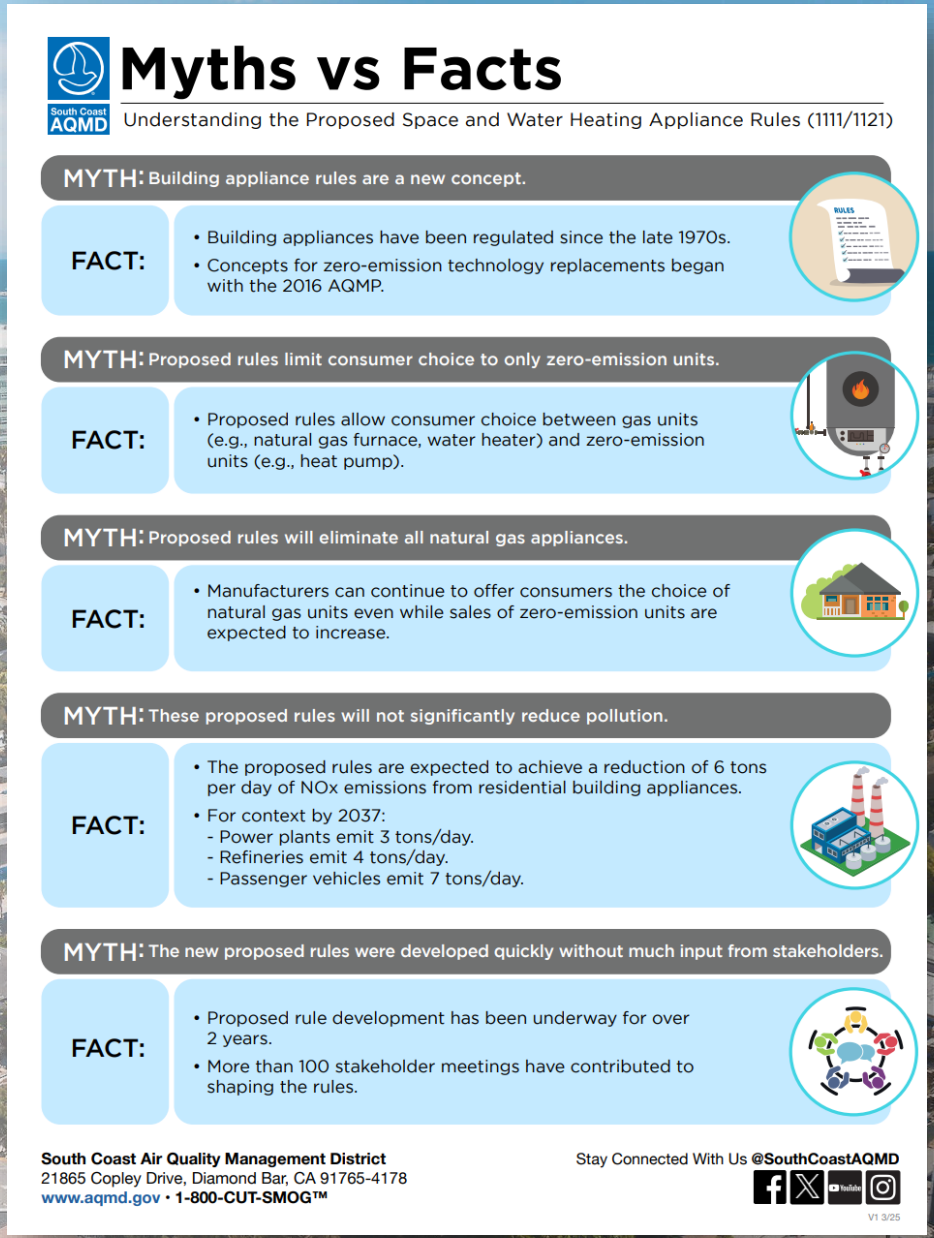
Comment Letters
Received more than 14,500 comment letters

100+

Stakeholder Meetings
Met with utilities, manufacturers, community groups, and agencies

17,000+

Myths vs. Facts
Distributed "Myths vs Facts" to over 17,000 emails



South Coast AQMD

Myths vs Facts

Understanding the Proposed Space and Water Heating Appliance Rules (1111/1121)

MYTH: Building appliance rules are a new concept.

FACT:
- Building appliances have been regulated since the late 1970s.
- Concepts for zero-emission technology replacements began with the 2016 AQMP.

MYTH: Proposed rules limit consumer choice to only zero-emission units.

FACT:
- Proposed rules allow consumer choice between gas units (e.g., natural gas furnace, water heater) and zero-emission units (e.g., heat pump).

MYTH: Proposed rules will eliminate all natural gas appliances.

FACT:
- Manufacturers can continue to offer consumers the choice of natural gas units even while sales of zero-emission units are expected to increase.

MYTH: These proposed rules will not significantly reduce pollution.

FACT:
- The proposed rules are expected to achieve a reduction of 6 tons per day of NOx emissions from residential building appliances.
- For context by 2037:
  - Power plants emit 3 tons/day.
  - Refineries emit 4 tons/day.
  - Passenger vehicles emit 7 tons/day.

MYTH: The new proposed rules were developed quickly without much input from stakeholders.

FACT:
- Proposed rule development has been underway for over 2 years.
- More than 100 stakeholder meetings have contributed to shaping the rules.

South Coast Air Quality Management District
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V1 3/25

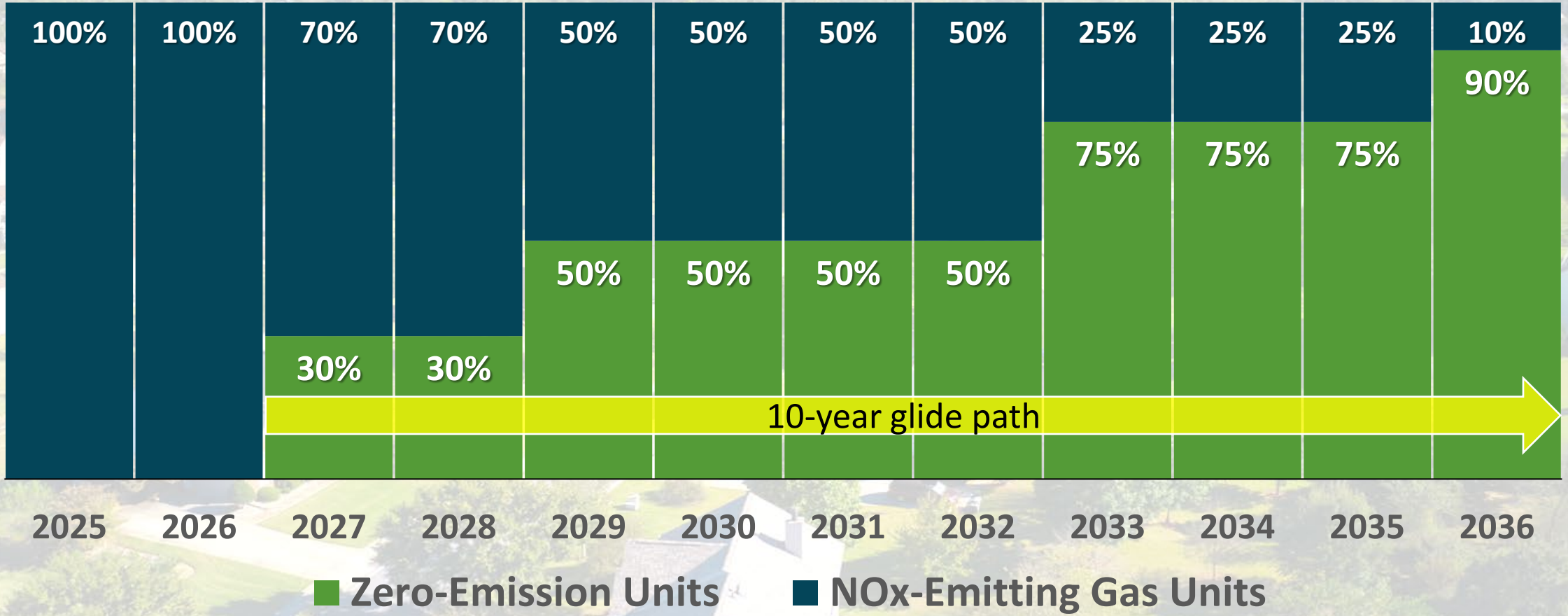
Initial Proposal: Zero-emission mandate beginning 2027 and expanded applicability

Revised Proposal: Allow for consumer choice and maintain residential-sized applicability with gradual implementation

Current rule proposal is not a mandate

Revised Proposal Includes Option to Sell Both NOx-Emitting Gas Units and Zero-Emission Units

Manufacturer Targets for Zero-Emission and NOx-Emitting Gas Units



Mitigation Fee on NOx-Emitting Gas Units

Proposed Mitigation Fees for NOx-Emitting Gas Units

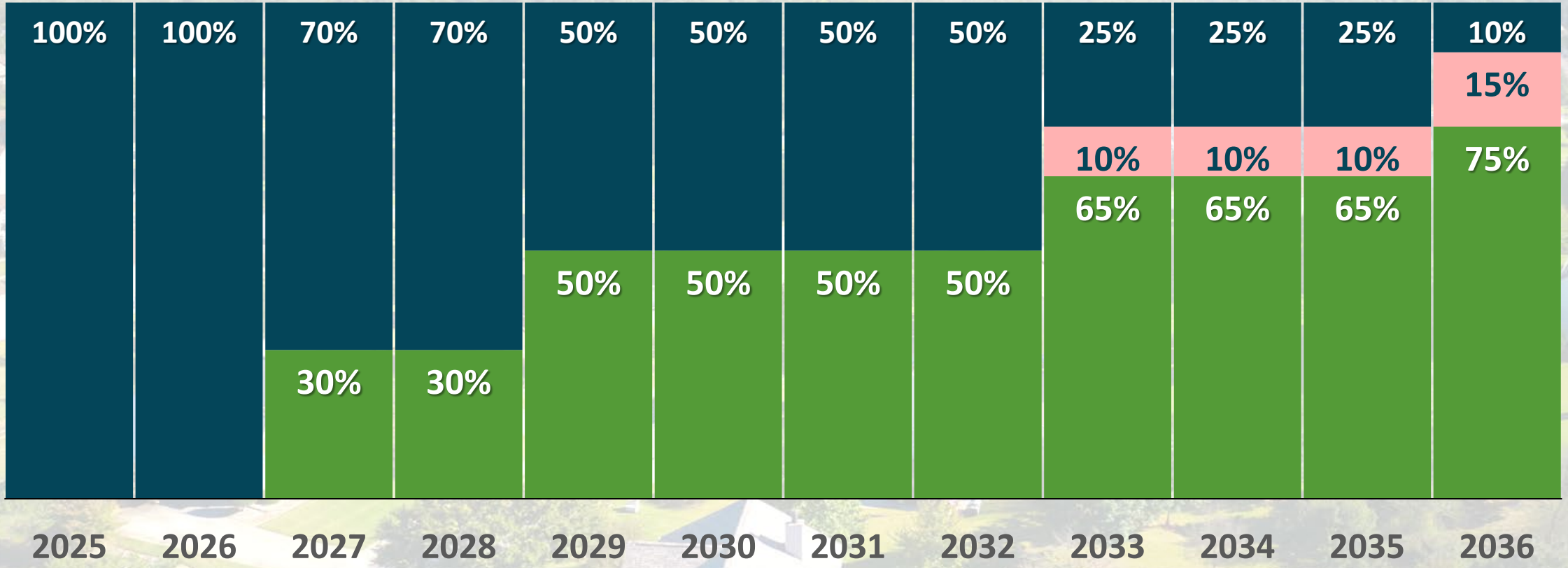
Units sold within targets	
$100 per furnace	$50 per water heater

Units sold over targets	
$500 for each furnace	$250 per water heater

Mitigation fees increase annually to reflect consumer price index

Mitigation fees seek to address affordability while funding GO ZERO

Example of How Manufacturers Can Sell NOx-Emitting Gas Units Above Targets



Mitigation fee over the target is about 2 to 10% of total project cost

Mitigation fee within the target is 1% of total project cost

How Mitigation Fee Affects NOx-Emitting Gas Unit Replacement Costs

Fees are upfront fees but translate to:

- $4.00/year for 25-year life of furnace
- $3.30/year for 15-year life of water heater

Fees can be offset with SoCalGas rebates:

- $84 - $1,500 for medium size furnaces
- $75 for water heaters

Mitigation Fee Structure

Comments are diverse

- Higher mitigation fees to encourage staying within targets
- Lower mitigation fees to address affordability
- Flat fee to ease manufacturer implementation

Proposal provides options

- Mitigation fees set at low level to address affordability
- Higher above sales target fee to encourage market transition
- Targets with flat fees would just maintain business as usual

Technology check-in will provide opportunity to assess mitigation fee levels

Comment Letters Received

Over 14,500 comments letters and emails as of May 30, 2025

Opposition Letters Cite:

Zero-emission appliance mandate

- Rules allow consumer choice, do not mandate transition to zero-emission units

Increased cost of NOx-emitting gas units

- Upfront mitigation fees equivalent to ~$3-4 per year for 15-25 years

Outdated or incomplete information

- Myths vs. Facts sheet distributed to over 17,000 emails

Support Letters Cite:

Necessity of NOx reductions

- Needed to meet air quality standards and protect public health

Need higher fees

- Strike balance between affordability and funding Go Zero incentives

Consumers Can Choose

Manufacturer targets and GO ZERO incentives encourage transition to zero-emission units

Proposed rules allow manufacturers to go above targets, with a higher mitigation fee

Affordability

- Under the Target Mitigation Fees No More than One Percent of Total Cost*
- SoCalGas Rebates for NOx-Emitting Gas Units Higher than Proposed Mitigation Fees
- GO ZERO and Other Incentives Available for Zero-Emission Units
- Zero-Emission Units will Become More Affordable with Further Market Penetration

* Unit and installation cost

Manufacturer Implementation

- All manufacturers previously implemented mitigation fee alternative compliance option
- All manufacturers sell both NOx-emitting gas units and zero-emission units
- Manufacturers ready to increase supply of zero-emission units to meet demand
- Staff will assess the implementation after the first compliance year

7 Space Heater Manufacturers

3 Water Heater Manufacturers

1 Sells Both

State and Local Utility Grid Readiness Planning

State agencies (e.g., CPUC, CEC) regulate/plan state power supply

CEC 2024 Integrated Energy Policy Report

Forecast demand includes increases from zero-emission building appliance regulations

Local utilities (e.g., LADWP, SCE) supply power

Local utilities ensure energy needs are captured

SCE recent study noted “combination of adoption of new equipment and sufficient planning horizons, SCE should be able to accommodate these impacts.”

10-year implementation glide path will ease impact

Cost Data Used for Analysis

Zero-Emission Project Costs

TECH Clean California real-world heat pump installations

Over 11,000 data points within region

NOx-Emitting Gas Unit Costs

E3 “Residential Building Electrification in California” for NOx-emitting appliance cost

Used State Data for Fuel Use

Natural gas usage based on California Energy Commission’s Residential Appliance Saturation Study

Used State Data for Future Gas and Electricity Rates

Future rates based on California Energy Commission’s Integrated Energy Policy Report

Cost-Effectiveness

Presented and discussed cost data during public working group meetings and adjusted assumptions based on stakeholder feedback

November 2023:
Presented cost-effectiveness methods, assumptions, and initial results

January 2024:
Presented affordability analysis

January/April/December 2024:
Presented three updates to cost-effectiveness based on stakeholder feedback

February 2025:
Presented new rule concept

March 2025:
Presented updates to cost-effectiveness to reflect 2024 costs and stakeholder feedback

April 2025:
Released Draft Socioeconomic Impact Assessment

- *BizFed comments in October 2024*
- *SoCalGas comments in October 2024 and April 2025*

Socioeconomic Impact Assessment Methodology

Regional Economic Modeling Inc. (REMI) model

- Founded in 1980 as a tool to test economic effects of policies before they are implemented
- Utilized for assessing job impacts and regional employment

BenMAP model

- Developed by the U.S. EPA to estimate the health and economic impacts of changes in air quality
- Utilized for analyzing health benefits

Socioeconomic team led by a Ph.D. level economist with extensive experience conducting economic analyses

Cost of Living Council Economic Report

Third-party economic analysis cites total costs of $8.9 billion annually between 2027 and 2040

- Assessment based on original mandate
- Up-front costs do not reflect real-world costs
- Uses worst-case outlier cost ($47,800) and applies to all homes
- Assumes all units are financed and applies a high 7% *real* interest rate (~10% nominal interest rate)
- Rejects use of less costly plug-in heat pump water heaters
- Fails to consider savings from fuel switching

Socioeconomic Impact Assessment

$174 million cost to **$191 million in cost savings** (average annual range) over forecast period

Projected Job Gains: 500 - 580 each year

Monetized health benefits of $25.43 billion (present value)

Health Benefits of PAR 1111 and PAR 1121

One of the largest NOx emission reductions for any rule project considered by the South Coast AQMD

Premature deaths avoided	Emergency room visits avoided	School loss days avoided	Asthma onset avoided
2,490	2,484	170,000	10,200

Technology Check-in Third Quarter 2028

Scheduled after the first year implementing the manufacturer compliance option

Assess if changes to target goals or mitigation fees needed

Staff Recommendations

Adopt the Resolution:

- Certifying Final Subsequent Environmental Assessment
- Amending Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired Furnaces
- Amending Rule 1121 – Reduction of NOx Emissions from Residential Type, Natural Gas-Fired Water Heaters

Back to Agenda

BOARD MEETING DATE: June 6, 2025 AGENDA NO. 29

PROPOSAL: Determine That Proposed Amended Rule 1171 – Solvent Cleaning Operations, Is Exempt from CEQA; and Amend Rule 1171

SYNOPSIS: Rule 1171 establishes VOC limits for commercial and industrial cleaning materials. The California Office of Environmental Health Hazard Assessment determined that two compounds, para-Chlorobenzotrifluoride (pCBtF) and *tert*-Butyl Acetate (t-BAc), have carcinogenic health effects. Both pCBtF and t-BAc are used in some solvent cleaning materials. Proposed Amended Rule 1171 (PAR 1171) includes a future effective prohibition for cleaning solvents formulated with pCBtF and t-BAc, allows for products in the supply chain to continue to be sold and used for specified periods of time, and includes alternative compliance options for certain cleaning activities. PAR 1171 also addresses the AB 617 South Los Angeles Community Emission Reduction Plan air quality objectives related to solvent cleaning materials used for the cleaning of automotive refinishing coating spray equipment by phasing out pCBtF and t-BAc.

COMMITTEE: Stationary Source, April 18, 2025, Reviewed

RECOMMENDED ACTIONS:
Adopt the attached Resolution:
1. Determining that Proposed Amended Rule 1171 – Solvent Cleaning Operations, is exempt from the requirements of the California Environmental Quality Act; and
2. Amending Rule 1171 – Solvent Cleaning Operations.

Wayne Nastri
Executive Officer

SR:MK:HF:SK:CB

Background

Rule 1171 – Solvent Cleaning Operations was adopted on August 2, 1991. It has been amended ten times, with the most recent amendment in 2009. Rule 1171 establishes requirements to reduce VOC emissions, toxic air contaminants, and stratospheric ozone-depleting compounds from the use of solvent cleaning materials that are used as part of a solvent cleaning operation at a business. The rule includes five primary categories of solvent cleaning activities with VOC limits and applies to any person who uses solvent materials in solvent cleaning operations during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas within South Coast AQMD. The rule also applies to all persons who store and dispose of solvent cleaning materials used in solvent cleaning operations, and all solvent suppliers who supply, sell, or offer for sale solvent cleaning materials for use in solvent cleaning operations within the South Coast AQMD.

To reduce the VOC emissions from solvent cleaning materials and activities, many cleaning solvent manufacturers have relied on the use of aqueous or water-based options or using solvents that are exempt from the definition of a VOC due to their low photochemical reactivity and, therefore, do not significantly contribute to the formation of ground-level ozone. In April 2017, the Stationary Source Committee recommended a precautionary approach when considering exempt compounds with a potential toxic endpoint and removing the exempt status for any compound that has an established toxic endpoint. In 2018 and 2020, respectively, the California Office of Environmental Health Hazard Assessment (OEHHA) determined that two exempt compounds, para-chlorobenzotrifluoride (pCBtF) and tert-butyl acetate (t-BAc), have carcinogenic toxic endpoints.

Proposed Amended Rule 1171 (PAR 1171) partially implements Control Measure CTS-01 – Further Emission Reductions from Coatings, Solvents, Adhesives, and Lubricants of the 2022 AQMP, which seeks VOC emission reduction where feasible while making the effort to eliminate the toxic impact of pCBtF and t-BAc used in coatings and solvents. Furthermore, during the development of the Assembly Bill 617 (AB 617) Community Emission Reduction Plan (CERP) for South Los Angeles (SLA), community members expressed concern about the impacts from autobody shops, many of which are located close to residents and can be clustered within the community. PAR 1171 addresses the SLA CERP air quality objectives related to solvent cleaning materials used for the cleaning of automotive refinishing coating spray equipment by phasing out pCBtF and t-BAc.

Proposed Amendments

The two primary amendments to PAR 1171 are: 1) phasing-out and prohibiting the use of pCBtF and t-BAc, and 2) addressing stakeholder concerns regarding the availability of certain aerosolized alcohol cleaning solvents needed to clean critical equipment at water and electricity distribution facilities.

Regarding phasing out pCBtF and t-BAc from cleaning solvents, industry stakeholders commented that pCBtF and t-BAc are not used extensively for solvent cleaning and viable alternatives are readily available; therefore, the rule includes a shorter timeline prior to the prohibition taking effect. The effective date for the prohibition will be January 1, 2026; meaning, no solvent cleaning materials containing pCBtF and t-BAc, that are manufactured after January 1, 2026, can be manufactured for use in South Coast AQMD. PAR 1171 allow products in the supply chain to be sold until July 1, 2027, and products at facilities to be used until July 1, 2028.

Stakeholders from the water and electricity distribution industry have expressed concerns about the ability to purchase aerosol isopropyl alcohol and denatured alcohol, the cleaning solvents specified by the equipment manufacturers for cleaning chemically sensitive equipment such as electrical circuit breaker components and UV disinfection equipment. To address these concerns, PAR 1171 will allow for the limited use of liquid alcohol cleaning materials, instead of being restricted to using aerosolized alcohol cleaning materials, for specific equipment used at electricity and water distribution facilities. The industry has relied on the aerosol exemption to clean specific equipment, but the aerosolized alcohol solvents are not always available. PAR 1171 would allow the limited use of liquid alcohols and include Product Weighted – Maximum Incremental Reactivity VOC limits, in grams of ozone produced per grams of VOC emitted (g O_3/g VOC), to ensure the cleaning solvents used do not result in more ozone generation than the aerosolized isopropyl and denatured alcohol cleaners currently used.

PAR 1171 also addresses stakeholders' concerns for cleaning energy-curing lamps and reflectors used in the printing industry. Solvent cleaning materials used to clean energy curable ink application equipment have been subject to a 100 g/L VOC limit since 2010; however, facilities have indicated that use of these cleaning materials resulted in residue being left on the energy curing lamps and reflectors. The equipment manufacturers recommend that energy-curing lamps and reflectors be cleaned with a cloth and an alcohol-based cleaner. To allow this cleaning activity, PAR 1171 includes an 800 g/L VOC limit for the cleaning of energy-curing lamps and reflectors. This cleaning activity is infrequent and uses a small quantity of solvent when compared to the cleaning of other ink application equipment used in the printing industry.

Another printing industry concern that is addressed pertains to the cleaning of energy curable, lithographic, and screen printing equipment, which currently requires solvent cleaning materials to meet a 100 g/L VOC limit. This limit has been in place for over 15 years; however, some facilities requested an equivalent Maximum Incremental Reactivity limit be established to allow for formulation flexibility and address shortcomings of compliant solvent cleaning materials. PAR 1171 includes an alternative Product Weighted – Maximum Incremental Reactivity VOC limit of 0.70 g O_3/g VOC for energy curable, lithographic, and screen printing solvent cleaning activities.

The proposed amendment also includes another alternative Product Weighted – Maximum Incremental Reactivity VOC limit of 0.38 g O_3/g VOC for *any* solvent cleaning activity. That limit is equivalent to the general 25 g/L VOC limit and is proposed to allow for some formulation flexibility.

Other proposed changes include lowering the usage limits for non-compliant aerosol solvent cleaning products, adding new definitions, removing outdated rule provisions, and updating rule provisions for clarity.

Public Process
PAR 1171 was developed through a public process. Staff held three Working Group Meetings on: January 16, 2024, May 29, 2024, and February 26, 2025. The Working Group Meetings included a variety of stakeholders such as solvent manufacturers and affected facilities including public water and electricity utilities and industry associations, public agencies, and environmental and community groups. In addition, staff held a Public Workshop on March 28, 2025. As part of this rule development process, staff also met with individual stakeholders and conducted site visits at facilities subject to this rule.

Emission Reductions
PAR 1171 will phase out the use of two toxic exempt solvents, pCBtF and t-BAc, without increasing VOC emissions. Staff evaluated if any VOC limits for cleaning materials could be lowered, but did not identify any lower-VOC cleaning materials that could replace existing cleaning materials. As a result, all of the VOC limits will remain the same other than the carve out that allows for the use of alcohol to clean energy curing lamps and reflectors used in energy curable printing systems. The usage will be small and is not anticipated to increase VOC emissions. PAR 1171 also allows for the use of liquid alcohol for cleaning at the utilities; however, this change will not result in an increase in emissions as the cleaning is currently performed using the same solvent, but in aerosol form. Lastly, the usage allowance for aerosol solvent cleaning products that exceed the Rule 1171 VOC limits have been reduced for solvent cleaning activities other than automotive throttle body cleaning performed at automotive repair facilities.

Key Issues
Throughout the rule development process, staff worked with stakeholders to address, clarify, and resolve key issues, but two key issues remain. A stakeholder opposes the addition of new requirements for recordkeeping, reporting, and labeling provisions and stakeholders have requested an exemption for liquid alcohol usage limits proposed for cleaning UV light disinfection equipment at water agencies.

Opposition for New Recordkeeping, Reporting, and Labeling Requirements
An industry stakeholder is opposed to recordkeeping, reporting and labeling requirements, and claims that they are too burdensome, unnecessary, and a disincentive to use low-VOC materials. Most of the recordkeeping requirements in PAR 1171 are

not new, the rule was reorganized for clarity and the recordkeeping provisions were compiled into a new recordkeeping subdivision. The recordkeeping requirements rely on compliance with Rule 109 – Recordkeeping for Volatile Organic Compound Emissions requirements which allow for minimal recordkeeping for super-compliant VOC coatings, defined as coatings containing 50 grams or less of VOC per liter (g/L) of material, to encourage the sale and use of low VOC products. Minimal recordkeeping is crucial to demonstrate compliance with permit conditions and rule requirements. Furthermore, U.S. EPA commented in recent rulemakings that the lack of consistent recordkeeping for all sources is a potential SIP deficiency subject to disapproval. In addition, recordkeeping requirements are necessary for all solvent cleaning materials including low-VOC cleaners because proper recordkeeping provides compliance information to ensure operators are using VOC compliant solvent cleaning materials and are operating within usage limits provided in the rule and permit conditions. In response to concerns with any new recordkeeping, some provisions were removed that would not have already been required under Rule 109 or for rule compliance purposes.

PAR 1171 proposes minor additions to recordkeeping requirements, including repair records for remote reservoir cleaning systems and basic recordkeeping requirements for solvent cleaning material suppliers. Rule 1171 currently requires that remote reservoir cleaning systems be repaired within one calendar day if any liquid leaks, visible tears, or cracks are detected. The added recordkeeping requirement ensures that this requirement is enforceable. PAR 1171 does not propose any new reporting requirements. The added labeling requirement in PAR 1171 is only applicable to solvent cleaning material manufacturers that opt to comply with the proposed alternative Product Weighted – Maximum Incremental Reactivity VOC limits.

Exemption to Clean UV Light Disinfection Equipment
Public water agencies requested the proposed usage limits and ability to use liquid alcohol to clean UV light disinfection equipment. Staff collaborated with multiple large public water agencies, including the Los Angeles Department of Water and Power (LADWP) and Metropolitan Water District (MWD), to reach a consensus on feasible usage limits and Product Weighted – Maximum Incremental Reactivity-based VOC limits that allow the use of recommended cleaning solvents. Staff does not support a total exemption, as that could lead to potential backsliding of emissions.

California Environmental Quality Act
Pursuant to CEQA Guidelines Sections 15002(k) and 15061, the proposed project (PAR 1171) is exempt from CEQA pursuant to CEQA Guidelines Sections 15061(b)(3) and 15308. Further, there is no substantial evidence indicating that the exceptions set forth in CEQA Guidelines Section 15300.2 apply to the proposed project. A Notice of Exemption has been prepared pursuant to CEQA Guidelines Section 15062, and if the proposed project is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties, and with the State Clearinghouse of the Governor's Office of Planning and Research.

Socioeconomic Impact Assessment
The proposed amendments to Rule 1171 to phase out the use of pCBtF and t-BAc will not result in adverse socioeconomic impacts since there are existing cleaning materials that do not include these toxic solvents and will not require reformulations. The proposed amendments will not significantly affect air quality or emission limitations as there are no decreases in VOC limits, and the one small carve out for a higher VOC limit is to clean energy curable lamps and reflectors that do not require frequent cleaning and are in a small area. Therefore, a socioeconomic impact assessment is not required by Health and Safety Code Sections 40440.8 and 40728.5.

AQMP and Legal Mandates
Pursuant to Health and Safety Code Section 40460(a), South Coast AQMD is required to adopt an AQMP demonstrating compliance with all federal regulations and standards. South Coast AQMD is required to adopt rules and regulations that carry out the objectives of the AQMP. PAR 1171 partially implements the 2022 AQMP Control Measure CTS-01 by not increasing VOC emissions while phasing out pCBtF and t-BAc and achieves the objectives set forth by the AB 617 CERP for the SLA community.

Resource Impacts
Existing staff resources are adequate to implement the proposed amended rule. PAR 1171 includes prohibition and phase out timelines for pCBtF and t-BAc without changing current VOC limits; therefore, the rule amendment is not anticipated to impact existing permits.

Attachments
A. Summary of Proposal
B. Key Issues and Responses
C. Rule Development Process
D. Key Contacts List
E. Resolution
F. PAR 1171
G. Final Staff Report
H. Notice of Exemption from CEQA
I. Board Presentation

ATTACHMENT A

SUMMARY OF PROPOSAL

Proposed Amended Rule 1171 – Solvent Cleaning Operations

Purpose and Applicability

- Separates "Purpose and "Applicability" into two subdivisions to standardize rule structure.

Phase out of para-chlorobenzotrifluoride (pCBtF) and *tert*-butyl acetate (t-BAc):

Two exempt compounds have been determined to have toxic endpoints. PAR 1171 proposes to phase out those solvents as soon as practicable to reduce toxic exposure.

pCBtF and t-BAc Prohibition Schedule

- t-BAc was not identified in any solvent cleaning material formulations.
- Limited use of pCBtF was identified, commercially available non-pCBtF alternatives readily available.
- PAR 1171 transitions away from both solvents rapidly:
  - Prohibition effective date: January 1, 2026;
  - Sell-through end date: July 1, 2027;
  - Use-through end date: July 1, 2028.

Emission Limits

- VOC Content Limit for Energy Curable Printing Lamps and Reflectors:
  - Establishes VOC limit consistent with manufacturer cleaning recommendations.
- Alternative Usage Limits for Electricity and Water Equipment:
  - Establishes annual solvent cleaning material usage limits for electricity and water utility facilities based on current operations.
- Alternative Usage Limits for Aerosol Cleaning:
  - Establishes monthly usage limits for facilities conducting specific solvent cleaning activities using aerosols.
- Alternative Product Weighted – Maximum Incremental Reactivity VOC Limits
  - Establishes alternative Product Weighted – Maximum Incremental Reactivity VOC limits to maintain ozone forming impact of the cleaning solvent used at electricity and water utility facilities at current levels.

Monitoring, Recordkeeping, and Reporting Requirements

- Establishes requirements for facilities or operators that use remote reservoir cleaners to maintain records of any repair of leaks, visible tears, or cracks of the remote reservoir.

Proposed Amended Rule 1171 – Solvent Cleaning Operations
• Establishes labeling requirements for solvent manufacturers opting to comply with the alternative Product Weighted – Maximum Incremental Reactivity VOC limits VOC limit. <u>Exemptions</u> • Clarifies that cleaning with aerosol products that comply with the VOC limits in Table 1 are exempt from the prohibition from atomizing solvent cleaners. • Exempts specific solvent cleaning activities conducted at water and electricity utility facilities from the prohibition on atomizing solvent cleaners. • Exempts the use of individually wrapped, saturated towelettes, during cable splicing activity for high voltage electrical cables.

ATTACHMENT B

KEY ISSUES AND RESPONSES

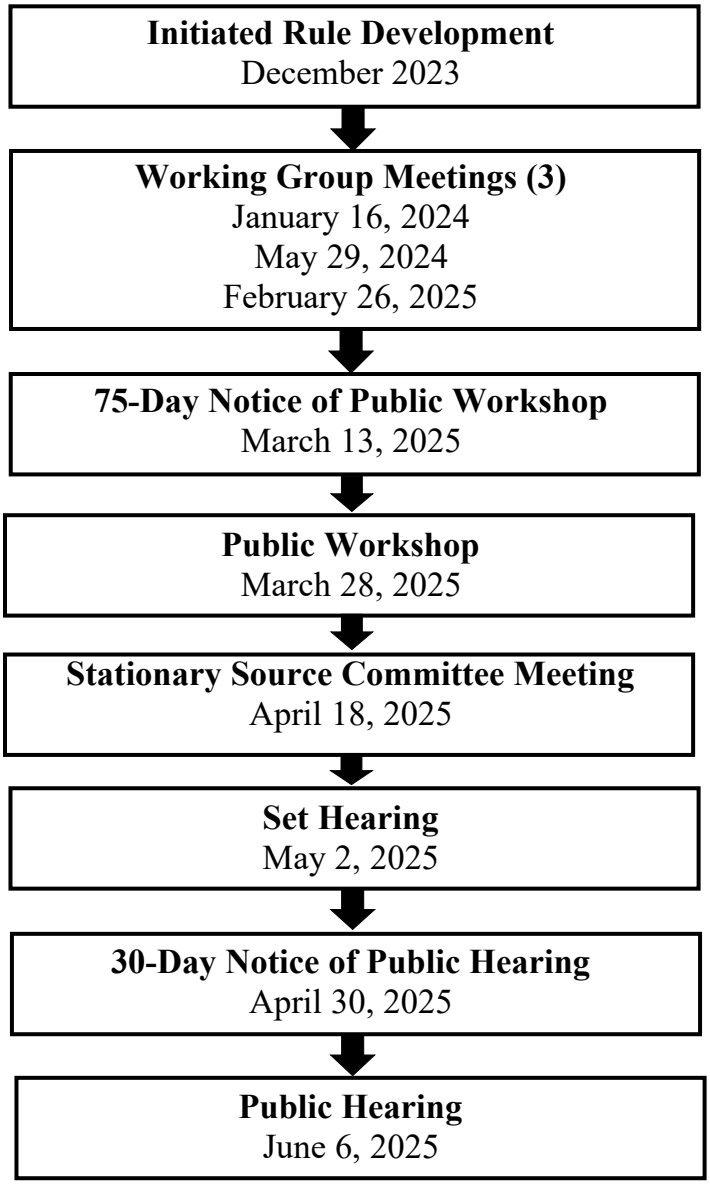
Proposed Amended Rule 1171 – Solvent Cleaning Operations
Throughout the rule development process, staff worked with stakeholders to address and resolve key issues. There are two remaining key issues: 1) A stakeholder opposes the addition of new requirements for recordkeeping, reporting and labeling provisions; 2) stakeholders have requested an exemption for liquid alcohol usage limits proposed for cleaning UV light disinfection equipment at water agencies. PAR 1171 recordkeeping requirements rely on compliance with Rule 109 – Recordkeeping for Volatile Organic Compound Emissions requirements which allow for minimal recordkeeping for super-compliant VOC coatings, defined as coatings containing 50 grams or less of VOC per liter (g/L) of material, to encourage the sale and use of low VOC products. Minimal recordkeeping is needed to demonstrate compliance with permit conditions and rule requirements. Furthermore, U.S. EPA commented in recent rulemakings that the lack of consistent recordkeeping for all sources is a potential SIP deficiency subject to disapproval. In addition, recordkeeping requirements are necessary for all solvent cleaning materials including low-VOC cleaners because proper recordkeeping provides compliance information to ensure operators are using VOC compliant solvent cleaning materials and are operating within usage limits provided in the rule and permit conditions. In response to concerns with any new recordkeeping, some provisions were removed that would not have already been required under Rule 109 or for rule compliance purposes. PAR 1171 proposes minor additions to recordkeeping requirements, including repair records for remote reservoir cleaning systems and basic recordkeeping requirements for solvent cleaning material suppliers. Rule 1171 currently requires that remote reservoir cleaning systems be repaired within one calendar day if any liquid leaks, visible tears or cracks are detected. The added recordkeeping requirement ensures that this requirement is enforceable. PAR 1171 does not propose any new reporting requirements. The added labeling requirement in PAR 1171 is only applicable to solvent cleaning material manufacturers that opt to comply with the proposed alternative Product Weighted – Maximum Incremental Reactivity VOC limits.

Public water agencies requested the proposed usage limits and ability to use liquid alcohol to clean UV light disinfection equipment. Staff collaborated with multiple large public water agencies, including the Los Angeles Department of Water and Power (LADWP) and Metropolitan Water District (MWD), to reach a consensus on feasible usage limits and Product Weighted – Maximum Incremental Reactivity-based VOC limits that allow the use of recommended cleaning solvents. Staff does not support a total exemption, as that could lead to potential backsliding of emissions.

ATTACHMENT C

RULE DEVELOPMENT PROCESS

Proposed Amended Rule 1171 –
Solvent Cleaning Operations



Eighteen (18) months spent in rule development
One (1) Public Workshop
One (1) Stationary Source Committee Meeting
Three (3) Working Group Meetings
Ten (10) Stakeholder Meetings
Three (3) Site Visits

ATTACHMENT D

KEY CONTACTS LIST

Proposed Amended Rule 1171 –
Solvent Cleaning Operations

The Boeing Company

California Council for Environmental and Economic Balance (CCEEB)

Clean Water SoCal

Communities for a Better Environment (CBE)

Construction Industry Air Quality Coalition (CIAQC)

Eastern Municipal Water District (EMWD)

Katy Wolf, Institute for Research and Technical Assistance

Household & Commercial Products Association (HCPA)

Independent Lubricant Manufacturers Association (ILMA)

International Ultraviolet Association (IUVA)

Los Angeles Department of Water and Power (LADWP)

Los Angeles Sanitation District (LASD)

Metropolitan Water District (MWD)

Printing United Alliance

RadTech International

Raymond Regulatory Resources (3R), LLC

Safety-Kleen

Southern California Edison (SCE)

W.M. Barr

ATTACHMENT E

RESOLUTION NO. 25-_____

A Resolution of the Governing Board of the South Coast Air Quality Management District (South Coast AQMD) determining that Proposed Amended Rule 1171 – Solvent Cleaning Operations, is exempt from the requirements of the California Environmental Quality Act (CEQA).

A Resolution of the South Coast AQMD Governing Board amending Rule 1171 – Solvent Cleaning Operations.

WHEREAS, the South Coast AQMD Governing Board finds and determines that Proposed Amended Rule 1171 is considered a "project" as defined by CEQA; and

WHEREAS, the South Coast AQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l), and has conducted a CEQA review and analysis of the proposed project pursuant to such program (South Coast AQMD Rule 110); and

WHEREAS, the South Coast AQMD Governing Board finds and determines that after conducting a review of the proposed project in accordance with CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA, and CEQA Guidelines Section 15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA, that Proposed Amended Rule 1171 is exempt from CEQA; and

WHEREAS, the South Coast AQMD Governing Board finds and determines that, Proposed Amended Rule 1171 is not expected to result in a change in VOC emissions relative to baseline conditions, and there are commercially available alternative compliant formulations that do not contain para-chlorobenzotrifluoride (pCBtF) and *tert*-butyl acetate (t-BAc) such that the sell-through and use-through provisions provide sufficient time to find suitable replacements which will prevent stranded assets and the generation of waste; therefore, it can be seen with certainty that the proposed project would not cause a significant adverse effect on the environment and as such, is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption; and

WHEREAS, the South Coast AQMD Governing Board finds and determines that the proposed project is also categorically exempt from CEQA pursuant to CEQA Guidelines Section 15308 – Actions by Regulatory Agencies for Protection of the Environment, because Proposed Amended Rule 1171 is designed to further protect or enhance the environment by reducing the potential exposure to toxic chemicals; and

WHEREAS, the South Coast AQMD Governing Board has determined that there is no substantial evidence indicating that any of the exceptions set forth in CEQA Guidelines Section 15300.2 – Exceptions, apply to the proposed project; and

WHEREAS, the South Coast AQMD staff has prepared a Notice of Exemption for the proposed project, that is completed in compliance with CEQA Guidelines Section 15062 – Notice of Exemption; and

WHEREAS, Proposed Amended Rule 1171 and supporting documentation, including but not limited to, the Notice of Exemption and Final Staff Report, were presented to the South Coast AQMD Governing Board and the South Coast AQMD Governing Board has reviewed and considered this information, as well as has taken and considered staff testimony and public comment prior to approving the project; and

WHEREAS, the South Coast AQMD Governing Board finds and determines, taking into consideration the factors in Section (d)(4)(D) of the Governing Board Procedures (codified as Section 30.5(4)(D)(i) of the Administrative Code), that the modifications to Proposed Amended Rule 1171 since the Notice of Public Hearing was published are clarifications that meet the same air quality objective and are not so substantial as to significantly affect the meaning of Proposed Amended Rule 1171 within the meaning of Health and Safety Code Section 40726 because: 1) the removal of subparagraph (g)(2)(B) "Names and address of the supplier for each Solvent Cleaner used" is not necessary since the information can be determined based on the other records that the facility is required to keep; 2) the amended sell through and use through dates in paragraph (f)(4) from "January 1, 2027" to "July 1, 2027" and "January 1, 2028" to "July 1, 2028", respectively, will provide some additional time for solvent cleaner suppliers to sell and facilities to use any remaining solvent cleaning materials containing pCBtF and t-BAc; 3) the restructuring of paragraph (e)(5) was made for clarification; 5) the addition of energy curable in subparagraph (e)(5)(A) was to provide compliance flexibility for printing operations and will not increase VOC emissions; 6) the addition of subparagraph (h)(1)(D) "ASTM Standard Test Method E 1868 – Standard Test Method for Loss-On-Drying by Thermogravimetry" is to provide additional flexibility and accuracy when determining the VOC content of certain solvent cleaning materials; 7) the change from "letter press" to "letterpress" throughout the rule was made for consistency; 8) the change from "person" to "Person" throughout the rule was to correct a typo; 9) the deletion of "and" from "Cleaning of Ink Application Equipment" Category in Table 1 of paragraph (d)(1) was to correct a typo; 10) the change from "facility" to "Facility" throughout the rule was to correct a typo; and 11) the addition of "(e)(5)" to subparagraph (g)(2)(D) was to correct a reference; and: (a) the changes do not impact emission reductions, (b) the changes do not affect the number or type of sources regulated by the rule, (c) the changes are consistent with the information contained in the Notice of Public Hearing, and (d) the consideration of the range of CEQA alternatives is not applicable because the proposed project is exempt from CEQA; and

WHEREAS, Proposed Amended Rule 1171 will be submitted for inclusion into the State Implementation Plan; and

WHEREAS, Health and Safety Code Section 40727 requires that prior to adopting, amending, or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing, in the rulemaking record, and in the Final Staff Report; and

WHEREAS, the South Coast AQMD Governing Board has determined that a need exists to amend Rule 1171 to prohibit the use of two solvents from solvent cleaning materials, pCBtF and t-BAc, that have been determined to have toxic endpoints, including potential carcinogenicity, by the Office of Environmental Health Hazard Assessment (OEHHA) and to partially implement the 2022 AQMP Control Measure CTS-01; and

WHEREAS, the South Coast AQMD Governing Board obtains its authority to adopt, amend or repeal rules and regulations from Health and Safety Code Sections 39002, 40000, 40001, 40440, 40441, 40702, 40725 through 40728.5, 40920.6, and 41508 as well as the federal Clean Air Act; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1171 is written or displayed so that its meaning can be easily understood by the persons directly affected by it; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1171 is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1171 does not impose the same requirements as any existing state or federal regulations, and the proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD; and

WHEREAS, the South Coast AQMD Governing Board, in amending Rule 1171, references the following statutes which the South Coast AQMD hereby implements, interprets or makes specific: Health and Safety Code Sections 39002, 40000, 40001, 40406, 40702, 40440(a), 40725 through 40728.5, 40920.6, 41508 and federal Clean Air Act Sections 110, 172, and 182(e); and

WHEREAS, the South Coast AQMD Governing Board determines that Proposed Amended Rule 1171 does not significantly affect air quality or emission limitations; therefore, a socioeconomic impact assessment pursuant to Health and Safety Code Sections 40440.8 and 40728.5 is not required; and

WHEREAS, Health and Safety Code Section 40727.2 requires the South Coast AQMD to prepare a written analysis of existing federal air pollution control requirements applicable to the same source type being regulated whenever it adopts, or amends a rule, and that the South Coast AQMD's comparative analysis of Proposed Amended Rule 1171 is included in the Final Staff Report; and

WHEREAS, the South Coast AQMD staff conducted a Public Workshop regarding Proposed Amended Rule 1171 on March 28, 2025; and

WHEREAS, the Public Hearing has been properly noticed in accordance with the provisions of Health and Safety Code Sections 40725 and 40440.5; and

WHEREAS, the South Coast AQMD Governing Board has held a Public Hearing in accordance with all provisions of state and federal law; and

WHEREAS, the South Coast AQMD Governing Board specifies the Planning, Rule Development and Implementation Manager overseeing the development of Proposed Amended Rule 1171 as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of this proposed project is based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California; and

NOW, THEREFORE, BE IT RESOLVED, that the South Coast AQMD Governing Board does hereby determine, pursuant to the authority granted by law, that the proposed project is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption. The South Coast AQMD Governing Board does also hereby determine, pursuant to the authority granted by law, that the proposed project is categorically exempt from CEQA pursuant to CEQA Guidelines Section 15308 – Actions by Regulatory Agencies for Protection of the Environment. No exceptions to the application of the categorical exemption as set forth in CEQA Guidelines Section 15300.2 – Exceptions, apply to the proposed project. This information was presented to the South Coast AQMD Governing Board, whose members exercised their independent judgement and reviewed, considered, and approved the information therein prior to acting on the proposed project; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board does hereby adopt, pursuant to the authority granted by law, Proposed Amended Rule 1171 as set forth in the attached, and incorporated herein by reference; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board requests that Proposed Amended Rule 1171 be submitted for inclusion in the State Implementation Plan; and

BE IT FURTHER RESOLVED, that the Executive Officer is hereby directed to forward a copy of this Resolution and Proposed Amended Rule 1171 to the

California Air Resources Board for approval and subsequent submittal to the United States Environmental Protection Agency for inclusion into the State Implementation Plan.

DATE: _____ _____

CLERK OF THE BOARDS

ATTACHMENT F

(Adopted August 2, 1991)(Amended May 12, 1995)(Amended September 13, 1996)
(Amended June 13, 1997)(Amended October 8, 1999)(Amended August 2, 2002)
(Amended November 7, 2003)(Amended May 6, 2005)(Amended July 14, 2006)
(Amended February 1, 2008)(Amended May 1, 2009)(Amended [*Date of Rule Adoption*])

[*RULE INDEX TO BE ADDED AFTER RULE ADOPTION*]

PROPOSED AMENDED RULE 1171. SOLVENT CLEANING OPERATIONS

(a) Purpose ~~and Applicability~~

The purpose of this rule is to reduce emissions of ~~volatile organic compounds~~Volatile Organic Compounds (VOCs), toxic air contaminants, and stratospheric ozone-depleting compounds, ~~or~~and global-warming compounds from the use, storage and disposal of ~~solvent cleaning materials~~Solvent Cleaning Materials in ~~solvent cleaning operations and activities~~Solvent Cleaning Operations or Solvent Cleaning Activities. ~~A solvent cleaning operation is solvent cleaning conducted as part of a business. This rule applies to: all persons who use these solvent materials in solvent cleaning operations during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas; all persons who store and dispose of these materials used in solvent cleaning operations; and all solvent suppliers who supply, sell, or offer for sale solvent cleaning materials for use in solvent cleaning operations.~~

(b) Applicability

This rule is applicable to any Person who uses Solvent Cleaning Materials in Solvent Cleaning Operations or Solvent Cleaning Activities during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas as part of a business or public service within the South Coast AQMD. The rule shall also apply to all Persons who store and dispose of Solvent Cleaning Materials used in Solvent Cleaning Activities; and all Solvent Cleaner Suppliers who supply, sell, or offer for sale Solvent Cleaning Materials for use in Solvent Cleaning Operations or Solvent Cleaning Activities within the South Coast AQMD.

~~(b)~~(c) Definitions

~~For the purpose of this rule, the following definitions shall apply:~~

(1) AEROSOL PRODUCT ~~is~~means a hand-held, non-refillable container ~~which~~that expels pressurized product by means of a propellant-induced force. Aerosol Product does not include pump spray devices, which are

packaging systems in which the product ingredients, or Solvent Cleaning Materials, are expelled only while a pumping action is applied to a button, trigger, or other actuator. Ingredients in a pump spray device are not under pressure.

(2) APPLICATION EQUIPMENT ~~is a~~means any device used to apply adhesive, coating, ink, or polyester resin materials.

(3) APPLICATION LINE ~~is~~means that portion of a motor vehicle assembly production line ~~which~~that applies surface and other coatings to motor vehicle bodies, hoods, fenders, cargo boxes, doors, and grill opening panels.

~~(4) ARCHITECTURAL COATING is any coating applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs.~~

(4) AUTOMOTIVE PART means any individual mechanical component that that is part of a vehicle that allows the vehicle to operate, including but not limited to, engine components, transmission components, suspension components, brake components, and intake system components.

(5) BATTERY TERMINAL means the electrical contact or component of a battery that connects the battery to a charger, device, other battery, or external electrical circuit and transfers energy.

(~~5~~6) BLANKET ~~is~~means a synthetic rubber mat used in offset-lithography to transfer or "offset" an image from a planographic printing plate to the paper or other substrate.

(~~6~~7) BLANKET WASH ~~is~~means a ~~solvent~~Solvent Cleaning Material used to remove ink from the ~~blanket~~ Blanket of a ~~press~~Press.

(8) CHLORINATION SYSTEM means a chlorine feed system used for the oxidation of microbiological material, organic compounds or inorganic compounds during the water or wastewater treatment process. Chlorine can be in the form of gaseous chlorine, sodium hypochlorite, or calcium hypochlorite.

~~(7) CLEAN AIR SOLVENT is as defined in Rule 102.~~

~~(8) CLEAN AIR SOLVENT CERTIFICATE is a certificate issued by the District to a manufacturer, distributor, or person for a specific product or class of products that meets the criteria for a Clean Air Solvent.~~

(9) CURED COATING, CURED INK, OR CURED ADHESIVE ~~is~~means a coating, ink, or adhesive, ~~which~~that is dry to the touch, and that has

undergone a chemical or physical process to achieve its final state and does not release volatile components under normal use conditions.

(10) ELECTRICAL APPARATUS COMPONENT~~S~~ ~~is~~means an internal component such as wires, windings, stators, rotors, magnets, contacts, relays, energizers, and connections in an apparatus that generates or transmits electrical energy including, but not limited to: alternators, generators, transformers, electric motors, cables, and circuit breakers, except for the actual cabinet in which the components are housed. ~~-~~Electrical Apparatus Components also include ~~Electrical -~~electrical components of graphic arts application equipment and Hot-line Tools~~hot-line tools are also included in this category~~.

(11) ELECTRICITY DISTRIBUTION UTILITY means one of several organizations that control energy transmission and distribution in California, including, but are not limited to, the Pacific Gas and Electric Company, the San Diego Gas and Electric Company, Southern California Edison, Los Angeles Department of Water and Power, the Imperial Irrigation District, and the Sacramento Municipal Utility District.

(12) ELECTRICITY GENERATING FACILITY means

(A) A ~~facility -~~Facility that is owned or operated by an investor-owned electric utility or a public-owned electric utility and has one or more electric generating units; or

(B) A ~~facility -~~Facility that has electric generating units for onsite use and or distribution in the state or local electrical grid system.

Electricity Generating Facility does not include ~~facilities~~ Facilities subject to Rule 1109.1 – Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations.

~~(11) ELECTRON BEAM INK is an ink that dries by chemical reaction caused by high energy electrons.~~

(~~12~~13) ELECTRONIC COMPONENT ~~is~~means ~~that portion~~an individual part of an assembly, including circuit card assemblies, printed wire assemblies, printed circuit boards, soldered joints, ground wires, bus bars, and other electrical fixtures, except for the actual cabinet in which the components are housed, that collectively perform functions essential for the operation of an electronic device.

(14) EMISSION CONTROL SYSTEM means any combination of capture systems and control devices used to reduce VOC emissions.

(15) ENERGY CURABLE INK means an ink that dries upon exposure to visible-light, ultra-violet light, or an electron beam.

(~~13~~16) EXEMPT COMPOUND is as defined in Rule 102 – Definition of Terms (Rule 102).

(~~14~~17) FACILITY means a business, ~~or~~ businesses, or public service engaged in ~~solvent cleaning operations~~Solvent Cleaning Operations and Solvent Cleaning Activities ~~which~~that are owned or operated by the same ~~*person*~~ Person or ~~*persons*~~ Persons and are located on the same or contiguous parcels.

(~~15~~18) FLEXOGRAPHIC PRINTING ~~is~~means the printing method in which the image area is raised relative to the non-image area and utilizes flexible rubber or other elastomeric plates and rapid drying liquid inks.

(~~16~~19) ~~FULL SERVICE SOLVENT PROVIDER is any person that provides both solvents and services to a solvent cleaning operation. Such services may include, but are not limited to, one or more of the following: filling or refilling solvent cleaning equipment with solvent, collection or pick up of customer's solvent-related waste stream, or cleaning equipment sales or rental.~~

(~~17~~20) GENERAL WORK SURFACE ~~is~~means an area of a medical device or pharmaceutical ~~*facility*~~ Facility where solvent cleaning is performed on work surfaces including, but not limited to, tables, countertops, and laboratory benches. General ~~work surface~~ Work Surface shall not include items defined under ~~janitorial cleaning~~Janitorial Cleaning.

(~~18~~21) GRAMS OF VOC PER LITER OF MATERIAL (ACTUAL VOC)~~,~~ ~~is~~means the weight of VOC per volume of material and can be calculated by the following equation:

Grams of VOC per liter of material =

$$\frac{W_{sv} - W_w - W_{\text{es}ex}}{V_m}$$

Where: ~~W_s~~W_v = Weight of volatile compounds in gram-s (includes water, Exempt Compounds, and VOCs)

W_w	=	Weight of water in grams
~~W_{es}~~W_{ex}	=	Weight of ~~exempt compounds~~Exempt Compounds in grams
V_m	=	Volume of material in liters

(~~19~~22) GRAPHIC ARTS ~~are~~means all gravure, letterpress, flexographic, and lithographic printing processes.

(~~20~~23) GRAVURE PRINTING ~~is~~means an intaglio process, which is a technique that involves etching or engraving wells into a roll or cylinder to create an image, ~~in which the~~ and then ink is carried in ~~minute~~the ~~etched or engraved~~ wells ~~on a roll or cylinder~~and transferred to the printing substrate. The excess ink is removed from the surface by a doctor blade.

(~~21~~24) HIGH PRECISION OPTIC ~~is~~means an optical element used in an electro-optical device and is designed to sense, detect, or transmit light energy, including specific wavelengths of light energy and changes in light energy levels.

(~~22~~25) HOT-LINE TOOL ~~is~~means a specialized tool used primarily on the transmission systems, sub-transmission systems, and distribution systems for replacing and repairing circuit components or for other types of work with electrically energized circuits.

(26) INK APPLICATION EQUIPMENT means any tool, machine, system, or component of any tool, machine, or system used to apply ink to a substrate.

(~~23~~27) INKJET PRINTING ~~is~~means a printing process in which images are formed by the precise placement of small (picoliter-sized) droplets of ink ~~fired~~ejected at high ~~speeds~~velocity from the nozzle(s) of computer-controlled printheads.

(~~24~~28) JANITORIAL CLEANING ~~is~~means the cleaning of building or ~~*facility*~~ Facility components including, but not limited to, floors, ceilings, walls, windows, doors, stairs, bathrooms, furnishings, and exterior surfaces of office equipment, and excludes the cleaning of work areas where manufacturing or repair activity is performed.

(~~25~~29) LETTERPRESS PRINTING ~~is~~means the printing method in which the image area is raised relative to the non-image area and the ink is transferred to the paper directly from the image surface.

(~~26~~30) LIQUID LEAK ~~is the~~means a visible liquid solvent leak from ~~the~~a container at a rate of more than three (3) drops per minute or a visible liquid mist.

(~~27~~31) LIQUID-TIGHT FOOD CONTAINER ~~is~~means a paperboard container that can hold liquid food and food products without leaking even when it is held upside-down.

(~~28~~32) LITHOGRAPHIC PRINTING ~~is~~means a plane-~~o~~-graphic printmaking method in which the image and non-image areas are on the same plane.

(~~29~~33) MAINTENANCE CLEANING ~~is~~means a ~~solvent cleaning operation or activity~~Solvent Cleaning Activity carried out to keep clean general work areas where manufacturing or repair activity is performed, and to clean tools, machinery, molds, forms, jigs, and equipment. ~~-~~This definition does not include the cleaning of coatings, adhesives, or ink application equipment.

(~~30~~34) MANUFACTURING PROCESS ~~is~~means the process of making goods or articles by hand or by machinery.

(35) MAXIMUM INCREMENTAL REACTIVITY (MIR) means the measure of the photochemical reactivity of a VOC, which estimates the weight of ozone produced from a weight of VOC expressed as gram of ozone per gram of VOC (g O3/g VOC). MIR values for individual VOCs are specified in Sections 94700 and 94701, Title17, California Code of Regulations.

(~~31~~36) MEDICAL DEVICE ~~is~~means an instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent, or other similar article, including any component or accessory, that meets one of the following conditions:

(A) ~~it is intended~~Intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease; or

(B) ~~it is intended~~Intended to affect the structure or any function of the body; or

(C) ~~it is defined~~Defined in the National Formulary or the United States Pharmacopeia, or any supplement to them.

(~~32~~37) NON-ABSORBENT CONTAINER ~~is~~means a container made of nonporous material, which does not allow the migration of the liquid solvent through it.

(~~33~~38) NON-ATOMIZED SOLVENT FLOW ~~is~~means the use of a ~~solvent~~Solvent Cleaning Material in the form of a liquid stream without atomization to remove uncured adhesives, uncured inks, uncured coatings, and contaminants from an article.

(~~34~~39) NON-LEAKING CONTAINER ~~is~~means a container that can hold liquids without leaking ~~without liquid leak~~and is designed to prevent liquids, vapors, or any other contents from escaping through its seams, closures, or any other openings, ensuring secure storage or transport.

(~~35~~40) ON-PRESS COMPONENT ~~is~~means a part, component, or accessory of a ~~press~~Press that is cleaned while still being physically attached to the ~~press~~Press.

(~~36~~41) ON-PRESS SCREEN CLEANING ~~is~~means a ~~solvent cleaning activity~~Solvent Cleaning Activity carried out during ~~press~~Press runs in screen printing operation to remove excess inks and contaminants from a screen that is still attached to the ~~press~~Press.

(42) OZONE GENERATOR means a mechanical system that produces ozone used for water or wastewater treatment. Ozone is produced by applying an electric potential or ultraviolet light to oxygen that can be either in the form of dry air or pure oxygen. Ozone Generator includes the associated oxygen supply equipment that is used to produce ozone.

(~~37~~43) PACKAGING PRINTING ~~is~~means any lithographic, flexographic, gravure, or letterpress printing that results in identifying or beautifying paper, paperboard, or cardboard products to be used as containers, enclosures, wrappings, or boxes.

(~~38~~44) PERSON is ~~any firm, business establishment, association, partnership, corporation or individual, whether acting as principal, agent, employee, or other capacity including any governmental entity or charitable organization~~as defined in Rule 102.

(~~39~~45) PHARMACEUTICAL PRODUCT ~~is~~means a preparation or compound of medicinal drugs including, but not limited to, a prescription drug, analgesic, decongestant, antihistamine, cough suppressant, vitamin, mineral and herb, and is used by humans for consumption to enhance personal health.

(~~40~~46) PHOTOCURABLE RESIN ~~is~~means a chemical material that solidifies upon exposure to light.

(47) PRESS means a mechanical device used to apply pressure to an inked surface resting on a substrate to transfer color, design, alphabetical text, or numerals to the substrate.

(~~41~~48) PRINTING~~, in the graphic arts, is~~means any operation that imparts color, design, alphabet, or numerals on a substrate in Graphic Arts.

(49) PUBLIC WATER SYSTEM means a system that provides water for human consumption through pipes or other constructed conveyances that has fifteen or more connections or regularly serves at least twenty-five individuals daily at least sixty days out of the year.

(50) PRODUCT-WEIGHTED MIR (PW-MIR) means the sum of all weighted-MIR for all ingredients in a Regulated Product. The PW-MIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging) and calculated according to the following equations:

Weighted MIR (Wtd-MIR) ingredient = MIR x Weight fraction ingredient,

and,

$PW\text{-}MIR = (Wtd\text{-}MIR)_1 + (Wtd\text{-}MIR)_2 + \ldots + (WtdMIR)_n$

where,

MIR = ingredient MIR; and

1,2,3,...,n = each ingredient in the product up to the total n ingredients in the product.

(~~42~~51) RADIATION-EFFECT COATING ~~is~~means a material that prevents radar detection.

(~~43~~52) REMOTE RESERVOIR CLEANER ~~is~~means a cleaning device in which liquid solvent is pumped from a solvent container to a sink-like work area and the solvent from the sink-like area drains into an enclosed solvent container while parts are being cleaned.

(~~44~~53) REMOVABLE PRESS COMPONENT ~~is~~means a part, component, or accessory of a ~~press~~Press that is physically attached to the ~~press~~Press but is disassembled and removed from the ~~press~~Press prior to being cleaned. Removable Press Components do not include ~~Rollers~~rollers, ~~blankets~~Blankets, metering rollers, dampening rollers, ink trays, printing plates, fountains, impression cylinders and plates ~~shall not be considered as removable press components~~.

(~~45~~54) REPAIR CLEANING ~~is~~means a ~~solvent cleaning operation or activity~~Solvent Cleaning Activity carried out during a repair process.

(~~46~~55) REPAIR PROCESS ~~is~~means the process of returning a damaged object or an object not operating properly to good condition.

(~~47~~56) ROLLER WASH ~~is~~means a ~~solvent~~Solvent Cleaner used to remove ink from the rollers of a ~~press~~Press.

(~~48~~57) SCIENTIFIC INSTRUMENT ~~is~~means an instrument (including the components, assemblies, and subassemblies used in their manufacture) and associated accessories and reagents that is used for the detection, measurement, analysis, separation, synthesis, or sequencing of various compounds.

(~~49~~58) SCREEN PRINTING ~~is~~means a process in which the printing ink passes through a web or a fabric to which a refined form of stencil has been applied. The stencil openings determine the form and dimensions of the imprint.

(~~50~~59) SCREEN RECLAMATION ~~is~~means a ~~solvent cleaning activity~~Solvent Cleaning Activity carried out in ~~screen printing~~Screen Printing operation where the screen is completely cleaned for recycling or reuse of the screen for other production runs.

(~~51~~60) SOLVENT CLEANER OR SOLVENT CLEANING MATERIAL ~~is~~means a VOC-containing liquid substance used to perform ~~solvent cleaning~~Solvent Cleaning.

(61) SOLVENT CLEANER SUPPLIER means any ~~person~~ Person who sells, and delivers or arranges to deliver Solvent Cleaning Materials to a ~~facility~~ Facility subject to this rule.

(~~52~~62) SOLVENT CLEANING ~~is~~means the use of a Solvent Cleaner or Solvent Cleaning Material for the removal of loosely held uncured adhesives, uncured inks, uncured coatings, and contaminants ~~which~~that include, but are not limited to, dirt, soil, and grease from parts, products, tools, machinery, equipment, and general work areas. Each distinct method of Solvent Cleaning ~~cleaning in a cleaning process, which consists of a series of cleaning methods,~~ shall constitute a ~~separate solvent cleaning~~Solvent Cleaning ~~operation~~Activity.

(63) SOLVENT CLEANING ACTIVITY means a distinct method of cleaning~~, or a series of distinct cleaning methods,~~ in a Solvent Cleaning process or single event.

(64) SOLVENT CLEANING OPERATION means a Solvent Cleaning Activity or Solvent Cleaning Activities conducted as part of a business or a public service.

(~~53~~65) SOLVENT FLUSHING is the use of a solvent to remove uncured adhesives, uncured inks, uncured coatings, or contaminants from the

internal surfaces and passages of the equipment by flushing solvent through the equipment.

~~(54) SOLVENT SUPPLIER is any person who sells and delivers or arranges to deliver solvent cleaning materials to a solvent cleaning operation subject to this regulation.~~

~~(55) STEREOLITHOGRAPHY is a type of printing process that employs a system using a light to solidify photocurable resins in a desired configuration in order to produce a 3-dimensional object.~~

(66) SOUTH COAST AQMD TEST METHOD means a test method included in the manual of "Laboratory Methods of Analysis for Enforcement Samples," which can be found on the South Coast AQMD website and are referenced in subdivision (h).

(~~56~~67) SPECIALTY FLEXOGRAPHIC PRINTING ~~is~~means ~~flexographic printing~~Flexographic Printing on polyethylene or polypropylene food packaging, fertilizer bags, or liquid-tight food containers.

(68) STEREOLITHOGRAPHY means a type of printing process that employs a system using a light to solidify photocurable resins in a desired configuration to produce a three-dimensional object

(~~57~~69) STERILIZATION INDICATING INK ~~is~~means an ink that changes color to indicate that sterilization has occurred, which ~~Such ink~~ is used to monitor the sterilization of medical instruments, autoclave efficiency, and the thermal processing of foods for prevention of spoilage.

(~~58~~70) STRIPPING ~~is~~means the removal of ~~cured coatings, cured inks, or cured adhesives~~Cured Coatings, Cured Inks, or Cured Adhesives.

(~~59~~71) SURFACE PREPARATION ~~is~~means the removal of contaminants such as dust, soil, oil, grease, etc., prior to coating, adhesive, or ink applications.

(72) THROTTLE BODY means a component of a vehicle air intake system, and is located between the air intake filter and intake manifold of the vehicle air intake system, and controls the amount of air that flows into the vehicle engine.

~~(60) ULTRAVIOLET INK is an ink that dries by polymerization reaction induced by ultraviolet energy.~~

(73) ULTRAVIOLET LIGHT TREATMENT means the process of using ultraviolet light to inactivate microorganisms (i.e., disinfection) or using ultraviolet light either with or without the addition of peroxide to oxidize contaminants (i.e., oxidation). Ultraviolet light treatment is used for both

potable water and wastewater, including indirect and direct potable water reuse projects.

(~~61~~74) VOLATILE ORGANIC COMPOUND (VOC) is as defined in Rule 102.

~~(62) WIPE CLEANING is the method of cleaning a surface by physically rubbing it with a material such as a rag, paper, sponge or a cotton swab moistened with a solvent.~~

(75) WATER TREATMENT FACILITY means a public entity that is responsible for water delivery operations, sewage pumping plants, sewage treatment, or water reclamation.

~~(c)~~(d) Requirements

(1) ~~Solvent Requirements~~ A Person shall not use a Solvent Cleaner to perform Solvent Cleaning Activities as part of a Solvent Cleaning Operation unless the Solvent Cleaner complies with the applicable requirements set forth below:

~~A person shall not use a solvent to perform solvent cleaning operations unless the solvent complies with the applicable requirements set forth below:~~

~~SOLVENT CLEANING ACTIVITY~~	~~CURRENT LIMITS*~~ ~~VOC g/l (lb/gal)~~	~~EFFECTIVE 1/1/2010~~ ~~VOC g/l (lb/gal)~~
~~(A) Product Cleaning During Manufacturing Process Or Surface Preparation For Coating, Adhesive, Or Ink Application~~		
~~(i) General~~	~~25 (0.21)~~	
~~(ii) Electrical Apparatus Components & Electronic Components~~	~~100 (0.83)~~	
~~(iii) Medical Devices & Pharmaceuticals~~	~~800 (6.7)~~	
~~(B) Repair and Maintenance Cleaning~~		
~~(i) General~~	~~25 (0.21)~~	
~~(ii) Electrical Apparatus Components & Electronic Components~~	~~100 (0.83)~~	
~~(iii) Medical Devices & Pharmaceuticals~~		
~~(A) Tools, Equipment, & Machinery~~	~~800 (6.7)~~	
~~(B) General Work Surfaces~~	~~600 (5.0)~~	

~~SOLVENT CLEANING ACTIVITY (cont.)~~	~~CURRENT LIMITS*~~ ~~VOC g/l (lb/gal)~~	~~EFFECTIVE 1/1/2010~~ ~~VOC g/l (lb/gal)~~
~~(C) Cleaning of Coatings or Adhesives Application Equipment~~	~~25 (0.21)~~	
~~(D) Cleaning of Ink Application Equipment~~		
~~(i) General~~	~~25 (0.21)~~	
~~(ii) Flexographic Printing~~	~~25 (0.21)~~	
~~(iii) Gravure Printing~~		
~~(A) Publication~~	~~100 (0.83)~~	
~~(B) Packaging~~	~~25 (0.21)~~	
~~(iv) Lithographic (Offset) or Letter Press Printing~~		
~~(A) Roller Wash, Blanket Wash, & On-Press Components~~	~~100 (0.83)~~	
~~(B) Removable Press Components~~	~~25 (0.21)~~	
~~(v) Screen Printing~~	~~100 (0.83)~~	
~~(vi) Ultraviolet Ink/ Electron Beam Ink Application Equipment (except screen printing)~~	~~100 (0.83)~~	
~~(vii) Specialty Flexographic Printing~~	~~100 (0.83)~~	
~~(E) Cleaning of Polyester Resin Application Equipment~~	~~25 (0.21)~~	

~~* The specified limits remain in effect unless revised limits are listed in subsequent columns~~.

Table 1 – Table of Standards
VOC Content Limits

SOLVENT CLEANING ACTIVITY	VOC Limits	
	g/L	lbs/gal
(A) Product Cleaning During Manufacturing Process, or Surface Preparation for Coating, Adhesive, or Ink Application		
(i) General	25	0.21
(ii) Electrical Apparatus Components & Electronic Components	100	0.83
(A) Printed Circuit Boards	800	6.7
(iii) Medical Devices & Pharmaceuticals	800	6.7
(B) Repair and Maintenance Cleaning		
(i) General	25	0.21
(ii) Electrical Apparatus Components & Electronic Components	100	0.83
(A) Electronic or Electrical Cables	400	3.4
(iii) Medical Devices & Pharmaceuticals		
(A) Tools, Equipment, & Machinery	800	6.7
(B) General Work Surfaces	600	5.0
(C) Cleaning of Coatings or Adhesives Application Equipment		
(i) General	25	0.21
(ii) Thin or Sheet Metal Laminating Equipment	950	8.0
(D) Cleaning of Ink Application Equipment ~~and~~		
(i) General	25	0.21
(ii) Flexographic Printing	25	0.21
(iii) Gravure Printing		
(A) Publication	100	0.83
(B) Packaging	25	0.21
(iv) Lithographic (Offset) or ~~Letter Press~~ Letterpress Printing		
(A) Roller Wash, Blanket Wash, & On-Press Components	100	0.83
(B) Removable Press Components	25	0.21
(v) Screen Printing	100	0.83
(vi) Energy Curable Printing		
(A) Ink Application Equipment (except Screen Printing)	100	0.83
(B) Lamps and Reflectors	800	6.7
(vii) Specialty Flexographic Printing	100	0.83
(E) Cleaning of Polyester Resin Application Equipment	25	0.21

(2) Cleaning Devices and Methods Requirements

A ~~*person*~~ Person shall not perform ~~solvent cleaning~~Solvent Cleaning Activities listed in paragraph (d)(1) unless one of the following cleaning devices or methods is used:

(A) Wipe cleaning, which is a Solvent Cleaning Activity conducted by physically rubbing it with a material such as a rag, paper, sponge or a cotton swab moistened with a solvent;

(B) Closed containers or hand—held spray bottles from which ~~solvents~~Solvent Cleaners are applied without a propellant-induced force;

(C) Cleaning equipment ~~which~~that has a ~~solvent~~Solvent Cleaner container that can be closed, and is closed during ~~cleaning operations~~Solvent Cleaning Activities, except when depositing and removing objects to be cleaned, and is closed during non-operation with the exception of maintenance and repair to the cleaning equipment itself;

~~(D) Cleaning device which is listed in the Office of Operations' manual "Alternative Devices for Rule 1171 Compliance" dated . The Executive Officer shall periodically update the manual to identify any additional cleaning devices determined by the Executive Officer to result in equivalent or lower emissions; the manual to identify any additional cleaning devices determined by the Executive Officer to result in equivalent or lower emissions;~~

~~(E)~~(D) Remote ~~reservoir~~Reservoir ~~cleaner~~Cleaner used pursuant to the provisions of paragraph ~~(c)~~(d)(3);

~~(F)~~(E) Non-atomized ~~solvent~~Solvent ~~flow~~Flow method where the ~~cleaning solvent~~Solvent Cleaner is collected in a container or a collection system ~~which~~that is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container; ~~or~~

~~(G)~~(F) Solvent ~~flushing~~Flushing ~~method~~ where the ~~cleaning solvent~~Solvent Cleaner is discharged into a container ~~which~~ that is closed except for ~~solvent~~Solvent Cleaner collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container. The discharged ~~solvent~~Solvent Cleaning Material from the equipment must be collected into containers without atomizing into

the open air. The ~~solvent~~Solvent Cleaning Material may be flushed through the system by air or hydraulic pressure, or by pumping.~~.~~; or

(G) Hand-held spray devices, where solvent cleaning material is applied using a hand-held device with a pressurized container used to disperse Solvent Cleaning Material through a nozzle, when performing Solvent Cleaning Activities at Electricity Distribution Utilities, Electricity Generating Facilities, Water Treatment Facilities, or Public Water Systems, provided that Solvent Cleaning Activities are performed pursuant to the alternative compliance options in paragraph (e)(2).

(3) Remote Reservoir Cleaners

Any ~~*person*~~ Person owning or operating a ~~remote reservoir cleaner~~Remote Reservoir Cleaner shall comply with all of the following requirements in addition to the applicable VOC limits specified in paragraph ~~(c)~~(d)(1):

(A) Prevent ~~solvent~~Solvent Cleaner vapors from escaping from the ~~solvent~~Solvent Cleaner container by using such devices as a cover or a valve when the remote reservoir is not being used, cleaned, or repaired;

(B) Direct ~~solvent~~Solvent Cleaner flow in a manner that will prevent liquid ~~solvent~~Solvent Cleaning Material from splashing outside of the ~~remote reservoir cleaner~~Remote Reservoir Cleaner;

(C) ~~Do not~~Not clean porous or absorbent materials, such as cloth, leather, wood, or rope; and

(D) Use only ~~solvent~~ containers free of all liquid leaks. ~~–~~Auxiliary equipment, such as pumps, pipelines, or flanges, shall not have any liquid leaks, visible tears, or cracks. ~~-~~Any liquid leak, visible tear, or crack detected shall be repaired within one (1) calendar day, or the leaking section of the remote reservoir cold cleaner shall be drained of all ~~solvent~~Solvent Cleaning Materials and shut down until it is replaced or repaired.

(4) Storage and Disposal

All VOC-containing ~~solvents~~Solvent Cleaning Materials used in ~~solvent cleaning operations~~ Solvent Cleaning Activities listed in paragraph (d)(1) shall be stored in ~~non-absorbent~~Non-Absorbent, ~~non-leaking~~Non-Leaking containers, which shall be kept closed at all times except when filling or emptying. ~~It is recommended that cloth~~ Cloth and paper moistened with

VOC-containing ~~solvents~~Solvent Cleaning Materials must be stored in closed, ~~non-absorbent~~Non-Absorbent, ~~non-leaking~~Non-Leaking containers.

(5) Labeling

Any ~~person~~ Person who sells or offers for sale Solvent Cleaning Materials for use in the South Coast AQMD shall:

(A) For Solvent Cleaning Materials complying with paragraph (d)(1), comply with the labeling provisions of Rule 443.1 – Labeling of Materials Containing Organic Solvents; and

(B) For Solvent Cleaning Materials complying with the alternative PW-MIR VOC limits pursuant to paragraphs (e)(2), (e)(4), or (e)(5), include the PW-MIR VOC content on the container.

(e) ~~(5)~~ Alternative Compliance Options~~Control Equipment~~

(1) In lieu of complying with the requirements in paragraphs ~~(c)~~(d)(1) ~~or~~and ~~(c)~~(d)(2), a ~~*person*~~ Person may comply by using a VOC ~~emission collection and control system~~Emission Control System in association with the ~~solvent cleaning operation~~Solvent Cleaning Activities provided the Emission Control System:

(A) ~~the emission control system shall collect~~Collects at least 90 percent, by weight, of the emissions generated by the ~~solvent cleaning operation~~Solvent Cleaning Activities; and

(i) ~~have~~ Has a destruction efficiency of at least 95 percent~~,~~ by weight, or

(ii) ~~have~~ Has an output of less than 50 parts per million ~~(PPM)~~ calculated as carbon with no dilution; or

(B) ~~the emission control system meets~~Meets the requirements of the applicable source specific rule of ~~the District's~~South Coast AQMD Regulation XI~~.~~; or

(C) ~~The collection system for~~ For cleaning in ~~graphic arts~~Graphic Arts and ~~screen printing~~Screen Printing and cleaning of application equipment used for ~~graphic arts~~Graphic Arts materials and ~~screen printing~~Screen Printing materials:

(i) ~~, shall collect~~ Collects at least 70 percent, by weight, of the emissions generated~~.~~; and

(ii) ~~This control system shall reduce emissions from the emission collection system by~~Has a destruction efficiency of at least 95 percent, by weight.

(D) For internal cleaning of enclosed mobile containers, including but not limited to rail tank cars and tanker truck containers, used to transport materials:

(i) Shall be air-tight and leak free during the Solvent Cleaning Activities; and

(ii) For all fugitive components, vapor leaks shall not exceed 50 parts per million measured on a South Coast AQMD organic vapor analyzer calculated as carbon, with no dilution.

(2) Alternative Limits for Electricity and Water Equipment

Facilities conducting Solvent Cleaning Activities for the following equipment listed in Table 2 that are operated at Electricity Generating Facilities, Electricity Distributing Utilities, Water Treatment Facilities or Public Water Systems may use Solvent Cleaning Materials that exceed the VOC limits in paragraph (d)(1) provided:

(A) The Facility uses no more than the annual volumes listed in Table 2;

(B) The Solvent Cleaning Materials have a PW-MIR no more than those listed in Table 2;

(C) The Facility maintains monthly purchase and usage records pursuant to paragraph (g)(2) for a minimum of five years; and

(D) The Solvent Cleaning Materials comply with the labeling provisions in subparagraph (d)(5)(B).

Table 2 – Alternative Usage and MIR Limits

Solvent Cleaning Activity	Usage Limits (gallons per year)	PW-MIR
(A) Electricity Generating or Distribution Equipment	70	1.7
(B) Water Distribution Equipment and Water Treatment Equipment		
(i) Chlorination Systems	5	1.7
(ii) Ozone Generators	40	1.7
(iii) Ultraviolet Light Treatment Systems	30	1.7

(3) Alternative Limits for Aerosol Cleaning

Facilities conducting Solvent Cleaning Activities listed in Table 3 may use Aerosol Solvent Cleaners that exceed the VOC limits in paragraph (d)(1) provided:

(A) The Facility complies with the applicable usage limit(s) listed in Table 3;

(B) On and after [*90 Days after Date of Rule Adoption*], the Facility maintains monthly purchase and usage records pursuant to paragraph (g)(2) for a minimum of five years; and

(C) Such products are compliant with California Air Resources Board (CARB) Consumer Product Regulations, including, but not limited to, meeting the VOC content limit requirements of Article 2 or as allowed by Article 4.

Table 3 – Aerosol Solvent Cleaner Usage Limits

Solvent Cleaning Activity	Usage Limits
(A) Cleaning of Automotive Parts	
(i) Throttle Body and Intake Systems	4,800 ounces per month
(ii) All Other Automotive Part Cleaning	32 ounces per month
(B) Battery Terminal Cleaning at Battery Manufacturing Facilities	2,400 ounces per month
(C) All Others Solvent Cleaning Activities	1,750 ounces per month

(4) Alternative MIR Limit

In lieu of complying with the VOC limits in paragraph (d)(1), a Person may elect to supply for use within South Coast AQMD or use Solvent Cleaning Materials that comply with a PW-MIR limit of 0.38 g O_3/g VOC for any Solvent Cleaning Activity provided the Solvent Cleaning Materials comply with the labeling provision in subparagraph (d)(5)(B).

(5) Alternative MIR Limit for Ink Application Equipment

In lieu of complying with the VOC limits for the following Table 1 Solvent Cleaning Activities for Cleaning of Ink Application Equipment, ~~(D)(iv)(A), lithographic or letter press printing for roller wash, blanket wash, and on-press components ink application equipment cleaning, and Table 1 (D)(v) screen printing ink application equipment cleaning,~~ a Person may elect to supply for use within South Coast AQMD or use Solvent Cleaning Materials that comply with a PW-MIR limit of 0.70 g O_3/g VOC provided the Solvent Cleaning Materials comply with the labeling provision in subparagraph (d)(5)(B):

(A) Table 1 (D)(vi) Energy Curable Printing;

(B) Table 1 (D)(iv)(A) Lithographic (Offset) or Letterpress Printing for Roller Wash, Blanket Wash, & On-Press Components; and

(C) Table 1 (D)(v) Screen Printing.

~~(6) Recordkeeping Requirements~~

~~Records shall be maintained pursuant to Rule 109 for all applications subject to this rule, including those exempted under paragraphs (g)(3) through (g)(11), except facilities required to keep records of VOC used pursuant to any other Regulation XI rules.~~

~~(7) Any solvent supplier supplying solvent cleaning material for use by a solvent cleaning operation in the District, shall upon request by the Executive Officer, provide in a District-approved electronic format, the following information: product name of the supplied solvent cleaning material; the name and address of the solvent cleaning operation that the product was supplied to; dates and quantities in which the product was supplied during the time period specified by the Executive Officer; and the VOC content of the product as supplied. The solvent supplier shall maintain records necessary to provide this required information for three (3) years.~~

~~(8) The operator shall maintain at all times, and make available to the Executive officer upon request, the correct written dilution instructions for each~~

~~solvent cleaning material if dilution is necessary to meet the applicable VOC limits in this rule. A solvent supplier providing solvent cleaning material for use by a solvent cleaning operation in the District shall supply to the operator, upon the operator's request, the correct written dilution instructions for each supplied solvent cleaning material.~~

~~(9) Any person who sells or offers for sale solvent cleaning materials for use in the District shall comply with the provisions of Rule 443.1 – Labeling of Materials Containing Organic Solvents.~~

~~(d)~~(f) General Prohibitions

(1) A *~~person~~* Person shall not atomize any ~~solvent~~Solvent Cleaner unless it is vented to ~~an air pollution control equipment~~Emission Control System, ~~which~~that meets the requirements of paragraph ~~(c)(5)~~(e)(1).

(2) A *~~person~~* Person shall not specify or require any *~~person~~* Person to use a ~~solvent~~Solvent Cleaner or equipment subject to the provisions of this rule that does not meet the requirements of this rule.

(3) Carcinogenic Materials and Exempt Compounds

A *~~person~~* Person shall not perform ~~solvent cleaning activities~~Solvent Cleaning Activities ~~or operations~~ subject to the provisions of this rule with any ~~material~~ Solvent Cleaning Material ~~which~~that contains any of the following chemicals in concentrations greater than the limits indicated:

(A) 0.01 percent by weight of Group II ~~exempt compounds listed in Rule 102~~Exempt Compound except cyclic, branched, or linear, completely methylated siloxanes (VMS); or

(B) 0.01 percent by weight of para-Chlorobenzotrifluoride (pCBtF), CAS 98-56-6 and *tert*-Butyl Acetate (t-BAc), CAS 540-88-5 for Solvent Cleaning Materials manufactured after January 1, 2026.

(4) Sell Through Provision for pCBtF and t-BAc

Any Solvent Cleaning Material that is manufactured prior to January 1, 2026, that contains more than 0.01 percent of pCBtF and t-BAc may be sold, supplied, or offered for sale until ~~January~~July 1, 2027, and used until ~~January~~ July 1, 2028.

(~~4~~5) Any *~~person~~* Person subject to the Airborne Toxic Control Measure for Emissions of Chlorinated Toxic Air Contaminants from Automotive Maintenance and Repair Activities - Title 17, California Code of Regulations, section 93111, shall comply with its provisions.

(~~5~~6) No ~~full service solvent~~Solvent Cleaner ~~provider~~Supplier shall aid, abet or assist a ~~facility~~ Facility or ~~solvent cleaning operation~~ any ~~person~~ Person to use a supplied ~~solvent~~Solvent Cleaner in a ~~non-compliant~~ manner that does not meet the requirements of this rule.

(7) No Solvent Cleaner shall be used when documentation cannot be provided pursuant to paragraph (g)(2) for that Solvent Cleaner.

(8) Prohibition of Possession

Solvent Cleaning Materials that do not meet the requirements of this rule and are used, intended for use, or labeled for use, for Solvent Cleaning Activities within South Coast AQMD shall not be kept on-site, unless the Facility is complying with any of the alternative compliance options pursuant to subdivision (e).

(g) Recordkeeping Requirements

(1) Any Person who performs Solvent Cleaning Activities shall maintain records pursuant to Rule 109 – Recordkeeping for Volatile Organic Compound Emissions for all applications subject to this rule, including those exempted under paragraphs (j)(3) through (j)(6), except ~~facilities~~ Facilities required to keep records of Solvent Cleaning Materials used and Solvent Flushing pursuant to an applicable Regulation XI source specific rule.

(2) Any ~~person~~ Person who performs Solvent Cleaning Activities shall maintain records for five years for all Solvent Cleaning Materials used, and make available to the Executive Officer upon request, that includes the following for each solvent cleaning activity performed:

(A) Product name of each Solvent Cleaner used;

~~(B) Name and address of the supplier for each Solvent Cleaner used;~~

~~(C)~~(B) Dates and quantities in which each Solvent Cleaner was used during the time period specified by the Executive Officer;

~~(D)~~(C) VOC content of each Solvent Cleaner as used; and

~~(E)~~(D) PW-MIR VOC content if the manufacturer elects to comply with the alternative PW-MIR VOC limits in paragraph (e)(2), ~~or~~ (e)(4), and (e)(5).

(3) Any Solvent Cleaner Supplier supplying Solvent Cleaning Materials for use in the South Coast AQMD shall maintain the following records for five years and make the data available upon request by the Executive Officer:

(A) Product name of each supplied Solvent Cleaner;

(B) Name and address of the ~~facility~~ Facility that the Solvent Cleaner was supplied to;

(C) Dates and quantities in which the Solvent Cleaner was supplied during the time period specified by the Executive Officer; and

(D) VOC content of the Solvent Cleaner as supplied.

(4) Dilution Instructions

If a Solvent Cleaner is required to be diluted prior to being used in a Solvent Cleaning Activity to meet the applicable VOC limits:

(A) Any ~~person~~ Person who uses Solvent Cleaning Materials requiring such dilution shall maintain at all times, and make available to the Executive Officer upon request, the correct written dilution instructions for each of these Solvent Cleaner; and

(B) The Solvent Cleaner Supplier providing Solvent Cleaning Material for use in the South Coast AQMD shall supply to the operator, upon the operator's request, the correct written dilution instructions for each supplied Solvent Cleaner.

(5) Remote Reservoir Cleaners

Records of any repair of leaks, visible tears, or cracks of remote reservoir cleaner auxiliary equipment shall be maintained and made readily available for a period of five years following the date of repair.

~~(e)~~(h) Test Methods

~~For the purpose of this rule, the following test methods shall be used. Other test methods determined to be equivalent after review by the staffs of the District, the Air Resources Board, and the United States Environmental Protection Agency, and approved in writing by the District Executive Officer may also be used.~~

(1) Determination of VOC Content

The VOC content of materials subject to the provisions of this rule shall be determined by the following methods:

(A) United States Environmental Protection Agency (U.S. EPA) Reference Test Method 24 – Determination of Volatile Matter Content, Water Content, Volume Solids and Weight Solids of Surface Coatings, (Code of Federal Regulations, Title 40, Part- 60, Appendix A with the Exempt Compounds' content determined by South Coast AQMD Test Method 303 – Determination of Exempt

Compounds;~~). The exempt compounds' content shall be determined by the South Coast Air Quality Management District's (SCAQMD) Method 303 (Determination of Exempt Compounds) contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual;~~ or,

(B) ~~SCAQMD~~ South Coast AQMD Test Method 304 – ~~[~~Determination of Volatile Organic Compounds (VOC) in Various Materials~~]~~ ~~contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual.~~; or

(C) South Coast AQMD Test Method 313 – Determination of Volatile Organic Compounds (VOC) by Gas Chromatography ~~Mass Spectrometry~~/Mass Spectrometry/Flame Ionization Detection (GC/MS/FID); or

(D) ASTM Standard Test Method E 1868 – Standard Test Method for Loss-On-Drying by Thermogravimetry with quality assurance and quality control procedures using South Coast AQMD Additional Requirements to ASTM Standard Test Method E 1868-10 for Metalworking Fluids and Direct-Contact Lubricants.

~~(C)~~(2) Exempt Perfluorocarbon Compounds

The following classes of compounds shall be analyzed as Exempt Compounds for compliance with subdivision (d), only at such time as manufacturers specify which individual compounds are used in the solvent formulation and identify the test methods, which have been approved by the U.S. EPA, CARB and the South Coast AQMD prior to such analysis, that can be used to quantify the amounts of each exempt compound:

(A) ~~cyclic~~Cyclic, branched, or linear, completely fluorinated alkanes;

(B) ~~cyclic~~Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

(C) ~~cyclic~~Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and

(D) ~~sulfur~~Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.~~,~~

~~will be analyzed as exempt compounds for compliance with subdivision (c), only when manufacturers specify which individual compounds are used in the solvent formulation and identify the United States Environmental Protection Agency, California Air~~

~~Resources Board, and the District approved test methods used to quantify the amount of each exempt compound.~~

~~(2) Determination of Presence of VOC in Cleaning Materials~~

~~The presence of VOC in the headspace over the cleaning material shall be determined by SCAQMD Test Method 313 [Determination of Presence of Volatile Organic Compounds (VOC) in a Headspace] contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual.~~

~~The presence of VOC in liquid cleaning materials shall be determined by SCAQMD Method 308 (Quantitation of Compounds by Gas Chromatography) contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual.~~

(3) Determination of Efficiency of Emission Control Systems

~~(A) The~~A ~~person~~ Person that elects to comply with the provisions of paragraph (d)(1) using an Emission Control System specified in subparagraph (e)(1)(A) shall:

(A) Determine the capture efficiency ~~of an emission control system~~ of the collection device in the Emission Control System by using~~as specified in subparagraph (c)(5)(A) shall be determined by verifying the use of a Permanent Total Enclosure (PTE) and 100% capture efficiency as defined by~~:

(i) South Coast AQMD's "Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency,"~~USEPA Method 204, "Criteria for and Verification of a Permanent or Temporary Total Enclosure."~~; or

(ii) Any other method approved by the U.S. EPA, CARB, and the South Coast AQMD Executive Officer.~~ Alternatively, i~~If ~~a USEPA Method 204 defined PTE is not employed, capture efficiency shall be determined using a minimum of three sampling runs subject to data quality criteria presented in the USEPA technical guidance document "Guidelines for Determining Capture Efficiency, January 9, 1995." Individual capture efficiency test runs subject to the USEPA technical guidelines shall be determined by:~~

~~(i) The Temporary Total Enclosure (TTE) approach of USEPA Methods 204 through 204F, June 4, 1997; or~~

~~(ii) The District "Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency," May 1995.~~

(B) Determine the efficiency and the VOC content in the Emission Control System exhaust gases, measured and calculated as carbon by:

(i) U. S. EPA Test Method 25 - Determination of Total Gaseous Nonmethane Organic Emissions as Carbon;

(ii) U. S. EPA Test Method 25A - Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer;

(iii) South Coast AQMD Test Method 25.1 - Determination of Total Gaseous Non-Methane Organic Emissions as Carbon; or

(iv) South Coast AQMD Test Method 25.3 - Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources.

(C) Determine emissions of Exempt Compounds by:

(i) U.S. EPA Test Method 18 – Volatile Organic Compounds by Gas Chromatography; or

(ii) CARB Method 422 – Determination of Volatile Organic Compounds in Emissions from Stationary Sources.

~~(B) The control equipment efficiency of an emission control system as specified in subparagraph (c)(5)(A), on a mass emissions basis, and the VOC concentrations in the exhaust gases, measured and calculated as carbon, shall be determined by USEPA Test Methods 25, 25A, SCAQMD Method 25.1 (Determination of Total Gaseous Non-Methane Organic Emissions as Carbon), or SCAQMD Method 25.3 (Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources), as applicable. USEPA Test Method 18, or ARB Method 422 shall be used to determine emissions of exempt compounds.~~

(4) Equivalent Test Methods

Other test methods determined to be equivalent by the Executive Officer, CARB, and the U.S. EPA, and approved in writing by the Executive Officer may also be used.

~~(4)~~(5) Multiple Test Methods

When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

~~(5)~~(6) All test methods referenced in this section shall be the most recently approved version.

~~(f)~~(i) Rule 442 Applicability

Any ~~solvent~~Solvent Cleaner, Solvent Cleaning Material, ~~solvent cleaning activity~~Solvent Cleaning Activity, ~~solvent cleaning unit operation~~Solvent Cleaning Operation, or ~~*person*~~ Person, ~~which~~that is exempt from all or a portion of this rule except paragraph ~~(c)~~(6)(g)(1), shall be subject to the applicable requirements of the applicable Regulation XI source specific rule or Rule 442 - Usage of Solvent.

~~(g)~~(j) Exemptions

(1) The~~ provisions of this rule~~ recordkeeping provisions in subdivision (g), ~~except (c)(1), Solvent Requirements~~ shall not apply to ~~cleaning operations~~Solvent Cleaning Activities using ~~a solvent~~Solvent Cleaning Materials containing no more than 25 grams of VOC per liter of material, provided that, if the Executive Officer determines that a ~~*person*~~ Person has violated any of the VOC limits in ~~provision of~~ paragraph ~~(c)(1)~~(d)(1) for any Solvent Cleaning Activities occurring, ~~Solvent Requirements,~~ then for a period of ~~three~~ five years following the date of such violation, the recordkeeping requirements in ~~paragraph (c)(6)~~ subdivision (g) ~~Recordkeeping Requirements,~~ shall apply to the ~~*facility*~~ Facility at which the violation occurred.

(2) The following ~~solvent cleaning operations or activities~~Solvent Cleaning Activities are not subject to any provision of this rule:

(A) Cleaning ~~carried out in batch loaded cold cleaners, vapor degreasers, conveyorized degreasers, or motion picture film cleaning equipment.~~operations subject to Rule 1122 – Solvent Degreasers, or Rule 1425 – Film Cleaning and Printing Operations;

(B) Cleaning operations subject to Rule 1102 – Petroleum Solvent Dry Cleaners, ~~and~~or Rule 1421 – Control of Perchloroethylene Emissions from Dry Cleaning Operations~~.~~;

(C) Cleaning operations subject to Rule 1164 – Semiconductor Manufacturing~~.~~;

(D) Cleaning operations subject to Rule 1124 – Aerospace Assembly and Component Manufacturing Operations, except coating application equipment cleaning~~,~~ and storage and disposal of VOC-containing materials used in ~~solvent cleaning~~Solvent Cleaning ~~operations~~Activities~~.~~;

(E) Cleaning operations subject to ~~Rule 1141 – Control of Volatile Organic Compound Emissions from Resin Manufacturing, and~~ Rule 1141.1 – Coatings and Ink Manufacturing~~.~~;

(F) Janitorial cleaning, including graffiti removal~~.~~;

(G) Stripping of cured coatings, cured ink, or cured adhesives~~.~~;

(H) Cleaning operations in Printing pre-press or Graphic Arts pre-press areas, including the cleaning of film processors, color scanners, plate processors, film cleaning, and plate cleaning; and

(I) Cleaning operations using individually wrapped, saturated towelettes, during cable splicing activity for high voltage electrical cable where the VOC content shall not exceed 790 g/L.

(3) The VOC limits in ~~Provisions of~~ paragraph ~~(c)~~(d)(1) shall not apply to the following applications:

(A) Cleaning of solar cells, laser hardware, scientific instruments, and high-precision optics~~.~~;

(B) Cleaning conducted with~~:~~ performance laboratory tests on coatings, adhesives, or inks; research and development programs; and laboratory tests in quality assurance laboratories~~.~~;

(C) Cleaning of motor vehicles on application lines subject to Rule 1115 - Motor Vehicle Assembly Line Coating Operations~~.~~;

(D) Cleaning of paper-based gaskets, and clutch assemblies where rubber is bonded to metal by means of an adhesive;~~.~~

(E) Cleaning of cotton swabs to remove cottonseed oil before cleaning of high-precision optics~~.~~;

(F) Medical device and pharmaceutical ~~*facilities*~~ Facilities using up to 1.5 gallons per day of solvents~~.~~;

(G) The cleaning of photocurable resins from stereolithography equipment and models.;

~~(H) Cleaning of adhesive application equipment used for thin metal laminating operations provided the clean-up solvent used contains no more than 950 grams of VOC per liter.~~

~~(I) Cleaning of electronic or electrical cables provided the clean-up solvent used contains no more than 400 grams of VOC per liter.~~

~~(J) Touch up cleaning performed on printed circuit boards where surface mounted devices have already been attached provided that the solvent used contains no more than 800 grams of VOC per liter.~~

(4) The provisions of paragraph (f)(1) shall not apply to:

(A) Cleaning with aerosol products that do not contain VOC in excess of applicable Table 1 VOC limits in paragraph (d)(1); ~~shall not be subject to the provisions of paragraph (c)(1) and paragraph (d)(1) if 160 fluid ounces or less of non-compliant aerosol products are used per day, per facility. The use of such product shall comply with CARB regulations.~~

(B) Solvent Cleaning Activities performed pursuant to subparagraph (d)(2)(G), paragraph (e)(2), and paragraph (e)(3).

(5) The ~~provisions of~~ VOC limit in subparagraph ~~(c)~~(d)(1)(C) shall not apply to the following applications:

(A) Cleaning of coating and adhesive application processes utilized to manufacture transdermal drug delivery product using less than ~~3~~ three gallons per day of ethyl acetate averaged over a 30-~~-~~calendar day period.;

(B) Cleaning of ~~application equipment~~Application Equipment used to apply coatings on satellites and ~~radiation effect coatings~~Radiation Effect Coatings.; and

(C) ~~The cleaning~~ Cleaning of solvent-based fluoropolymer coating ~~application equipment~~Application Equipment, ~~used to apply solvent-based fluoropolymer coatings provided the clean-up solvent used for such cleaning contains no more than 900 grams of VOC per liter~~provided less than one gallon per day of Solvent Cleaning Materials is used.

(6) The ~~provisions of~~ VOC limit in subparagraph ~~(c)~~(d)(1)(D) shall not apply to ~~*persons*~~ Persons or ~~*facilities*~~ Facilities using less than 1.5 gallons per day

of ~~solvents~~Solvent Cleaning Materials to clean sterilization indicating ink ~~application equipment~~Application Equipment.

~~(7) Until January 1, 2010, the provisions of (c)(1)(D)(v) shall not apply to on-press cleaning of screens provided the clean up solvent used for such cleaning activity contains no more than 300 grams of VOC per liter.~~

~~(8) Until January 1, 2010, the provisions of (c)(1)(D)(vi) shall not apply to the cleaning of ultraviolet or electron beam lamps and reflectors used for the curing of ultraviolet or electron beam (UV/EB) ink or coatings, and cleaning of metering rollers, dampening rollers and printing plates in UV/EB ink application equipment, provided the clean-up solvent used for such cleaning contains no more than 800 grams of VOC per liter.~~

~~(9)~~(7) The ~~Provisions~~ provisions of paragraph ~~(d)~~(f)(1) shall not apply to the following:

(A) Cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems.

(B) Cleaning with spray bottles or containers described in subparagraph ~~(c)~~(d)(2)(B).

(C) Printing operations where the ~~roller~~Roller Wash or ~~blanket wash~~Blanket Wash is applied automatically.

~~(10) The provisions of this rule shall not apply to cleaning operations in printing pre-press or graphic arts pre-press areas, including the cleaning of film processors, color scanners, plate processors, film cleaning, and plate cleaning.~~

ATTACHMENT G

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Staff Report

Proposed Amended Rule 1171 – Solvent Cleaning Operations

June 2025

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EXECUTIVE SUMMARY

Rule 1171 – Solvent Cleaning Operations (Rule 1171) was adopted in August 1991 to limit Volatile Organic Compound (VOC) emissions, toxic air contaminants, stratospheric ozone-depleting compounds, and global-warming compound emissions from solvent cleaning materials used in cleaning operations during the production, repair, maintenance, or servicing of products, tools, machinery, and general work areas. Subsequent rule amendments expanded the scope of the rule to apply to all solvent cleaning activities at all facilities.

Rule 1171 includes five primary categories of solvent cleaning activities with VOC limits and applies to any person who uses solvent cleaning materials in solvent cleaning operations during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas within South Coast Air Quality Management District (South Coast AQMD). The rule also applies to all persons who store and dispose of solvent cleaning materials used in solvent cleaning operations, and all solvent suppliers who supply, sell, or offer for sale solvent cleaning materials for use in solvent cleaning operations within the South Coast AQMD.

The current proposed rule amendments partially implement the 2022 Air Quality Management Plan (AQMP) control measure CTS-01 to address two exempt compounds that were determined to have toxic end points, including potential carcinogenicity, by the Office of Environmental Health Hazard Assessment (OEHHA): *tert*-Butyl Acetate (t-BAc), which is exempt from the definition of a VOC for certain categories of products in a few source specific rules, and para-chlorobenzotrifluoride (pCBtF), which is considered exempt from the definition of a VOC for all uses within the South Coast AQMD. These exempt compounds can be utilized by manufacturers of solvent cleaning materials to formulate cleaning solvents that comply with Rule 1171 VOC content limits. The Stationary Source Committee directive on April 21, 2017, was to prioritize lowering the toxicity of coatings and solvents, even if it means increasing VOC levels. Additionally, in 2017, Assembly Bill 617 (AB 617) was signed into state law and required development of strategies to reduce toxic air contaminants and criteria pollutants in overburdened communities.

Staff's proposed changes have two primary goals: 1) a prohibition and a phase-out timeline for pCBtF and t-BAc, and 2) to address specific industry concerns regarding ability to comply with specific rule requirements. The proposed amendments to the rule include:

- Prohibiting the manufacture ~~use~~ of pCBtF and t-BAc containing solvent cleaning materials effective:
  - January 1, 2026
  - Sell-through allowed until ~~January~~July 1, 2027
  - Use-through allowed until ~~January~~July 1, 2028
- Prohibiting the possession of non-compliant solvent cleaning materials
- Alternative usage and Product Weighted-Maximum Incremental Reactivity (PW-MIR) VOC limits for electricity and water distribution facilities
- ~~Alternative~~Revised usage limits for ~~non-compliant~~ aerosol solvent cleaning ~~activities and electric and water utilities~~products that contain VOC in excess of Table 1 VOC limits
- Alternative PW-MIR limits of 0.38 g O_3/g VOC for any solvent cleaning activity
- Alternative PW-MIR limits of 0.70 g O_3/g VOC for lithographic and screen printing solvent cleaning activities

- Updating rule structure, adding new definitions, and removing outdated rule provisions

Staff does not anticipate any VOC emission increases or costs due to the phase out of pCBtF and t-BAc as most solvent cleaning materials and not formulated with pCBtF or t-BAc.

CHAPTER 1: BACKGROUND

INTRODUCTION

REGULATORY HISTORY

2022 AIR QUALITY MANAGEMENT PLAN

ASSEMBLY BILL 617

AFFECTED INDUSTRIES

PROCESS DESCRIPTION

PUBLIC PROCESS

Introduction

Rule 1171 – Solvent Cleaning Operations is a source-specific rule adopted on August 2, 1991, to reduce Volatile Organic Compound (VOC) emissions, toxic air contaminants, stratospheric ozone-depleting compounds, and global-warming compound emissions from the use of solvents for the removal of loosely held uncured adhesives, uncured inks, uncured coatings, and contaminants from parts, products, tools, machinery, equipment and general work areas. Later rule amendments expanded the scope of the rule to apply to all solvent cleaning activities at all facilities. Rule 1171 includes five categories of solvent cleaning activities with VOC limits and applies to any person who uses solvent materials in solvent cleaning operations during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas within South Coast AQMD. The rule also applies to all persons who store and dispose of solvent cleaning materials used in solvent cleaning operations, and all solvent suppliers who supply, sell, or offer for sale solvent cleaning materials for use in solvent cleaning operations within the South Coast AQMD.

To reduce the VOC emissions from solvent cleaning materials and activities, many cleaning solvent manufacturers have relied on the use of aqueous or water-based options or through the use of solvents that are exempt from the definition of a VOC due to their low photochemical reactivity. In April 2017, the South Coast AQMD Stationary Source Committee recommended a precautionary approach when considering exempt compounds with a potential toxic endpoint and removing the exempt status for any compound that has an established toxic endpoint. The California Office of Environmental Health Hazard Assessment (OEHHA) has determined that two exempt compounds para-chlorobenzotrifluoride (pCBtF) and tert-butyl acetate (t-BAc), have toxic endpoints. Therefore, the current rule development has two primary goals: 1) to propose a phase-out of pCBtF and t-BAc, and 2) to address various industry-specific concerns regarding their ability to continue operations and comply with the rule.

Regulatory History

Rule 1171 was adopted on August 2, 1991, and has since been amended ten times. The most recent amendment was on May 1, 2009, which sought to further extend the compliance date for the 100 grams per liter VOC content limit for solvents used for the cleaning of ultraviolet/electron beam (UV/EB) inks in lithographic printing, and on-press screens and automatic screen reclamation in screen printing operations from January 1, 2009, to January 1, 2010. The amendment also sought to make administrative changes to the rule to enhance the understanding of current applicable rule requirements by removing obsolete rule language and making minor revisions and editorial corrections.

Prior to the 2009 amendment, Rule 1171 was amended in February 2008 to extend the compliance date to January 1, 2009, for the 100 grams per liter VOC content limit for solvents used for the cleaning of ultraviolet/electron beam (UV/EB) inks in lithographic printing, and on-press screens and automatic screen reclamation in screen printing operations. The delay was necessary to allow additional time for the printing industry to test new formulations and transition to the new cleaning materials. Facilities that engage in lithographic and screen printing were directly impacted by the lower VOC limit of 100 grams per liter requirement; the 2006 rule amendment delayed the implementation of the 100 grams per liter due to infeasibility for 18 months; low VOC solvent cleaning material were not available at the time and the technology assessment encountered unforeseen delays. In May 2006, the technology assessment to support the target VOC limit of 100

grams per liter for lithographic ink application was completed and the results indicated that low VOC alternative material such as water-based cleaners, blends of VOC exempt solvents, and methyl esters can be used to clean press rollers and blankets. Additional time that was provided allowed the printing industry and solvent formulators to evaluate the results of the technology assessment, develop and test new formulations, and transition to the new cleaning materials. The printing industry tested compliant products in actual production environments at various printing facilities. The test results indicated significant success in the performance of low VOC cleaning materials for removing conventional inks from rollers and blankets in lithographic in application equipment; the success was achieved for both hand wipe (manual) and automatic cleaning of rollers and blanket.

Background on t-BAc and pCBtF

In 1994, the U.S. EPA exempted pCBtF from the definition of a VOC, and in 2004, South Coast AQMD added pCBtF as an exempt VOC compound in Rule 102. A Rule 102 VOC exemption means pCBtF is not considered a VOC for any application in the South Coast AQMD.

In 2004, the U.S. EPA exempted t-BAc from the definition of a VOC, but due to toxicity concerns, the South Coast AQMD did not allow for an unlimited Rule 102 exemption but did allow for several limited exemptions in source specific rules, e.g., Rules 1113 and 1151. In 2013, the Rule 1113 amendment included a resolution that directed staff to review the exemption for t-BAc due to renewed toxicity concerns. OEHHA finalized their t-BAc assessment in 2017, concluding that it had a higher cancer potency than previously estimated. In 2018, staff presented the preliminary t-BAc assessment and expressed concerns regarding pCBtF because OEHHA had not assessed its toxicity. Based on staff recommendations, the Stationary Source Committee directed staff to: remove existing t-BAc exemption in Rules 1113 and 1151 when rules are amended and request OEHHA to review the potential toxicity of pCBtF and remove the exemption, as resources allow, if pCBtF is deemed a potential carcinogen. In 2020, the pCBtF Hot Spots cancer inhalation unit risk factor document was adopted by OEHHA, which indicated pCBtF is a potential carcinogen.

The Stationary Source Committee recommended a precautionary approach to prioritize reducing the use of compounds with a known or suspected toxic endpoint over reducing VOC emissions. Based on that recommendation, staff is working to amend each VOC rule, considering category by category, the best approach to reduce the toxicity of coatings and solvents used within the South Coast AQMD.

2022 Air Quality Management Plan

The 2022 AQMP adopted on December 2, 2022, set forth a path for improving air quality and meeting federal air pollution standards by striving for zero-NOx emission technologies across all sectors and lower VOC emissions where feasible. The 2022 AQMP includes Control Measure CTS-01 Further Emission Reductions From Coatings, Solvents, Adhesives, and Lubricants, which seeks to reduce the toxic impact of pCBtF and t-BAc emissions. PAR 1171 partially implements the 2022 AQMP Control Measure CTS-01 by prohibiting the use of solvent cleaning materials that contain pCBtF and t-BAc.

Assembly Bill 617

AB 617 was signed into state law in 2017 and requires development of strategies to reduce toxic air contaminants and criteria pollutants in overburdened communities. During the development of

the AB 617 CERP for the South Los Angeles (SLA) community, community members expressed concern about the impacts from autobody shops, many of which are located close to residents and can be clustered within the community. During the rule development for Rule 1151, staff confirmed that automotive coatings used at autobody shops contain large amounts of pCBtF or t-BAc. Autobody shops also conduct solvent cleaning activities that are subject to PAR 1171. PAR 1171 addresses the air quality commitment objectives related to the solvent cleaning operation of autobody refinishing coating application equipment by reducing toxic air emissions with the phase out of pCBtF and t-BAc.

Affected Industries

Rule 1171 is applicable to any person who uses solvent materials in solvent cleaning operations during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas as part of a business or public service; any person who stores and disposes of solvents used in solvent cleaning operations as part of a business or public service; and all solvent suppliers who supply, sell, or offer for sale solvent cleaning materials for use in solvent cleaning operations within the South Coast AQMD.

Many industries are affected by Rule 1171 and includes but are not limited to automotive refinishing, automotive repair, various types of printing, medical, pharmaceutical, electricity generation and distribution, water distribution, electronics and miscellaneous manufacturing industries.

Process Description

Solvent cleaning materials are used for many purposes including but not limited to product cleaning during manufacturing processes, surface preparation for coating, adhesive or ink application, repair and maintenance cleaning, cleaning of coatings, adhesives, resin or ink application equipment, cleaning of medical tools or devices, and general cleaning of tools, equipment or machinery. Solvent cleaning activities subject to Rule 1171 are those performed during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas as part of a business or public service within the South Coast AQMD.

Public Process

The current rule amendment process began in December 2023. Staff conducted three working group meetings and multiple individual meetings with industry stakeholders and representatives. Table 1-1 summarizes the key topics discussed at each of the Working Group Meetings, which ranged from one to three hours and included presentations that are posted on the South Coast AQMD's website.[1]

[1] https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1171

Table 1-1: Summary of Public Meetings

Meeting title	Date	Highlights
Working Group Meeting #1	January 16, 2024	• Rule background • Key amendment objectives • Exempt solvent background • Preliminary technology assessments
Working Group Meeting #2	May 29, 2024	• Summary of WGM #1 • Amendment progress update • Industry uses of t-BAc and pCBtF • Industry compliance concerns • Initial rule concepts
Working Group Meeting #3	February 26, 2025	• Rule amendment resumption update • Rule background refresher • Key amendment objectives refresher • WGM #2 summary • t-BAc and pCBtF Regulatory Background • Initial rule concepts
Public Workshop	March 28, 2025	• Rule background • Proposed Rule Amendments • Rule Language • Emissions Impact • Socioeconomic Assessment • CEQA

CHAPTER 2: SOLVENT CLEANING ASSESSMENT

SOLVENT CLEANERS AND VOC CONTROL~~CLEANING AND EXEMPT COMPOUNDS~~

pCBtF and t-BAc USE IN SOLVENT CLEANING~~BACKGROUND AND TOXICITY~~

SOLVENT CLEANING MATERIAL ASSESSMENT

AEROSOL USAGE EXEMPTION~~AND LIQUID ALCOHOLS~~

PRODUCT WEIGHTED MAXIMUM INCREMENTAL REACTIVITY

Solvent Cleaners and VOC Control

Solvent cleaning materials are used in a variety of solvent cleaning activities by a wide range of industries and their associated equipment and workspaces. Solvent cleaning materials consist of a variety of different products with varying VOC contents, and can be used at industrial, commercial, and residential facilities. However, solvent cleaning activities that occur at residences are not regulated by PAR 1171 because the solvent cleaning materials used at residence are considered consumer products and regulated by the California Air Resources Board (CARB). Solvent cleaning materials subject to PAR 1171 are used during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas as part of a business or public service within the South Coast AQMD.

VOC emissions resulting from the use of solvent cleaning materials are controlled primarily by two methods. The first approach can be taken at the end-user level through improvement of work practices, including but not limited to keeping solvent containers tightly sealed or properly disposing of used solvents. The second approach includes modifying the chemistry of the solvent cleaning materials to reduce the VOC content. This approach is generally taken at the manufacturer or supplier level. Reducing the VOC content of solvent cleaning materials via reformulation can be achieved by transitioning to a water-based formulation, manufacturing with low-VOC solvent mixtures, or utilizing exempt solvents. The most widely used method for controlling VOC emissions from solvent cleaning materials is to transition to water-based systems since water has excellent cleaning properties and can be enhanced with surfactants, rust inhibitors, and rinsing agents. In these cases, the VOC limit can readily comply with the applicable 25 grams per liter VOC limit. However, for other specific solvent cleaning activities or applications it may be challenging to find suitable effective low-VOC cleaning solvents, these applications are afforded a higher limit in Rule 1171. Another option that manufacturers of solvent cleaning materials can utilize to reduce VOC content is to formulate with exempt compounds or solvents, such as acetone or para-chlorobenzotrifluoride since they do not count towards the VOC content the solvent cleaning material.

Staff is not proposing to change any of the VOC limits. The following table shows the categories and VOC limits in Rule 1171.

Table 2-1: Rule 1171 VOC Limits

Solvent Cleaning Activity	VOC Content Limit (g/L)
(A) Product Cleaning During Manufacturing Process or Surface Preparation For Coating, Adhesives, or Ink Applications	
(i) General	25
(ii) Electrical Apparatus Components & Electrical Components	100
(iii) Medical Devices & Pharmaceuticals	800
(B) Repair and Maintenance Cleaning	
(i) General	25
(ii) Electrical Apparatus Components & Electrical Components	100
(iii) Medical Devices & Pharmaceuticals	
(A) Tool, Equipment, & Machinery	800
(B) General Work Surfaces	600
(C) Cleaning of Coatings or Adhesives Application Equipment	25
(D) Cleaning of Ink Application Equipment	
(i) General	25
(ii) Flexographic Printing	25
(iii) Gravure	
(A) Publications	100
(B) Packaging	25
(iv) Lithographic (offset) or Letterpress ~~Press~~ Printing	
(A) Roller Wash, Blanket Wash, & On-Press	100
(B) Removable Press Components	25
(v) Screen Printing	100
(vi) Ultraviolet Ink/Electron Beam Ink Application Equipment (except screen printing)	100
(vii) Specialty Flexographic Printing	100
(E) Cleaning of Polyester Resin Application Equipment	25

Comparing pCBtF and t-BAc toxicity to Other Compounds

Staff considered several approaches to address the toxicity concerns for pCBtF and t-BAc from removing the exempt status to a complete prohibition of use. To inform that decision, staff considered how other compounds with potential toxic endpoints have historically been addressed. Rule 102 defines exempt compounds as being Group I or Group II compounds; Group II compounds are prohibited from use in some rules. Cancer Potency Factor is a measure used to estimate the risk of cancer associated with exposure to a carcinogenic substance and represents the increased cancer risk per unit of exposure over a lifetime. Reference Exposure Level (REL) is the

maximum concentration level of a substance in the air that is not expected to have adverse health effects in humans over a specified exposure duration; RELs can be acute (short-term), 8-hour, or chronic (long-term). Four compounds and their Cancer Potency Factors and RELs are listed in Table 2-2 and 2-3 for comparison.

Table 2-2 Cancer Potency Factor Comparison

Compound	Cancer Potency Factor (Slope Factor)
perchloroethylene (perc)	0.021
~~Dimethyl Carbonate (DMC)~~Methylene Chloride	0.0035
t-BAc	0.0047
pCBtF	0.03

For the four compounds shown in the Table 2-2, pCBtF has the highest Cancer Potency Factor. The Cancer Potency Factor of pCBtF is almost 50 percent higher than perchloroethylene's, a prohibited Group II Exempt Compound.

Table 2-3 shows the available Acute RELs for the same four compounds. t-BAc has the lowest REL, meaning the highest risk among the compounds. While the Cancer Potency Factor for pCBtF is much higher than t-BAc, perc, and ~~DMC~~methylene chloride, but it has no established Acute REL.

Table 2-3 Acute REL Comparison

Compound	Acute REL
perc	20,000
~~DMC~~Methylene Chloride	14,000
t-BAc	10,000
pCBtF	N/A

Staff Recommendations on pCBtF and t-BAc

The preceding comparison of pCBtF and t-BAc to other toxic compounds that are prohibited from use in VOC rules, including Rule 1171, supports a prohibition of pCBtF and t-BAc. OEHHA's assessment of pCBtF and t-BAc shows these compounds to be as toxic as many chemicals currently prohibited; therefore, staff recommends prohibiting the use of pCBtF and t-BAc.

pCBtF and t-BAc Use in Solvent Cleaning

The main objective of PAR 1171 is to prohibit the use of the two exempt compounds or partially exempt compounds that have been determined to have toxic endpoints: pCBtF and t-BAc. PAR 1171 regulates five main categories of solvent cleaning activities in which each of the main category can further be subcategorized into general and more specific solvent cleaning activities. Staff assessed solvent cleaning materials used in each of the main solvent cleaning activity categories and concluded that majority of the solvent cleaning materials used do not contain pCBtF or t-BAc, therefore a prohibition can take effect relatively quickly.

Automotive Coating Manufacturer pCBtF and t-BAc Survey

During the rulemaking for Rule 1151, staff conducted a survey of automotive coating manufacturers to further understand the extent to which pCBtF and t-BAc is used to comply with the VOC limits in Rule 1151 and for solvent cleaning activities. The survey was conducted in December 2023, of manufacturers who sell automotive coatings and products subject to Rule 1151. The main exempt compounds of interest of the survey were pCBtF and t-BAc. As part of the survey, staff requested additional information regarding solvent cleaning products used for the cleaning of automotive coating spray guns and body panels. Based on the survey data that was submitted by the manufacturers, the use of pCBtF or t-BAc was only identified in solvent cleaning materials used for automotive coating spray gun cleaning activities. However, the primary solvent used for solvent cleaning of associated spray gun equipment is acetone.

Solvent Cleaning Material Assessment and pCBtF Usage

The use of t-BAc is not common since it is not a fully exempted solvent in many South Coast AQMD regulations; it is only partially exempt in a few regulations. Since t-BAc is not considered exempted in Rule 1171, its use is still counted towards the overall VOC content. As a result, most solvent cleaning materials subject to Rule 1171 are not formulated with t-BAc. However, pCBtF is a fully exempted solvent and is used in many industries to comply with low VOC limits in many South Coast AQMD regulations. The use of pCBtF in solvent cleaning material subject to Rule 1171 is limited, staff identified three solvent cleaning operations that use solvent cleaning materials that contain pCBtF in its formulation. The three operations are automotive repair and maintenance (parts washing), offset printing (blanket and roller), and autobody repair (spray gun cleaning). Due to its exempt status, pCBtF is not considered a VOC when used in solvent cleaning material; however, it does have potential health impacts due to its toxic end point.

Rule 1171 establishes VOC limits for all solvent cleaning activities identified in the rule. As previously mentioned, achievement of the target VOC limits is expected through greater use of aqueous or water-based cleaning technologies and VOC exempt solvents, through development of new cleaning materials. All of the VOC limits established in the 1999 amendment for Rule 1171 have now been implemented, including ink application equipment which initially encountered challenges in meeting the lower limit. The printing industry has been largely successful in its efforts for finding suitable low VOC solvent cleaning materials and is a prime example of what research and development can achieve. Most recently members of the printing industry have requested an alternative reactivity-based limit to provide additional compliance flexibility in developing solvent cleaning material formulations; giving the industry ability to provide and use more effective solvent cleaning material and provide additional options.

As mentioned previously, the printing industry was given additional time to test many compliant products in actual production environments which showed that water-based cleaners, blend of other exempt solvents, and methyl esters can be successfully used to clean press rollers and blankets. Staff also conducted several visits to autobody facilities which showed the most common lower cost and pCBtF free options used to clean spray guns is acetone; this was also confirmed in the survey that was conducted for Rule 1151 in December 2023. Automotive repair and maintenance facilities use a pCBtF containing solvent to washing parts or components during transmission or engine repairs; the solvent cleaning material contains 95 percent pCBtF by volume and the intended use of the product is for cleaning and degreasing metal parts for the removal of adhesives, carbon deposits, greases, mold release, oils, and waxes. The manufacturer indicated they primarily rely on pCBtF to comply with the current Rule 1171 VOC limits of 25 grams per liter and that the customer base for the pCBtF containing cleaning material is relatively small and limited to parts washing for transmission and engine repair. The manufacturer indicated that existing customers using the pCBtF containing solvent can be transitioned to a replacement solvent cleaner that is free of pCBtF but would require time to completely transition and replace the existing product.

Staff will be proposing a prohibition of pCBtF and t-BAc that includes sell-through and use-through periods for solvent cleaning materials already in the supply chain in order to prevent stranded assets associated with existing inventory. The sell-through and use-through is for any solvent cleaning material that is manufactured prior to the proposed prohibition date of January 1, 2026. The following table provides a summary of the proposal.

Table 2-4 Proposed Prohibition, sell-through, use-through

Category	Prohibition Effective Date	Sell-through End Date	Use-through End Date
All Solvent Cleaning Activities listed in Table 1	January 1, 2026	~~January~~July 1, 2027	~~January~~July 1, 2028

Aerosol Usage Exemption

Rule 1171 provides an exemption for the use of 160 ounces or less per day of aerosol solvent cleaning products that contain VOC in excess of the limits listed in Table 1 – Table of Standards in the Rule. Aerosol solvent cleaning materials are regulated by the California Air Resources Board and are not required to comply with the VOC limits of Rule 1171; however, Rule 1171 can limit the amount of aerosol solvent that can be used at permitted facilities. Several industries and businesses have indicated that they are currently using and rely on the aerosol exemption for cleaning of specific equipment, while others have indicated that the exemption does not reflect the current operation of their business. Electricity generating and distribution, water distribution, water treatment facilities, battery manufacturing facilities, and automotive repair industry have expressed concerns regarding the current exemption. Staff is proposing to reduce the amount of non-compliant aerosol solvent cleaning products from 160 ounces a day to 1,750 ounces a month.

Aerospace Facilities, Electricity Generating and Distribution, Water Treatment, and Water Distribution

Electricity generating and distribution, water distribution, and water treatment facilities that operate similar equipment currently rely on the aerosol exemption and use aerosolized, alcohol-based solvent cleaning products to clean specific equipment. Many electricity distribution facilities use aerosolized denatured alcohols to clean circuit breaker components such as driving mechanisms and interrupters, as specified by equipment manufacturers. Staff has identified other solvent cleaning materials that can potentially be used to clean the equipment such as dry ice or acetone; however, the equipment manufacturer will not approve the use cleaners that have not been tested; use of untested cleaners can potentially cause safety issues. Furthermore, industry stakeholders expressed concern regarding the availability of denatured alcohol in aerosol spray form since there have been times when it was unavailable. Due to the uncertainty of availability, stakeholders requested the ability to use liquid denatured alcohol or liquid isopropyl alcohol instead of aerosol denatured alcohol. The rule currently allows approximately 456 gallons of denatured alcohol per year in aerosol form, but based on feedback from industry stakeholders, the estimated use of denatured alcohol in liquid form is approximately 70 gallons per year for all large utilities under common ownership. Staff is recommending to allow up to 70 gallons of liquid alcohol use for cleaning and including a ~~maximum incremental reactivity (~~PW-MIR~~)~~ VOC limit to reduce the ozone forming potential of the cleaning solvent to the alcohols currently being used. A discission of PW-MIR based-VOC limits is included later in this chapter. Table 2-5 shows the proposed volume and ~~product weighted MIR limits (~~PW-MIR~~)~~.

Similarly, water distribution and water treatment facilities also requested the use of non-compliant liquid denatured alcohols to clean specific equipment such as ozone generators, UV sterilization systems, chlorine systems, and electrical components. Based on the information provided to staff by the facilities, the equipment manufacturers specify using only denatured alcohol for cleaning the specific equipment. Manufacturers of this equipment have indicated that they have not identified suitable, compliant, non-aerosol solvent cleaning alternatives due to insufficient cleaning ability and/or remaining residue that may impact equipment operation and/or safety. Based on facility feedback, the estimated alcohol usage amounts at each facility are:

- Ozone generators at approximately 15 gallons per generator every 10 years and the facilities have several ozone generators
- UV sterilization at approximately five ounces per reactor with a total of 29 reactors every month
- Chlorine system at approximately five gallons per facility per year and can be up to 6 facilities
- Electrical components at approximately five gallons per year per facility

Staff is recommending allowing up to 70 gallons of liquid alcohol use for cleaning of specific equipment located at electricity and water distribution utility operations. Staff will also include a separate usage limit for chlorination systems, ozone generators, ultraviolet light treatment systems, and chlorination systems. Ozone generators and ultraviolet treatment systems will be allowed a usage limit of 40 gallons and 30 gallons, respectively. Chlorination systems will be provided a usage limit of five gallons per year and all solvent cleaning activities will also include a PW-MIR limit to reduce the ozone forming potential of the cleaning solvent to the alcohols currently being used; the two types of alcohol that are currently being used are isopropyl alcohol and denatured

alcohol. Isopropyl alcohol has a MIR value of 0.61 whereas the MIR value of denatured alcohol can vary based on composition. The composition of denatured alcohol can vary by manufacturer, so staff evaluated the composition of several commercial denatured alcohol products to estimate a range of potential PW-MIR values; the PW-MIR values ranged from 0.94 to 1.7. As a result, staff is proposing a PW-MIR limit at the upper limit of 1.7 which will provide flexibility to the facility. Using the upper limit will allow the facility to use denatured alcohol from several manufacturers. Staff acknowledges that as technology matures, and as treatment capacity and water demand grows, facilities may need to increase the amount of solvent cleaning materials used to maintain equipment in acceptable operating condition. Staff recommends addressing this matter in the future should the need arise. Table 2-5 shows the proposed usage volume and PW-MIR limits.

Table 2-5 Proposed Alternative Usage and PW-MIR VOC Limits

Solvent Cleaning Activity	Usage Limits (gallons per year)	PW-MIR VOC Limit
(A) Electricity Generating or Distribution Equipment	70	1.7
(B) Water Distribution Equipment		
(i) Chlorination Systems	5	1.7
(ii) Ozone Generators	40	1.7
(iii) Ultraviolet Light Treatment Systems	30	1.7

Metric used to qualify for aerosol exemption (fluid ounces versus ounces)

In regard to the aerosol exemption, staff is also proposing to change the metric used to qualify for the exemption from fluid ounces to ounces. Fluid ounces are not a unit of weight and is used to measure volume of a liquid and does not align with the California Air Resources Board (CARB) definition for VOC content of an aerosol product. CARB defines the VOC content of an aerosol product as the total weight of VOC in a product expressed as a percentage of the product weight. Since aerosol products sold for use must comply with CARB's consumer product regulation, most aerosol cans sold in California will have labels that display weight in ounces and/or grams.

Automotive Repair Facilities and Battery Manufacturing Facilities

Most of the solvents used for automotive parts washing are aqueous products or are compliant with the 25 grams per liter VOC limit; however, automotive repair facilities also rely on the exempted use of aerosol solvent cleaning products that contain VOC in excess of VOC limits for small solvent cleaning activities, such as adhesive removal, and for the cleaning of intake throttle body automotive components. Battery manufacturers also rely on this exemption to clean grease or other contaminants from battery terminals. Industry stakeholders indicated that they have tested

compliant alternative cleaning products but have not found a suitable replacement that meets the operational and performance requirements. The aerosol solvent cleaning products used for these cleaning operations have a VOC content greater than 25 grams per liter limit of the rule and usage will vary depending on the volume of cars serviced or the amount of batteries manufactured. A high-volume car service dealership typically needs approximately 4,500 ounces per month of non-complaint aerosol for intake/throttle body cleaning whereas aerosol cleaning solvents used for adhesive removal require a much smaller amount of approximately 75 ounces per year. Battery manufacturers use approximately 2,400 ounces per month to clean the terminals during the battery manufacturing process. The rule currently provides a daily aerosol limit that equates to a 4,800 ounces per month allowance; however, stakeholders expressed concern that the daily allowance does not reflect current operational needs. Stakeholders requested that the allowance for non-complaint aerosols be changed to a monthly limit rather than a daily limit to provide additional flexibility to the facilities. Aerospace facilities also expressed concerns for cleaning similar equipment as the electricity and water distribution utilities. They indicated that they do not intend to use liquid cleaners but will continue to rely on use the aerosol exemption for their cleaning needs, instead of transitioning to liquid cleaners, but need at least 160 ounces per month of aerosols to clean their electrical equipment. This change would not increase or change the overall usage volume and merely provide flexibility to the facility. Staff's assessment did not identify any low VOC alternatives for these specific cleaning operations. As a result, staff is proposing to revise the current aerosol allowances to reflect the operational needs for auto repair facilities and battery manufacturers, as shown in Table 2-6.

Table 2-6 Proposed Usage Limits for Aerosol Solvent Cleaners

Solvent Cleaning Activity	Usage Limits
(A) Cleaning of Automotive Parts	
(i) Throttle Body and Intake Systems	4,800 ounces per month
(ii) All Other Automotive Part Cleaning	32 ounces per month
(B) Battery Terminal Cleaning at Battery Manufacturing Facilities	2,400 ounces per month
(C) All Others Solvent Cleaning Activities	1,750 ounces per month

Product-Weighted Maximum Incremental Reactivity

Many stakeholders have requested that PAR 1171 also includes a general alternative PW-MIR VOC limit of 0.38 g O_3/g VOC for all solvent cleaning activities and an alternative PW-MIR for cleaning of ink application equipment for lithographic and screen printing operations. Staff is proposing an alternative PW-MIR limit of 0.70 g O3/g VOC for cleaning activities subject to Table 1 (D)(iv)(A), lithographic or letterpress ~~press~~ printing for roller wash, blanket wash, and on-press components ink application equipment cleaning, and Table 1 (D)(v) screen printing ink application equipment cleaning. Alternative PW-MIR limits were introduced in Rule 1151- Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations for a few categories to provide

manufacturers additional flexibility to develop alternative compliant formulations with less impact on ozone formation. Traditional mass-based VOC limits treat all VOCs equal, other than water and exempt compounds which are excluded. However, research[2] has shown that different solvents have varying potentials to form ground-level ozone. The MIR scale measures the relative ozone-forming potential of VOCs, offering a more nuanced approach than traditional mass-based limits. By using a PW-MIR VOC limit, one can account for the differences in reactivity, ensuring that products with more reactive VOCs are more strictly regulated, while less reactive VOCs are afforded some flexibility. The California Air Resources Board (CARB) published MIR values for various VOCs, which have been instrumental in developing these limits[3].

As an example, a PW-MIR analysis was conducted in Rule 1151 for the adhesion promoter coating category. Adhesion promoters are typically used to facilitate bonding of paint to plastic automotive parts; adhesion promoters usually consist of a low-solids formulation composed primarily of solvents. One of the primary solvents used is t-BAc but with the prohibition of pCBtF and t-BAc, manufacturers were limited in solvent options to comply with the traditional mass-based limits. For the analysis, staff utilized survey data and online searches to identify adhesion promoters sold within the South Coast AQMD, identifying 15 such products. To gather detailed VOC information for each product, staff reviewed the Safety Data Sheets for all 15 adhesion promoters. Using the CARB MIR values, staff calculated the PW-MIR for each product. In cases where VOC compounds were reported as a range, staff calculated an average PW-MIR based on the mid-point of the reported range, as well as a maximum PW-MIR using the highest reported value for each VOC compound. After calculating the average and maximum PW-MIR values for all the products, staff performed a statistical analysis to propose an appropriate PW-MIR limit for adhesion promoters. Table 2-7 lists the products staff considered; included are the weight percentages (wt%) for pCBtF and t-BAc in those products, as those solvents have very low MIR values. Staff put more emphasis on adhesion promoters without pCBtF and t-BAc to more accurately reflect the potential PW-MIR of these products once those exempt solvents are prohibited.

[2] Carter, William P.L., College of Engineering, Center for Environmental Research and Technology, The SAPRC-99 Chemical Mechanism and Updated VOC Reactivity Scales, February 2023

[3] California Air Resources Board (CARB), "Tables of Maximum Incremental Reactivity (MIR) Values", available at https://ww2.arb.ca.gov/sites/default/files/2020-12/cp_reg_mir-tables.pdf

Table 2-7 PW-MIR Values for Adhesion Promoters in Rule 1151

PRODUCT	Regulatory VOC As Applied (g/L)	pCBtF (wt %)	t-BAc (wt %)	PW-MIR with Average VOC Content (g O_3/g VOC)	PW-MIR with Max VOC Content (g O_3/g VOC)
Product 1	540	87.8	0	0.26	0.36
Product 2	526	0	58.1	1.22	1.75
Product 3	540	0	0	1.35	1.68
Product 4	537	3.1	22	2.72	3.21
Product 5	508	86.9	0	0.35	0.51
Product 6	540	82.8	0	0.4	0.56
Product 7	537	55.8	0	0.49	0.62
Product 8	520	54.8	0	1.42	1.81
Product 9	516	49.4	0	0.16	0.2
Product 10	517	49.3	0	0.37	0.56
Product 11	511	33.9	0	0.47	0.74
Product 12	533	3.5	20.2	2.69	3.17
Product 13	526	0	58.1	1.22	1.75
Product 14	529	0	20	2.68	3.16
Product 15	540	0	0	1.35	1.68

In addition to this assessment, a manufacturer of an adhesion promoter provided data on their potential future non-pCBtF/t-BAc formulation and indicated it could achieve a PW-MIR of between 2.0 – 2.5 g O_3/g VOC, which supports staff's assessment and proposed limit for adhesion promoters in Rule 1151.

The proposed PW-MIR limits for alcohol related solvent cleaning activity in PAR 1171 are in Table 2-5. The PW-MIR limits are designed to achieve equal or greater reductions in ground-level ozone compared to traditional mass-based VOC limits because VOCs with the greatest ozone forming potential will be limited rather than treating each VOC equally; this offers more flexibility in product reformulation. The use of PW-MIR is presented as an option rather than a requirement; the PW-MIR approach provides manufacturers with greater flexibility in reformulating their products. It is also important to note that a product complying with the proposed PW-MIR limit can potentially have a higher mass-based VOC content (g/L) than the limits in the Table of Standards in the rule.

As the South Coast AQMD phases out of exempt solvents such as pCBtF and t-BAc, a mechanism to reduce the air quality impact of solvent cleaning operations is to develop PW-MIR limits. The solvent cleaning materials will continue to have a mass-based VOC limit; however, the new PW-MIR limit may potentially result in less ground-level ozone formation. In essence, reactivity-based limits would require manufacturers to choose solvents with lower MIR value. One of the solvent cleaning materials evaluated by staff was an automotive spray gun cleaner used at autobody repair facilities; a facility can either choose to use a specialty spray gun cleaner that is comprised of a mixture of solvents or acetone. Acetone has a MIR value of 0.36 and a lower potential for ozone formation whereas the specialty spray gun cleaner is only slightly higher. To gather detailed VOC information for the product, staff conducted online searches and also reviewed the technical and safety data sheets for the specialty spray gun cleaner. Using the CARB MIR values, staff calculated the PW-MIR for the product. In cases where VOC compounds were reported as a range, staff determined the PW-MIR based on the upper end of the reported range. Table 2-8 shows staff's assessment of the PW-MIR of a spray gun cleaner that would not meet the mass-based limit of 25 g/L but will comply with the proposed PW-MIR limit of 0.38. The spray gun cleaner is a mixture of acetone and alkanes and has a VOC content of 36 g/L which is higher than the VOC limit of 25 g/L allowed in the rule. The evaluation showed that despite having a higher VOC content limit allowed in the rule, the PW-MIR limit of the cleaner is 0.38 which is similar to the MIR value of acetone. Providing a slightly higher alternative PW-MIR limit at 0.38 will give the manufacturer formulation flexibility to meet the performance requirements of the specific solvent cleaning activity.

Table 2-8 Values of Solvents used in Spray Gun Cleaner

Solvent	Weight Percent	MIR	PW-MIR
Alkanes	3%	0.52	0.03
Acetone	97%	0.36	0.35
Total	**100%**		**0.38**

Potential Ozone Reduction Benefit

By adopting a PW-MIR approach instead of relying solely on mass-based VOC limits measured in grams per liter, the regulatory framework can be better aligned with air quality goals while providing manufacturers with increased flexibility. The PW-MIR approach offers flexibility, allowing manufacturers to explore various formulations without being restricted by a single mass-based VOC limit. This encourages innovation and the development of products that meet regulatory requirements while enhancing performance and reducing environmental impact. Stakeholders that are developing solvent cleaning material also requested that an alternative PW-MIR limit be incorporated since some formulations may not comply with the mass-based limit but would comply with a PW-MIR limit. For the general alternative PW-MIR limits, the stakeholder

indicated that their formulation is comprised primarily acetone with a small mixture of other solvents with an approximate PW-MIR of 0.38. Since acetone is an exempt compound and has a MIR value of approximately 0.4, staff is proposing an alternative PW-MIR limit of 0.38 g O_3/g VOC for all solvent cleaning activities to provide formulation flexibility. For the alternative PW-MIR limit for cleaning lithographic and screen printing ink application equipment, staff consulted with several solvent cleaning manufacturers to determine the PW-MIR limits that would have equivalent or less ozone formation potential than the current 100 g/L VOC limit. Existing solvent cleaning materials were not formulated with the goal of reducing reactivity, so some existing cleaning materials have a very high PW-MIR; however, some solvent cleaners have been formulated to reduce reactivity. Looking at the range of solvents used for cleaning printing equipment and considering what the manufacturers think can be formulated to efficiently clean the equipment, staff is proposing a 0.70 g O_3/g VOC limit. The proposed limit is an alternative limit so facilities can continue to use the 100 g/L mass-based VOC limit that has been in place for 15 years. The alternative is meant to provide flexibility without increasing the ozone formation potential of the cleaning solvents.

Enclosed Mobile Containers Used to Transport Material

Some solvent cleaning operations utilize biodiesel as a solvent cleaning material to clean large enclosed mobile containers used to transport materials. These containers include, but are not limited to, rail tank cars and tanker truck containers. Biodiesel is used as the cleaning agent to remove any residual commodity (known as “heel”) remaining in an empty container. This cleaning system works for various commodities requiring cleaning from enclosed containers, such as asphalt, crude oil, and fertilizers.

These solvent cleaning systems are generally closed loop systems, where a nozzle is attached to the top hatch of an enclosed container, forming a sealed high-pressure wash and rinse system that dissolves and dislodges the heel, then removes the residual wash solution through successive high-pressure rinses. The solvent cleaning wash solutions sprayed inside the railcar are pumped from the enclosed container to a holding tank in a closed loop recirculating system. Spent wash solutions are typically pumped from the storage tank into a tank truck for transport to a commercial waste management facility.

Because there is no established VOC content for biodiesel and because the VOC content of biodiesel can vary, staff is proposing an alternate compliance option for solvent cleaning activities that utilize biodiesel as a solvent cleaning material and that are performed on enclosed mobile containers used to transport material. The proposed alternate compliance option includes requiring the container to be completely airtight and leak free during the solvent cleaning activity and ensuring that all vapor leaks from fugitive components do not exceed a concentration of 50 parts per million calculated as carbon and testing requirements to ensure compliance.

CHAPTER 3: SUMMARY OF PROPOSALS

INTRODUCTION
PROPOSED AMENDED RULE STRUCTURE
PROPOSED AMENDED RULE 1171

Introduction

The main objective of the proposed amendments to Rule 1171 is to phase out the use of pCBtF and t-BAc as solvents in solvent cleaning materials, as directed by the South Coast AQMD's Stationary Source Committee, due to toxicity concerns.

Staff is proposing the following amendments to Rule 1171. The proposed amendments primarily pertain to the prohibition of pCBtF and t-BAc use in the regulated products and the introduction of various types of alternative compliance options, including reactivity-based limits and volumetric usage limits. Some other amendments are for the purpose of rule clarification or streamlining. The proposed revised rule structure and key provisions are discussed in the following sections.

Proposed Amended Rule Structure

(a) Purpose
(b) Applicability
(c) Definitions
(d) Requirements
(e) Alternative Compliance Options
(f) General Prohibitions
(g) Recordkeeping Requirements
(h) Test Methods
(i) Rule 442 Applicability
(j) Exemptions

Proposed Amended Rule 1171

Purpose [Subdivision (a)]

The purpose of this rule is to reduce emissions of VOCs, toxic air contaminants, stratospheric ozone-depleting compounds, and global warming compounds from the use, storage and disposal of solvent cleaning materials used in solvent cleaning activities performed in South Coast AQMD.

No significant revisions were made to this subdivision. The subdivision previously combined with the following Applicability subdivision; however, staff separated the two into separate subdivisions to be consistent with the structure of similar rules. Staff capitalized defined terms to indicate that definitions for the associated terms can be found in the Definitions subdivision.

Applicability [Subdivision (b)]

PAR 1171 applies to any person who uses solvent cleaning materials in solvent cleaning operations during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas within South Coast AQMD at public service facilities or facilities that are a part of a business or businesses. The rule also applies to all persons who store and dispose of solvent cleaning materials used in solvent cleaning operations, and all solvent suppliers who supply, sell, or offer for sale solvent cleaning materials for use in solvent cleaning operations within the South Coast AQMD.

No significant revisions were made to this subdivision. Staff capitalized defined terms to indicate that definitions for the associated terms can be found in the definition's subdivision.

Definitions [Subdivision (c)]

To provide clarity, definitions are used in the proposed amended rule as a proper noun to better distinguish defined terms from common terms. Refer to PAR 1171 for a complete list of definitions.

The following are new and modified definitions for PAR 1171, including some that distinguish the new solvent cleaning activities and associated equipment and facility types. For all definitions, refer to the preliminary draft of PAR 1171 released with the Staff Report. Accordingly, the following definitions will be added:

AEROSOL PRODUCT in paragraph (c)(1), which means:

> *"a hand-held, non-refillable container that expels pressurized product by means of a propellant-inducted force. Aerosol Product does not include pump spray devices, which are packaging systems in which the product ingredients, or Solvent Cleaning Materials, are expelled only while a pumping action is applied to a button, trigger, or other actuator. Ingredients in a pump spray device are not under pressure.*

AUTOMOTIVE PART in paragraph (c)(4), which means:

> *"any individual mechanical component that that is part of a vehicle that allows the vehicle to operate, including but not limited to, engine components, transmission components, suspension components, brake components, and intake system components."*

BATTERY TERMINAL in paragraph (c)(5), which means:

> *"the electrical contact or component of a battery that connects the battery to a charger, device, other battery, or external electrical circuit and transfers energy."*

CHLORINATION SYSTEM in paragraph (c)(8), which means:

> *"a chlorine feed system used for the oxidation of microbiological material, organic compounds or inorganic compounds during the water or wastewater treatment process. Chlorine can be in the form of gaseous chlorine, sodium hypochlorite, or calcium hypochlorite."*

CURED COATING, CURED INK, OR CURED ADHESIVE in paragraph (c)(9), which means:

> *"a coating, ink, or adhesive, that is dry to the touch, and that has undergone a chemical or physical process to achieve its final state and does not release volatile components under normal use conditions."*

ELECTRICITY DISTRIBUTION UTILITY in paragraph (c)(11), which means:

> *"one of several organizations that control energy transmission and distribution in California, including, but not limited to, the Pacific Gas and Electric Company, the San Diego Gas and Electric Company, Southern California Edison, Los Angeles Department of Water and Power, the Imperial Irrigation District, and the Sacramento Municipal Utility District."*

ELECTRICITY GENERATING FACILITY in paragraph (c)(12), which means:

"(A) A facility that is owned or operated by an investor-owned electric utility or a public-owned electric utility and has one or more electric generating units; or

(B) A facility that has electric generating units for onsite use or distribution in the state or local electrical grid system.

Electricity Generating Facility does not include facilities subject to Rule 1109.1 – Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations."

EMISSION CONTROL SYSTEM in paragraph (c)(14), which means:

"any combination of capture systems and control devices used to reduce VOC emissions."

ENERGY CURABLE INK in paragraph (c)(15), which means:

"an ink that dries upon exposure to visible-light, ultra-violet light, or an electron beam."

INK APPLICATION EQUIPMENT in paragraph (c)(26), which means:

"any tool, machine, system, or component of any tool, machine, or system used to apply ink to a substrate."

MAXIMUM INCREMENTAL REACTIVITY (MIR) in paragraph (c)(35), which means:

"the measure of the photochemical reactivity of a VOC, which estimates the weight of ozone produced from a weight of VOC expressed as gram of ozone per gram of VOC (g O_3/g VOC). MIR values for individual VOCs are specified in sections 94700 and 94701, Title 17, California Code of Regulations."

NON-LEAKING CONTAINER in paragraph (c)(39), which means:

"a container that can hold liquids without leaking and is designed to prevent liquids, vapors, or any other contents from escaping through its seams, closures, or any other openings, ensuring secure storage or transport."

OZONE GENERATOR in paragraph (c)(42), which means:

"a mechanical system that produces ozone used for water or wastewater treatment. Ozone is produced by applying an electric potential or ultraviolet light to oxygen that can be either in the form of dry air or pure oxygen. "Ozone Generator" includes the associated oxygen supply equipment that is used to produce ozone."

PERSON in paragraph (c)(44), which means:

"as defined in Rule 102."

PRESS in paragraph (c)(47), which means:

> *"a mechanical device used to apply pressure to an inked surface resting on a substrate to transfer color, design, alphabetical text, or numerals to the substrate."*

PUBLIC WATER SYSTEM in paragraph (c)(49), which means:

> *"a system that provides water for human consumption through pipes or other constructed conveyances that has fifteen or more connections or regularly serves at least twenty-five individuals daily at least sixty days out of the year."*

PRODUCT-WEIGHTED MIR (PW-MIR) in paragraph (c)(50), which means:

> *"the sum of all weighted-MIR for all ingredients in a Regulated Product. The PW-MIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging) and calculated according to the following equations:*
>
> Weighted MIR (Wtd-MIR) ingredient = MIR x Weight fraction ingredient,)
>
> and,
>
> $PW\text{-}MIR = (Wtd\text{-}MIR)_1 + (Wtd\text{-}MIR)_2 + \ldots + (WtdMIR)_n$
>
> where,
>
> | | | |
> |---|---|---|
> | MIR | = | ingredient MIR; and |
> | 1,2,3,...,n | = | each ingredient in the product up to the total n ingredients in the product.*"* |

SOLVENT CLEANER OR SOLVENT CLEANING MATERIAL in paragraph (c)(60), which means:

> *"a liquid substance used to perform Solvent Cleaning."*

SOLVENT CLEANER SUPPLIER in paragraph (c)(61), which means:

> *"any person who sells and delivers or arranges to deliver Solvent Cleaning Materials to a facility subject to this rule."*

SOLVENT CLEANING in paragraph (c)(62), which means:

> *"the use of a Solvent Cleaner or Solvent Cleaning Material for the removal of loosely held uncured adhesives, uncured inks, uncured coatings, and contaminants that include, but are not limited to, dirt, soil, and grease from parts, products, tools, machinery, equipment, and general work areas. Each distinct method of Solvent Cleaning shall constitute a Solvent Cleaning Activity."*

SOLVENT CLEANING ACTIVITY in paragraph (c)(63), which means:

> *"a distinct method of cleaning in a Solvent Cleaning process or single event."*

SOLVENT CLEANING OPERATION in paragraph (c)(64), which means:

> *"a Solvent Cleaning Activity or Solvent Cleaning Activities conducted as part of a business or a public service."*

SOUTH COAST AQMD TEST METHOD in paragraph (c)(66), which means:

> *"a test method included in the manual of "Laboratory Methods of Analysis for Enforcement Samples," which can be found on the South Coast AQMD website and are referenced in subdivision (h)."*

THROTTLE BODY in paragraph (c)(72), which means:

> *"a component of a vehicle air intake system, and is located between the air intake filter and intake manifold of the vehicle air intake system, and controls the amount of air that flows into the vehicle engine."*

ULTRAVIOLET LIGHT TREATMENT in paragraph (c)(73), which means:

> *"the process of using ultraviolet light to inactivate microorganisms (i.e., disinfection) or using ultraviolet light either with or without the addition of peroxide to oxidize contaminants (i.e., oxidation). Ultraviolet light treatment is used for both potable water and wastewater, including indirect and direct potable water reuse projects."*

WATER TREATMENT FACILITY in paragraph (c)(75), which means:

> *"a public entity that is responsible for water delivery operations, sewage pumping plants, sewage treatment, or water reclamation."*

Requirements [Subdivision (d)]

This subdivision contains the provisions for any person who uses solvent cleaning materials in solvent cleaning operations or solvent cleaning activities, and for any person who supplies solvent cleaning materials.

Paragraph (d)(1) - PAR 1171 VOC Content Limits

PAR 1171 establishes VOC content limits and for solvent cleaning activities by category, as summarized in PAR 1171 Table 1 – Table of Standards. The following table provides a summary of the current VOC content limits, staff is not proposing to change any of the current limits. The inclusion of a VOC limit for the cleaning of energy curable lamps and reflectors under ink application equipment is based on manufacturer recommended cleaning and is considered negligible based on the small amount of solvent used and infrequency of equipment cleaning.

Based on the future effective phase out dates, solvent cleaning materials complying with VOC limits will be prohibited from containing pCBtF or t-BAc.

Table 3-1: Summary of the VOC Content Limits

SOLVENT CLEANING ACTIVITY	VOC Limits	
	g/L	lbs/gal
(A) Product Cleaning During Manufacturing Process, or Surface Preparation for Coating, Adhesive, or Ink Application		
(i) General	25	0.21
(ii) Electrical Apparatus Components & Electronic Components	100	0.83
(A) Printed Circuit Boards	800	6.7
(iii) Medical Devices & Pharmaceuticals	800	6.7
(B) Repair and Maintenance Cleaning		
(i) General	25	0.21
(ii) Electrical Apparatus Components & Electronic Components	100	0.83
(A) Electronic or Electrical Cables	400	3.4
(iii) Medical Devices & Pharmaceuticals		
(A) Tools, Equipment, & Machinery	800	6.7
(B) General Work Surfaces	600	5.0
(C) Cleaning of Coatings or Adhesives Application Equipment		
(i) General	25	0.21
(ii) Thin or Sheet Metal Laminating Equipment	950	8.0
(D) Cleaning of Ink Application Equipment		
(i) General	25	0.21
(ii) Flexographic Printing	25	0.21
(iii) Gravure Printing		
(A) Publication	100	0.83
(B) Packaging	25	0.21
(iv) Lithographic (Offset) or Letterpress ~~Press~~ Printing		
(A) Roller Wash, Blanket Wash, & On-Press Components	100	0.83
(B) Removable Press Components	25	0.21
(v) Screen Printing	100	0.83
(vi) Energy Curable		
(A) Ink Application Equipment (except Screen Printing)	100	0.83
(B) Lamps and Reflectors	800	6.7
(vii) Specialty Flexographic Printing	100	0.83
(E) Cleaning of Polyester Resin Application Equipment	25	0.21

Paragraph (d)(2) – Cleaning Devices and Methods Requirements

Staff removed language referencing an Office of Operations' manual listing approved devices for solvent cleaning activities that was to be periodically updated by the Executive Officer previously in subparagraph (d)(2)(D). Staff confirmed that this manual no longer exists. Staff added language to clarify acceptable wipe cleaning solvent cleaning methods.

Subparagraph (d)(2)(G) – Hand-held Spray Devices

Subparagraph (d)(2)(G) outlines the conditions under which the use of pressurized hand-held spray devices to perform solvent cleaning activities are an approved solvent cleaning method. These conditions include that these devices shall only be used at either electricity distribution utilities, electricity generating facilities, water treatment facilities, or water distribution equipment supporting a public water system. The amount of solvent cleaning materials used in these devices must comply with the volumetric usage limits and the solvent cleaning materials must also comply PW-MIR VOC limits pursuant to paragraph (e)(2).

Paragraph (d)(5) – Solvent Cleaning Material Labeling Requirements

In paragraph (d)(5), staff moved solvent cleaning material labeling requirements from the General Prohibitions subdivision to the Requirements subdivision and added a subparagraph requiring solvent cleaning materials that comply with an alternative PW-MIR VOC limit to have a label on the solvent cleaning material container that includes the PW-MIR of the solvent cleaning material.

Alternative Compliance Options [Subdivision (e)]

This subdivision contains the provisions for any person that chooses to comply with the provisions of paragraph (d)(1) by using an approved emission control system or complying with the applicable proposed volumetric usage limits or alternative PW-MIR limit.

Subdivision (e) was previously a paragraph in the preceding subdivision and is now its own stand-alone subdivision. Staff moved this language for better readability and consistency.

Subparagraph (e)(1)(D) – Cleaning of Enclosed Mobile Containers

Subparagraph (e)(1)(D) outlines the requirements for an alternative compliance option for the cleaning of the internal surfaces of enclosed mobile containers used to transport materials. These enclosed containers include but are not limited to rail tank cars and tanker truck containers.

In lieu of complying with the requirements in paragraph (d)(1), subparagraph (e)(1)(D) allows a person to comply with a measuring requirement and output limit of no more than 50 parts per million of VOC calculated as carbon on a South Coast AQMD organic vapor analyzer at all fugitive components, provided that the enclosed container and system is air-tight and leak-free during solvent cleaning activities. For the purpose of this cleaning activity, the air-tight and leak-free enclosed container shall be considered emission control equipment.

Paragraph (e)(2) – Alternative Limits for Electricity and Water Utilities

Paragraph (e)(2) outlines alternative options for the cleaning of specific equipment associated with electricity generation and distribution, water treatment and water distribution utilities. These

options include volumetric usage limits for solvent cleaning materials that exceed VOC limits in paragraph (d)(1) in addition to a PW-MIR incremental reactivity limit.

The proposed PW-MIR limits are based on industry feedback and the solvent cleaning materials reportedly used. This alternative compliance option will require monthly recordkeeping requirements for a minimum of five years and PW-MIR labeling on solvent cleaning material containers.

Table 3-2 Proposed Alternative Usage and PW-MIR VOC Limits

Solvent Cleaning Activity	Usage Limits (gallons per year)	PW-MIR VOC Limit
(A) Electricity Generating or Distribution Equipment	70	1.7
(B) Water Distribution Equipment		
(i) Chlorination Systems	5	1.7
(ii) Ozone Generators	40	1.7
(iii) Ultraviolet Light Treatment Systems	30	1.7

Paragraph (e)(3) – Alternative Limits for Aerosol Solvent Cleaning Materials

Paragraph (e)(3) outlines alternative options for the cleaning of automotive parts, battery terminals, and all other solvent cleaning activities. These options include usage limits for aerosol solvent cleaning products that exceed VOC limits in paragraph (d)(1).

Table 3-3 Aerosol Solvent Cleaner Usage Limits

Solvent Cleaning Activity	Usage Limits
(A) Cleaning of Automotive Parts	
(i) Throttle Body and Intake Systems	4,800 ounces per month
(ii) All Other Automotive Part Cleaning	32 ounces per month
(B) Battery Terminal Cleaning at Battery Manufacturing Facilities	2,400 ounces per month
(C) All Others Solvent Cleaning Activities	1,750 ounces per month

The proposed usage limits are based on industry feedback and reported usage. This alternative compliance option will require monthly recordkeeping requirements for a minimum of five years [*90 Days after Date of Rule Adoption*] and will require that all aerosol solvent cleaning products comply with applicable CARB regulations.

Paragraph (e)(4) – Alternative PW-MIR VOC Limit

Paragraph (e)(4) clarifies that a person can supply for use within South Coast AQMD or use any solvent cleaning materials that comply with an alternative PW-MIR limit of 0.38 g O_3/g VOC for any solvent cleaning activity in lieu of complying with the applicable VOC limit in paragraph (d)(1).

Paragraph (e)(5) – Alternative PW-MIR VOC Limit for Ink Application Equipment

Paragraph (e)(5) clarifies that a person can supply for use within South Coast AQMD or use any solvent cleaning materials that comply with an alternative PW-MIR limit of 0.70 g O_3/g VOC in lieu of complying with the VOC limits in Table 1 (D)(iv)(A), lithographic or letterpress ~~press~~ printing ~~for~~ roller wash, blanket wash, ~~and~~ on-press components, and ink application equipment cleaning, ~~and~~ Table 1 (D)(v) screen printing ink application equipment cleaning, and Table 1 (D)(vi) energy curable printing equipment cleaning.

General Prohibitions [Subdivision (f)]

This subdivision contains the provisions for any person that supplies for use within or uses solvent cleaning materials to perform solvent cleaning activities within the South Coast AQMD.

Paragraph (f)(3) – Carcinogenic Materials and Exempt Compounds

Paragraph (f)(3) was restructured to streamline the rule and group all provisions that include prohibitions together in the same subdivision.

Currently, the rule prohibits the use of any solvent cleaning materials that contain any Group II exempt compounds other than cyclic, branded, or linear, completely methylated siloxanes (VMS).

In addition, PAR 1171 proposes to prohibit the use of solvent cleaning materials that contain pCBtF or t-BAc, with an upper concentration limit of 0.01 weight percent effective January 1, 2026.

Paragraph (f)(4) – Sell-Through and Use-Through Provision

Paragraph (f)(4) clarifies the periods in which solvent cleaning materials that contain pCBtF or t-BAc, and that were manufactured prior to January 1, 2026, can continue to be sold and used.

The sell-through and use-through periods are intended to prevent stranded assets for solvent cleaning materials that are already in the supply chain on the prohibition effective date.

Paragraph (f)(7) – Solvent Cleaning Material Documentation

Paragraph (f)(7) prohibits the use of solvent cleaning materials when documentation confirming the VOC content of the solvent cleaning materials cannot be provided.

This Documentation is required to confirm compliance with applicable VOC limits.

Paragraph (f)(8) – Prohibition of Possession of Non-Compliant Solvent Cleaning Materials

Paragraph (f)(8) prohibits the possession of solvent cleaning materials that do not comply with the requirements of PAR 1171 that are used, intended for use, or labeled for use, for solvent cleaning activities within South Coast AQMD, unless the facility is complying with any of the alternative compliance options pursuant to subdivision (e).

Similar South Coast AQMD rules include a prohibition of the possession applicable non-compliant regulated products in addition to the prohibition of sale and use of applicable non-compliant regulated products.

Recordkeeping Requirements [Subdivision (g)]

Subdivision (g) outlines the recordkeeping requirements including maintaining records for VOC emissions pursuant to Rule 109 – Recordkeeping for Volatile Organic Compound Emissions, emission control systems, and for any person who supplies for use or uses solvent cleaning materials within South Coast AQMD.

This subdivision was previously included in the requirements subdivision; however, staff moved recordkeeping requirements to its own separate subdivision and restructured to streamline and better organize the rule provisions in a manner consistent with the structure of similar rules. Most of the changes are minor, defined terms were capitalized.

Staff revised the lengths of time that records are required to be maintained for uniformity and consistency.

Paragraph (g)(2) – Documentation Requirements

Paragraph (g)(2) specifies the timeframe, information, and documentation to be maintained for each solvent cleaning materials used. The documents must be made available upon request and maintained for five years with the following information: Product name, ~~name and address of suppliers,~~ and dates and quantities used during time period requested by South Coast AQMD, VOC content, PW-MIR value if complying with paragraph (e)(2), (e)(4), or (e)(5).

Subparagraph (g)(2)(C) – Dates and Quantities for Each Solvent Material Used

Subparagraph (g)(2)(C) requires each facility to keep records of the dates and quantities for each solvent cleaning material used. For example, large operations such as electrical utilities and water distribution facilities may have multiple storage and distribution warehouses throughout an area in which they serve; the warehouse issues the solvent cleaning material to the end-user (field or maintenance staff) as needed for each job. Usage and documentation out in the field may be challenging for operations that service a large area, so in order to comply with the recordkeeping requirement, the warehousing issuing the solvent cleaning material will must document the date and quantity of solvent cleaning material issued to end-user. Also added to this requirement, South Coast AQMD can request documentation or records for any specified time period deemed necessary to determine compliance from the facility. For example, South Coast AQMD can request the dates and quantities ranging from one month, three months, six months, twelve months, or any other time period necessary to determine compliance.

Paragraph (g)(2) specifies the timeframe, information, and documentation to be maintained for each solvent cleaning materials used. The documents must be maintained for five years with the following information: Product name, ~~name and address of suppliers,~~ and dates and quantities used during time period requested by South Coast AQMD, VOC content, PW-MIR value if complying with paragraph (e)(2) or (e)(4).

Subparagraph (g)(2)(E) – PW-MIR Recordkeeping

Staff added a subparagraph requiring documentation to be maintained confirming the PW-MIR value of materials used that comply with an alternative PW-MIR limit in lieu of applicable Table 1 VOC limits.

Paragraph (g)(3) – Solvent Cleaning Material Suppliers

Staff added recordkeeping requirements for any solvent cleaner supplier supplying solvent cleaning materials for use in the South Coast AQMD.

Paragraph (g)(5) – Remote Reservoir Cleaners

Staff added recordkeeping requirements for repairs of any liquid leak, visible tear, or crack detected in a remote reservoir cleaner solvent cleaner container. The recordkeeping is needed to ensure the existing requirements to repair any liquid leak, visible tear, or crack detected is conducted within one calendar day.

Test Methods [Subdivision (h)]

This provision specifies the approved test methods for determining the VOC content of solvent cleaning materials, to quantify amounts of exempt perfluorocarbon compounds in solvent cleaning materials, and efficiency of emission control systems.

Staff removed an outdated test method that is no longer used by the South Coast AQMD laboratory and corrected a separate referenced test method name. The structure and numbering has been amended and streamlined.

Subparagraph (h)(1)(D) – Determining VOC Content by Thermogravimetric Analysis

Subparagraph (h)(1)(D) includes an additional test method in which VOC content may be determined using thermogravimetric analysis according to ASTM Standard Test Method E 1868 - Standard Test Method for Loss-On-Drying by Thermogravimetry. This method is being included to provide greater flexibility for cleaning solvents that contain semi-volatile compounds which are not well characterized by Reference Test Method 24. Anyone using this method to determine the VOC of their cleaning solvent must also follow the quality assurance and quality control procedures using South Coast AQMD Additional Requirements to ASTM Standard Test Method E 1868-10 for Metalworking Fluids and Direct-Contact Lubricants. For cleaning solvents that contain VOC levels less than 150 g/L, South Coast AQMD Test Method 313 – Determination of Volatile Organic Compounds (VOC) by Gas Chromatography/Mass Spectrometry/Flame Ionization Detection (GC/MS/FID) provides the most accurate results and will be used for compliance determinations at the South Coast AQMD laboratory.

Rule 442 Applicability [Subdivision (i)]

This provision clarifies that any solvent cleaner, solvent cleaning material that is exempt pursuant to subdivision (j) from all or a portion of the VOC limits of subdivision (d), shall comply with Rule 442 – Usage of Solvents. This subdivision was not changed other than to capitalize defined terms and amend a reference that changed.

Exemptions [Subdivision (j)]

This subdivision provides conditional exemptions to various provisions of PAR 1171.

Paragraph (j)(1) – Recordkeeping Exemption

Paragraph (j)(1) outlines the conditions in which a person conducting solvent cleaning activities shall not be subject to the recordkeeping provisions in subdivision (g). Staff made no significant changes to this paragraph, but did reword the paragraph to provide greater clarity.

Paragraph (j)(2) – Exempt Solvent Cleaning Activities

Paragraph (j)(2) lists various solvent cleaning activities exempt from all provisions of this rule. Most of these exempted solvent cleaning activities are subject to separate rules. Staff made minor edits to this paragraph and moved an exemption that was previously listed in a paragraph (j)(10) to subparagraph (j)(2)(H). Staff added subparagraph (j)(2)(I) to include a conditional exemption for cleaning of high voltage cables during cable splicing activities where the VOC content of the solvent cleaning materials used does not exceed 790 g/L. The cleaning activity involves the use of individually wrapped saturated towelettes out in the field for specific cable splicing activities on high voltage lines. The cleaning activity using the towelettes occurs in high above ground locations or underground locations. The use of the towelettes is preferred over the use of an aerosol since

maintenance time is limited and each towelette is premeasured with the correct amount of solvent for necessary cleaning.

Paragraph (j)(3) – Exemptions from VOC Limits

Paragraph (j)(3) lists solvent cleaning activities that are exempt from the VOC limits in paragraph (d)(1).

Staff removed conditionally exempt solvent cleaning activities, which the exemption status is contingent on the use of a solvent cleaning material that complies with a maximum VOC content limit. Staff moved these solvent cleaning activities and the respective VOC limits to paragraph (d)(1) to be consistent with other solvent cleaning activities with an applicable VOC limit.

Paragraph (j)(4) – Aerosol Atomization Exemption

Paragraph (j)(4) maintains the exemption of the use of aerosol solvent cleaning products that have a VOC content that complies with the VOC limits in Table 1 from paragraph (f)(1), which prohibits solvent cleaning materials from being atomized unless they are vented to emission control equipment. Staff removed language limiting the volume of aerosol solvent cleaning products that contain VOC in excess of Table 1 VOC limits that can be used and revised and relocated the language to subdivision (e).

Paragraph (j)(5) – Exemptions of Various Cleaning of Coatings or Adhesives Application Equipment

Paragraph (j)(5) lists specific solvent cleaning activities for coating or adhesive application equipment that are exempted from the VOC limits in subparagraph (d)(1)(C).

Staff revised subparagraph (j)(5)(C) to remove the conditional VOC limit of 900 g/L for solvent cleaning materials used for the cleaning of solvent-based fluoropolymer coating application equipment and is proposing to replace the VOC limit with a volumetric usage limit of one gallon per day.

Paragraph (j)(7) and Paragraph (j)(8) – On-Press Screen Cleaning and UV/EB Ink Application and Curing Equipment Cleaning

Paragraph (j)(7) outlined an exemption for the use of solvent cleaning materials used for the cleaning of on-press screen printing equipment from VOC limits listed in clause (c)(1)(D)(v). Paragraph (j)(8) outlined an exemption for the use of solvent cleaning materials used for cleaning of UV/EB ink application and curing equipment from VOC limits listed in clause (c)(1)(D)(vi). Both of the exemptions were allowed until January 1, 2010. Staff has removed these two paragraphs as they are both now obsolete.

Paragraph (j)(10) – Printing and Film Operation Exemption

Paragraph (j)(10) was removed and added to paragraph (j)(2) as subparagraph (j)(2)(H) to streamline the listing of solvent cleaning activities exempt from all provisions of this rule.

CHAPTER 4: IMPACT ASSESSMENT

~~INTRODUCTION~~

EMISSIONS INVENTORY ~~AND~~

CONTROL TECHNOLOGY

EMISSION REDUCTIONS

COST-EFFECTIVENESS AND INCREMENTAL COST-EFFECTIVENESS

SOCIOECONOMIC IMPACT ASSESSMENT

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

DRAFT FINDINGS UNDER THE HEALTH AND SAFETY CODE

COMPARATIVE ANALYSIS

Emission Inventory

To estimate the VOC emissions inventory for PAR 1171, staff reviewed the rule factors associated with the 2009 rule amendment. The rule factors from the 2009 amendment impacted 3 Source Classification Codes (SCC) for point sources and 13 Category Emission Source (CES) codes for area sources. The category for area sources includes chemical evaporation of organic solvents relating to cold solvent cleaning or stripping, general thinning solvents, printing and publishing, solvent degreasing, tank truck and railcar cleaning, graphic arts, and surface coating operations. Categories for point sources include industrial solvent use, cold cleaning and degreasing, and hand wiping with solvents. Staff then ran a query of Annual Emissions Reporting (AER) SIP inventory for compliance year 2023 using the SSC and CES codes. Based on the evaluation, PAR 1171 point sources account for approximately 0.003 tons per day whereas area sources accounts for approximately 3.6 tons per day; the main contributor to the VOC baseline emissions are area sources. PAR 1171 has an estimated 2023 VOC baseline emissions inventory of approximately 3.6 tons per day.

Control Technology

Compliance with PAR 1171 is expected to be met through the use of aqueous solvent cleaning material or by substituting solvent cleaning materials with other chemicals that contain less VOCs, non-toxics solvents, and no stratospheric ozone-depleting compounds. The manufacturers will have flexibility to use any compliant alternative reformulation to meet the VOC limits in PAR 1171. Some end-users may comply with the rule using alternative options such as control devices (e.g., emission collection systems or thermal oxidizer). The latter options may be cost prohibitive for most facilities, so it is anticipated that most will comply with existing VOC limits with existing products or commercially available replacement products.

Emission Reductions

Staff's proposed prohibition of pCBtF and t-BAc does not impact existing VOC emissions for the solvent cleaning activities subject to the rule since alternative pCBtF-free formulations are currently available that meet existing limits. The prohibition will not require any changes to existing VOC limits and will be maintained at current levels. In addition, staff's proposed change to the current aerosol exemption for electricity and water distribution utilities will not impact VOC emissions since the overall usage amounts will not change; the change is simply an alternative usage allowance for the use of liquid alcohol rather than aerosol alcohol. Similarly, changes to the aerosol exemption by including a usage limit for specific operations related to cleaning of automotive parts or battery terminal cleaning at battery manufacturing facilities will not impact exiting aerosol usage and will remain unchanged. Therefore, staff will not be considering any associated emission reductions with the proposed amendments to PAR 1171.

Cost-Effectiveness and Incremental Cost-Effectiveness

Cost-Effectiveness

Staff does not anticipate any cost associated with the proposed changes to PAR 1171 since only a few solvent cleaning materials use pCBtF in their formulations and most solvent cleaning materials already have direct replacements; thus, a cost-effectiveness and incremental cost-effectiveness analysis was not conducted.

Socioeconomic Impact Assessment

The proposed amendments to Rule 1171 do not significantly affect air quality or emission limitations, and thus, will not result in socioeconomic impacts. Therefore, a socioeconomic impact assessment is not required by Health and Safety Code Sections 40440.8 and 40728.5.

California Environmental Quality Act

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project (PAR 1171) is exempt from CEQA pursuant to CEQA Guidelines Sections 15061(b)(3) and 15308. Further, there is no substantial evidence indicating that the exceptions set forth in CEQA Guidelines Section 15300.2 apply to the proposed project. A Notice of Exemption ~~will~~ has been prepared pursuant to CEQA Guidelines Section 15062, and if the proposed project is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties, and with the State Clearinghouse of the Governor's Office of Planning and Research.

Draft Findings Under the Health and Safety Code

Health and Safety Code Section 40727 requires that prior to adopting, amending, or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, nonduplication, and reference, as defined in that section, based on relevant information presented at the Public Hearing, this written analysis, and the rulemaking record. The draft findings are as follows:

Necessity – PAR 1171 is needed to phase out two exempt compounds, pCBtF and t-BAc, to address their toxic risk as by proposed by 2022 AQMP Control Measure CTS-01.

Authority - The South Coast AQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from Health and Safety Code Sections 39002, 40000, 40001, 40440, 40441, 40702, 40725 through 40728.5, 40920.6, and 41508 as well as the federal Clean Air Act.

Clarity - PAR 1171 is written and displayed so that the meaning can be easily understood by persons directly affected by it.

Consistency - PAR 1171 is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or federal and state regulations.

Nonduplication - PAR 1171 does not impose the same requirement as any existing state or federal regulation, and the proposed amendments are necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

Reference - In amending Rule 1171, the South Coast AQMD Governing Board references the following statutes which the South Coast AQMD hereby implements, interprets, or makes specific: Health and Safety Code Sections 39002, 40000, 40001, 40406, 40702, 40440(a), 40725 through 40728.5, 40920.6, 41508 and ~~40702~~federal Clean Air Act Sections 110, 172, and 182(e).

Comparative Analysis

Under Health and Safety Code Section 40727.2, the South Coast AQMD is required to perform a comparative analysis when adopting, amending, or repealing a rule or regulation. The comparative

analysis is relative to existing federal requirements, existing or proposed South Coast AQMD rules and air pollution control requirements and guidelines which are applicable to VOC regulations for solvent cleaning operations. There are no other existing or proposed South Coast AQMD rules and air pollution control requirements and guidelines which are applicable to VOC regulations for solvent cleaning operations.

Rule Element	PAR 1171	U.S. EPA Control Techniques Guidelines: Industrial Cleaning Solvents	California Air Districts
Applicability	• Any person who uses solvent cleaning materials in solvent cleaning operations or solvent cleaning activities during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas as a part of a business or public service within the South Coast AQMD • All persons who store and dispose of solvent cleaning materials used in solvent cleaning activities • All solvent cleaner suppliers who supply, sell, or offer for sale solvent cleaning materials for use in solvent cleaning operations or solvent cleaning activities within the South Coast AQMD	• Any industry that uses organic solvents for cleaning operations where a facility emits at least 15 lbs/day of VOC before consideration of controls in an ozone nonattainment area	• Any process, including wipe cleaning, used to clean or dry metal and non-metal surfaces typically using a cold, vapor or conveyorized solvent cleaner (BAAQMD) • Any organic solvent cleaning performed outside a degreaser during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or in general work areas at stationary sources; storage and disposal of all solvents and waste solvent materials at stationary sources (SJVAPCD)
Requirements	• VOC limits for solvent cleaning activity categories: product cleaning during manufacturing process, or surface preparation for coating adhesive, or ink application; repair and maintenance cleaning; cleaning of coatings or adhesives application equipment; cleaning of ink application equipment; and cleaning of polyester resin application equipment • Alternative VOC limit applicable to all solvent cleaning activities • Alternative volumetric material usage limits coupled with alternative VOC limits • Sell through and use through for products on shelf prior to effective date of rule • Solvent cleaning method requirements • Alternative Compliance option using emission control system	• Work practices to reduce VOC emissions from the use, handling, storage, and disposal of cleaning solvents • VOC content limit of 50 g/L for general purpose cleaning solvents • Alternative composite vapor pressure limit of 8.0 mmHg at 20 degrees Celsius, or an alternative limit that may be used in lieu of the 50 g/L VOC content limit	• VOC content limit of 50 g/L for cold cleaners used for general repair and maintenance cleaning (BAAQMD) • Identical VOC limits to PAR 1171 (SJVAPCD)

Rule Element	PAR 1171	U.S. EPA Control Techniques Guidelines: Industrial Cleaning Solvents	California Air Districts
Prohibition	• Prohibition of the atomization of solvent cleaning materials unless vented to emission control equipment • Prohibition of sale and use of products containing specified exempt compounds • Prohibition of sale and use of carcinogenic material • Prohibition of sale and use of solvent cleaning materials containing pCBtF and t-BAc at a future date	None	• Prohibition of the atomization of solvent cleaning materials unless vented to emission control equipment (SJVAPCD)
Recordkeeping	• Daily usage • Material data	None	• Monthly usage, Material data (BAAQMD) • Daily usage, Material data (SJVAPCD)
Administrative	• Container labeling of VOC content	None	• Container labeling of VOC content (BAAQMD) • Container labeling of VOC content (SJVAPCD)
Exemptions	• Exemption for solvent cleaning activities subject to other source specific rules • Exemption for solvent cleaning materials containing less than 25 grams per liter of VOC • Exemption for specified cleaning activities	• Cleaning operations listed for regulation under CAA Section 183(e)	• Similar to PAR 1171 (BAAQMD) • Similar to PAR 1171 (SJVAPCD)

APPENDIX A: RESPONSES TO COMMENTS

Public Workshop Comments

Staff held a Public Workshop on March 28, 2025, to provide a summary of PAR 1171. The following is a summary of the verbal comments received on PAR 1171 and staff's responses.

Commentor #1 Doug Raymond – W.M. Barr

Doug Raymond expressed support of staff's change of the unit of measurement used from fluid ounces to ounces to limit the usage of aerosol solvent cleaning products that contain VOC in excess of applicable Table 1 VOC limits. Mr. Raymond also expressed support for staff's change from a daily aerosol product allowance of 160 ounces to a monthly allowance of 160 ounces; however, Mr. Raymond expressed concern that the monthly limit may still be too stringent. Mr. Raymond suggested a weekly limit of 160 ounces or a monthly limit of 640 ounces. Mr. Raymond expressed concern regarding the proposed definition of *solvent cleaning activity* and whether residential use of household consumer products may be subsequently subject to PAR 1171. Mr. Raymond requested clarity regarding the alternative compliance option for electricity generating and distribution equipment, and the general alternative PW-MIR limit proposed for all solvent cleaning activities. Mr. Raymond expressed concern regarding the proposed prohibition of volatile methylated siloxanes (VMS)-containing solvent cleaning materials, stating that certain solvent cleaning activities rely on VMS, and that a prohibition of VMS compounds would be premature due to the lack of conclusive toxicity data. Mr. Raymond concluded by stating that the June Governing Board meeting for PAR 1171 was too soon and that more time is needed for rule development.

Staff Response to Commentor #1:

Staff acknowledged the commentor's concerns regarding the proposed aerosol allowance revisions made and revised the proposal to allow 1,750 ounces per month of aerosol solvent cleaning products that contain VOC in excess of Table 1 limits to be used. Staff clarified that the alternative compliance options for electricity generating and distribution equipment and water distribution equipment require compliance with both the proposed applicable volumetric usage limit and PW-MIR limit. Staff also clarified that the proposed general alternative PW-MIR limit of 0.38 g O_3/g VOC is an alternative compliance option for all solvent cleaning activities. Staff acknowledged commentor's concerns regarding the prohibition of VMS and agreed to maintain the current allowance and continue to further assess its potential toxicity and consider revising the allowance in the future.

Commentor #2 Nicholas Georges – Household and Commercial Products Association (HCPA)

Mr. Georges expressed concern regarding the proposed prohibition of VMS-containing solvent cleaning materials and stated that a prohibition would be premature due to inconclusive toxicity data.

Staff Response to Commentor #2:

Staff acknowledged the commentor's concerns regarding the prohibition of VMS and agreed to maintain the current allowance and continue to further assess its potential toxicity and consider revising the allowance in the future.

Commentor #3 Bill Pearce – Boeing

Mr. Pearce expressed concern regarding the revised definition of *non-leaking container*, stating that the criteria to meet the revised definition may not be feasible. Mr. Pearce also expressed concern regarding the proposed prohibition of possession of non-compliant solvent cleaning materials and recordkeeping requirements. Mr. Pearce explained that facilities may receive solvent materials that are not intended for use within South Coast AQMD and store them until they are shipped to their next destination.

Staff Response to Commentor #3:

Staff acknowledged the commentor's concerns regarding the mentioned definition and proposed prohibition of possession of non-compliant solvent cleaning materials and agreed to revise~~d~~ both to address the commentor's concerns. While staff acknowledges the commentor's concerns regarding recordkeeping requirements, the proposed additions to the recordkeeping requirements are required of solvent cleaner suppliers.

Commentor #4 Rita Loof – RadTech

Mrs. Loof expressed appreciation for the inclusion of a definition for energy curable inks in PAR 1171 and suggested incorporating ASTM D7767-11 into the test methods subdivision for UV/EB/LED materials. Mrs. Loof stated that more time was needed for rule development and suggested delaying the Governing Board meeting. Mrs. Loof expressed concern regarding the proposed recordkeeping requirements.

Staff Response to Commentor #4:

Staff acknowledged the commentor's concerns regarding recordkeeping requirements, the proposed additions to the recordkeeping requirements are required of solvent cleaner suppliers. ASTM International D7767-11 "Standard test Method to Measure Volatiles from Radiation Curable Acrylate Monomers, Oligomers and Blends and Thin Coatings Made from Them" is not a U.S. EPA approved test method and cannot be used to enforce a SIP approved rule, therefore will not be added to PAR 1171.

Commentor #5 Jay Parepally – Communities for a Better Environment

Mr. Parepally expressed concern regarding fugitive solvent vapors and inspection frequency and suggested requiring signage at facilities conducting solvent cleaning operations warning the public of potential solvent vapors.

Staff Response to Commentor #5:

Staff acknowledged the commentor's concerns and clarified that while South Coast AQMD inspectors routinely conduct compliance inspections of facilities, the frequency of inspections conducted at each facility can vary for a variety of reasons, including but not limited to staffing. In regard to signage, Rule 1171 covers a large variety of facilities, some using water based cleaning materials with detergent. Requiring warning signs at every facility would be overly burdensome and could cause undue concern by the public. Further, California's Proposition 65 already requires signage to warm the public when businesses use chemicals that could cause cancer, birth defects or other reproductive harm.

Commentor #6 Katy Wolf – IRTA

Ms. Wolf requested clarity regarding the general alternative PW-MIR limit for all solvent cleaning activities and if the limit is tied to a usage limit. Ms. Wolf expressed support of a prohibition of VMS-containing solvent cleaning materials, specifically D5.

Staff Response to Commentor #6:

Staff clarified that the general alternative PW-MIR limit of 0.38 g O_3/g VOC is not tied to any volumetric usage limit. Staff acknowledged the commentor's support of a prohibition of VMS but will wait to make changes in the prohibition until more definitive information is known.

Commentor #7 Rita Loof – RadTech

Mrs. Loof suggested taking into consideration medical sterilization facilities transitioning away from ethylene oxide equipment to UV light treatment equipment and granting regulatory relief in regard to PAR 1171 recordkeeping requirements.

Staff Response to Commentor #7:

Staff acknowledged commentor's suggestion; however, no additional recordkeeping requirements are being proposed for facilities conducting solvent cleaning activities.

Commentor #8 Cindy Parsons – LADWP

Ms. Parsons requested clarity whether facilities must maintain all records on-site at the facility where solvent cleaning activities are conducted or if records can be maintained at a central location. Ms. Parsons inquired about the proposed changes in the period of time required for records to be maintained.

Staff Response to Commentor #8:

Staff clarified that records may be maintained electronically or at a central location. Staff has revised the recordkeeping requirements to remove language requiring records to be maintained on-site. Staff clarified that South Coast AQMD rules generally require records to be maintained for a period of five years and that the proposed changes are consistent with other similar rules.

Commentor #9 Jay Parepally – Communities for a Better Environment

Mr. Parepally requested clarity regarding VOC limits in Table 1, specifically if the solvent cleaning activities listed also had associated volumetric usage limits. Mr. Parepally also inquired about different types of emission control systems, and the varying control and capture efficiency requirements for emission control systems. Mr. Parepally inquired about the time required for solvent cleaning material manufacturers to disclose if materials contain exempt perfluorocarbon compounds listed in the test methods subdivision.

Staff Response to Commentor #8:

Staff clarified that the VOC limits in Table 1 are not tied to a volumetric usage limit. Staff explained that various equipment associated with emission control systems used for various industrial processes, materials, other equipment, and types of resulting emissions may have varying physical limitations in capture and control efficiencies. Staff clarified that manufacturers generally will list the composition of solvent cleaning materials on safety data sheets (SDS) and that manufacturers aren't required to have products analyzed for the presence of exempt

perfluorocarbon compounds unless the manufacturer chooses to utilize the compounds to comply with Table 1 VOC limits pursuant to paragraph (h)(2).

Comment Letter #1

March 27, 2025

Mr. Christopher Bradley
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: South Coast Air Quality Management District Proposed Amended Rule 1171 – Cleaning Operations

Dear Mr. Bradley:

The W.M. Barr & Company, Inc. appreciates the opportunity to comment on the South Coast Air Quality Management District (SCAQMD) proposed amendments to Rule 1171 Cleaning Coating Operations. The W.M. Barr & Company, Inc. is a major supplier of Multi-purpose Solvents and Paint Thinners to the retail market under our Klean-Strip® brand. Our family of brands supports consumers in their efforts to maintain clean and well-maintained homes.

W. M. Barr has worked with SCAQMD in the past to provide comments and demonstrations that have assisted in developing rule which are better for the environment and for Industry.

Our comments are mainly focused in two sections of the regulations. These two sections are the (d) (3) Alternative limits for Aerosol Cleaners and (f) (3) General Prohibitions that deal with metholated siloxanes (VMS).

Aerosol Products

The SCAQMD Rule has a long history with regulating Aerosol Products. Consumer Products, including Aerosol Products were first regulated in the early nineties by the California Air Resources (CARB). At that time some limits were significantly higher, especially on Carb and Choke products and Brake Cleaners. Since that time CARB has re-regulated numerous categories and the VOC limits have been reduced significantly. Today the limits have been reduced to the lowest point that is technologically feasible per the State law that governs the CARB regulation.

1-1

Thus, there is little need for SCAQMD to continue to regulate the Aerosol products. W.M. Barr is proposing the SCAQMD simply propose to amend Rule 1171 to state that any cleaning product used under Rule 1171 needs to comply with CARB. This will regulate any products that are used in a manufacturing setting which is currently the only sector not currently subject to the CARB regulations all other uses are currently regulated and enforced by CARB.

W.M. Barr & Company, Inc.
1715 Aaron Brenner Dr., Suite 200, Memphis, TN 38120
www.wmbarr.com

1

If SCAQMD does not agree to simple regulate Aerosol Cleaners in this manner, then additional changes need to be made to section (d) (3). The current list of Solvent Cleaning Activities is grossly understated in Table 3. The activities listed in Table 3 ignore numerous uses of cleaning products such as General-Purpose Cleaners, General Purpose Degreaser, Glass Cleaners and other types of surface cleaners routinely used in manufacturing and maintenance of products and components. Replacing 160 ounces per day with 160 ounce per month is not feasible. We would request at least 160 ounces per week or 640 ounces per month to cover other solvent cleaning activities that SCAQMD has not specifically detailed.

1-1 Cont.

VMS

Volatile Methylated Siloxanes (VMS) particularly Octamethyl Cyclotetrsiloxane CAS #556-67-2 (04) is used for a wide variety of consumer and industrial applications. SCAQMD has proposed to virtually ban the use of this compound in the amendments. This compound has been used to replace the use of PCBTF in specialty cleaners which SCAQMD has also proposed to ban in this amendment. In fact, D4 is the only known viable replacement for PCBTF in specific solvent-based cleaning applications other than VOC organic solvents. SCAQMD has stated that numerous other alternatives are available to replace VMS or PCBTF. W.M. Barr would like to request a list of these other alternatives to be used. Our searches have not yielded any replacements for these compounds in cleaning applications for plastic automotive body surfaces.

SCAQMD should revisit the proposal of the ban on D4. The VMS ban is under subsection (f) (3) (B) Carcinogenic Materials and Exempt Compounds. While D4 is exempt it is not carcinogenic. In fact, this compound has not even been listed on the Proposition 65 list by the Office of Environmental Health Hazard Assessment (OEHAA). Thus, we do not understand the reason to ban this important chemical. W.M. Barr has prepared the attached summary on D4 to explain how toxicity of this compound does not support the need for a ban on use of the compound. Specifically, D4 is a critical tool to provide crucial cleaning efficacy needed in solvent cleaning operation. In addition to the summary paper, attached is the full draft risk evaluation on the toxicity of D4 and a representative supplier material Safety Data Sheet. W.M. Barr respectfully request SCAQMD reconsider a ban on D4.

1-2

Summary

W.M. Barr & Company again appreciates the opportunity to comment on the amendments to Rule 1171.

In summary, SCAQMD should consider using the CARB regulation for regulating Cleaning Products. If not SCAQMD needs to allow for the use of other solvent cleaning applications

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that to date SCAQMD has not considered, such as cleaning of surface areas in manufacturing or just general cleaning.

Next, SCAQMD should remove the ban on VMS particularly D4. After SCAQMD reviews the attached data of the toxicity of D4, the ban should be removed.

W. M. Barr respectfully requests the above issues be reviewed; in addition, W.M. Barr would like to meet with SCAQMD staff to discuss these important amendments in Rule 1171 in further detail.

Thank you for your consideration to these comments and we look forward to working with you on these amendments. Any questions or comments please contact our consultant Doug Raymond at djraymond@me.com or at 440-339-4539.

Sincerely,

Amanda Burwell

Amanda Burwell
Director of Regulatory Affairs | W.M. Barr
C: (901) 426-0958
1715 Aaron Brenner Dr. l Suite 600 l Memphis, TN 38120
www.wmbarr.com

cc: Heather Farr
cc. Michael Morris
cc: Doug Raymond

Response to Comment 1-1

Staff appreciates W.M. Barr's feedback and participation throughout the rule development. Staff acknowledges that the VOC content in aerosol products regulated by CARB have been significantly reduced since the early nineties. CARB's regulation pertaining to Antiperspirants and deodorants, consumer products, and aerosol coatings have set limits for 129 consumer product categories. According to CARB, once these three regulations are fully implemented, VOC emissions will be reduced by about 50 percent compared to 1990 levels. However, despite the progress, CARB also predicted that consumer products will become the largest source category of VOC emissions in the South Coast Air Basin by 2020. The South Coast Air Basin is classified as an "extreme" nonattainment area for the following National Ambient Air Quality Standards (NAAQS): 1979 1-hour ozone, 1997 8-hour ozone, 2008 8-hour ozone and the 2015 ozone NAAQS. Therefore, South Coast AQMD must look at all feasible measures to reduce ozone and does not agree with the statement that there is little need for South Coast AQMD to continue to regulate aerosol products in PAR 1171. The aerosol allowance is currently for "non-complaint" products was included to address specialized cleaning operations that cannot comply with the VOC limits. The VOC limits for aerosol products regulated by CARB remain higher than those in PAR 1171, so it is necessary to regulate or limit the amount of aerosol products that can be used to minimize excess emissions. However, additional stakeholders raised a similar concern regarding the 160 ounces per month will be challenging. To address the specific concerns from several operations, staff revised the aerosol solvent cleaner usage limit from 160 ounces per month to 1,750 ounces per month.

Response to Comment 1-2

Thank you for providing the documents and information regarding the use of volatile methylated siloxanes (VMS). Staff is aware that VMS is currently used in a variety of consumer and industrial applications such as solvent cleaning. The VMS alternatives mentioned by staff was in regard to a specialty solvent used for automotive parts cleaning; the manufacturer indicated that they currently have a replacement product for the VMS containing solvent. Staff was only aware of VMS use for automotive parts cleaning and not aware of its use for cleaning of automotive body surfaces.

Staff's initial proposal to prohibit VMS along with pCBtF and t-BAc was because cyclic, branched, or linear, completely methylated siloxanes (VMS) were added to the list of defined Group II exempt compounds in South Coast AQMD Rule 102 – Definition of Terms in 1995. Rule 102 states that the use of Group II compounds may be restricted in the future because they are either toxic, potentially toxic, upper-atmosphere ozone depleting substances, or cause other environmental impacts. The Office of Environmental Health Hazard Assessment (OEHHA) reviewed VMS but ultimately could not make a conclusive determination on their toxicity. Based on the review OEHHA conducted for CARB, staff initially decided to take a precautionary approach and include VMS as part of the pCBtF and t-BAc prohibition. However, after careful review of the study provided and additional evaluations conducted, staff concluded that additional information and data related to VMS are still needed to make a final determination on toxicity. As result, staff is not proposing to prohibit VMS compounds in PAR 1171 at this time but will continue to monitor their status and any future evaluations from OEHHA.

Comment Letter #2

EDISON | Energy for What's Ahead™

Southern California Edison COMMENTS and Request for Clarification

Proposed Amended Rule 1171. Solvent Cleaning Operations

April 8, 2025

Southern California Edison (SCE) appreciates the opportunity to present comments and requests for clarification for Proposed Amended Rule 1171, *Solvent Cleaning Operations*. to the South Coast Air Quality Management District. Below is a summary of our comments and requested revisions.

Requirements

1. Table 2 – Alternative Usage and MIR Limits. There seems to be a disconnect between the discussion in the staff report regarding the use of denatured alcohol (DA) and the MIR limit included in Table 2 for Electricity Generating or Distribution Equipment. The staff report acknowledges the need to use DA to clean components. However, Table 2 PW-MIR limit of 0.61 appears to align with current alcohol-based products. SCE must use straight DA at our facilities. Studies have shown various product combinations are not as effective as DA alone. As of now, Mitsubishi Electric Power Products (MEPPI) has not yet completed the testing of IPA but has already stated that IPA is not an acceptable alternative for some components that make up a significant part of SCE's inventory. SCE will switch to IPA where MEPPI supports its use. However, until then, we will need to use straight DA on many of our components. As such, a PW-MIR limit of 0.61 for Electricity Generating or Distribution Equipment is not a feasible limit for SCE. We request this limit be revised to 1.7 to allow us to continue our cleaning operations until a lower MIR product is approved. **2-1**
2. Alternative Limits for Aerosol Cleaning. Thank you for increasing the Aerosol Solvent Cleaner Usage Limit for "All Others Solvent Cleaning Activities" to 160 ounces per month. Based on our current operations and input from our field personnel, SCE respectfully requests that this limit be further increased to 640 ounces per month or 160 ounces per week. A higher monthly limit would be preferrable as it would provide the flexibility we need for our operations and lessen the recordkeeping requirements. **2-2**
3. It is our understanding that we can use both alternative compliance options (liquid and aerosol) at the same facility (a substation) for a combined use of 160 (640) ounces/month of aerosol and 70 gallons/yr of liquid. Please confirm. Different components need wipe cleaning using liquid solvents and other components need the aerosol pressurized stream. SCE needs the flexibility to use both alternative compliance options at the same facility. **2-3**

Page 1 of 2

4. Please confirm that hand-held spray bottles that use atomized air (see example) do not meet the definition of Aerosol in the rule (Rule 117 (c)(1)) and the material used via this mechanism falls under the 70 gallons per year limit per facility. Our interpretation is consistent with the federal and state definitions of "Aerosol product", both of which exclude pump sprays (40 CFR § 59.202 – Definitions and CCR Title 17, 94508(a)(5)). Please clarify this distinction in the rule definition of "Aerosol Product".

2-4

Recordkeeping

1. Section (g)(2)(c) requires dates and quantities of use. This requirement is extremely challenging for our unmanned locations, the vast number of locations we services, and the nature of our field work. Since the rule's solvent usage limits are either monthly or annual, recording the daily usage of material seems unnecessary. We request that the rule allow for monthly recordkeeping and alternative recordkeeping approaches such as a central record keeping log where operators can input their solvent usage on a monthly basis by location, or use of purchase records without having to log daily usage at each location.

2-5

Thank you again for the opportunity to provide these comments. My contact information is below.

Carol Cauthen

Environmental Advisor, Air Quality

Environmental, Health, Safety & Quality| Environmental Department

T. 626-302-5073 | M. 626-407-1360

2244 Walnut Grove Ave, Rosemead, CA 91770

Response to Comment 2-1

Staff appreciates the clarification on the uses of denatured and isopropyl alcohol in solvent cleaning activities for electricity generating and distributing equipment. Staff's proposal of 0.61 was based on information provided to staff that isopropyl alcohol (IPA) was the approved cleaning solvent. Based on feedback, staff will revise the MIR limits in Table 2 to 1.7 to allow for the usage of denatured alcohol.

Response to Comment 2-2

Staff acknowledges that solvent cleaning covers many industries, many of which rely on the aerosol product allowance to comply with Rule 1171. Similar concerns were raised by other stakeholders. Staff will revise the aerosol solvent cleaning usage limit to 1,750 ounces per month for the "other solvent cleaning activities" category.

Response to Comment 2-3

Facilities can comply via both alternative compliance options (usage with MIR limits in Table 2 and aerosol usage limits in Table 3) at the same facility.

Response to Comment 2-4

Staff agrees to align the definition of an aerosol product with the federal and state definition to exclude "pump sprays." The definition of a pump spray in the Federal Code of Regulation is:

> *Pump spray* means a packaging system in which the product ingredients are expelled only while a pumping action is applied to a button, trigger, or other actuator. Pump spray product ingredients are not under pressure.

As defined, the ingredients in a pump spray are not under pressure and do not include the device pictured in the comment letter. That device operated by pressurizing the ingredients and would qualify as an aerosol product.

Response to Comment 2-5

Staff acknowledges and understands the challenges in recordkeeping for operations at unmanned locations and revised the proposed rule language to remove the mention of "onsite" and require records be maintained and made available upon request. This allows for centralized recordkeeping and for records to be maintained electronically. Staff also revised subparagraph (g)(2)(C) to require quantities of each solvent cleaner's usage during the time period specified by the Executive Officer which means that South Coast AQMD can request the dates and quantities for any specified timeframe deemed necessary to determine compliance.

Comment Letter #3

Outlook

[EXTERNAL] Proposed Amended Rule 1171

From Kathleen Wolf <katywolfirta@gmail.com>
Date Tue 4/8/2025 2:41 PM
To Christopher Bradley <cbradley@aqmd.gov>

1 attachment (25 KB)
P1004S1S.pdf;

I am writing with comments on proposed amended Rule 1171 "Solvent Cleaning Operations." During the workshop, one participant urged the District staff to remove the restriction for the Volatile Methyl Siloxanes (VMS) under (f) (3). I strongly urge you to keep the restriction in place.

OEHHA performed a review of the toxicity of D5, the VMS used in cleaning and dry cleaning applications, and they concluded that they had concerns about D5 toxicity and could not conclude that D5 is not toxic. A link to this document can be accessed at https://ww2.arb.ca.gov/sites/default/files/classic//toxics/dryclean/oehhad5review.pdf

EPA received the results of a cancer study on rodents and concluded that there may be a cancer hazard associated with D5. That document is attached to this email.

I am also providing a link to a report on tests of alternatives to D5 in cleaning applications that was performed several years ago by the Institute for Research and Technical Assistance (IRTA). The project was sponsored by HESIS and EPA and, although the report is very old, many of the conclusions on alternatives should still stand. The link to the report is https://www.irta.us/reports/Five%20Emerging%20Chemicals.pdf.

D5 did give a positive carcinogenicity result in an animal study. Although the results are not definitive, it is good public policy to err on the side of caution. Additional toxicity information may be available in the future that would resolve the issue. Until then, however, I would urge you to keep the restriction of VMS in the rule. It's worth noting that there was no definitive toxicity data on PCBTF until the last several years. Had the District exercised caution many years ago when exempting PCBTF, the action to ban it now may not have been necessary. PCBTF's structure, a benzene ring with a chlorine substituent, was indicative that it was likely to be a carcinogen.

3-1

The District has done excellent work on PAR1171 and I support your efforts strongly. If you have questions about these comments, please feel free to call me at (818) 371-9260

Katy Wolf, Ph.D.
Consultant

Katy Wolf, Ph.D.
Phone: (818) 371-9260

Response to Comment 3-1

Please see response to comment 1-2. As more toxicity data regarding D5 and other VMS compounds becomes available, staff will reassess whether to prohibit the use of solvent cleaning materials that contain VMS compounds.

Comment Letter #4

International Ultraviolet Association
6935 Wisconsin Avenue, Suite 207, Chevy Chase, MD 20815

April 11, 2025

Mr. Michael Morris
Planning and Rules Manager
South Coast Air Quality Management District
mmorris@aqmd.gov

Re: Proposed Amended Rule 1171 (Solvent Cleaning Operations)

Dear Mr. Morris:

The International Ultraviolet Association (IUVA) is pleased to provide comments on the South Coast Air Quality Management District's Proposed Amended Rule (PAR) 1171—Solvent Cleaning Operations. IUVA is a nonprofit dedicated to the advancement of ultraviolet technology for public health and the environment, with over 500 members worldwide. Ultraviolet disinfection is a key technology in water treatment and is currently used by public agencies in Southern California because it is a chemical-free alternative that offers advantages such as the ability to inactivate difficult to eliminate pathogens. Our specific comments on the staff proposal follow:

Definitions (c)42

The current definition for Ozone Generators in PAR 1171 states that Ozone is produced by applying an electric potential to oxygen but makes no mention of Ultraviolet Ozone Generators. Ozone can also be generated by using UV light to convert oxygen molecules into ozone. We urge the district to include Ultraviolet Ozone Generators in the definition section (c)(42) of the rule. 4-1

Alternative Limits for Electricity and Water Equipment (e) (2)

Our comments in Section (e)(2) are specific to Ultraviolet Light Treatment Systems and Ozone generation via exposure to UV light, in water treatment/distribution equipment [Table 2-- B(ii) Ozone Generators and B(iii) Ultraviolet Light Treatment Systems]. The preliminary staff report recognizes the challenges faced by water distribution and water treatment facilities in meeting the requirements of PAR 1171. The staff report mentions that various public agencies currently use denatured alcohols & Isopropyl alcohol to clean specific equipment such as ozone generators, UV sterilization systems and electrical components associated with the UV equipment. While we appreciate the consideration for an allowance of 16 gallons per day per facility for Ultraviolet Light Treatment Systems and 30 gallons per year per facility for Ozone generators, we would urge the district to provide a total exemption for UV equipment. 4-2

According to the Los Angeles Department of Water and Power (LADWP), "UV technology is ideal for treating chlorine-resistant micro-organisms like Cryptosporidium and Giardia. UV treatment will provide essential disinfection while minimizing disinfection by-products, reducing the need for the required

www.iuva.org info@iuva.org

International Ultraviolet Association
6935 Wisconsin Avenue, Suite 207, Chevy Chase, MD 20815

chlorine doses." LADWP is currently completing the construction of a new Ultraviolet (UV) Disinfection Facility at the Los Angeles Reservoir. This UV plant will treat water leaving the reservoir and entering LA's water distribution system. The new state-of-the-art LA Reservoir UV Disinfection Plant is an important investment in the reliability and safety of LA's drinking water infrastructure, greatly enhancing LADWP's mission to deliver pure, clean refreshing tap water in an efficient and publicly responsible manner.

UV water disinfection units inactivate target pathogens to produce safe water. UV is used as one of the vital safety barriers in water disinfection processes. When UV is absorbed by the DNA in microorganisms; it is damaged so that the microorganism cannot reproduce. Cells that cannot reproduce cannot cause disease.

Keeping UV lamps and sleeves clean is essential for optimal proper performance. Dust, dirt, and residue can accumulate on the lamp and sleeve surface, reducing its efficiency, and potentially leading to device overheating or other cleanness-related issues. Non-alcohol based cleaners may leave residues behind. While some industry sectors may be able to deal with the risk of UV equipment not operating at peak performance and cleanliness issues associated with lower VOC solvents--Water treatment agencies simply cannot take the risk to public health lightly. Requiring water agencies like LADWP to switch from conventional alcohol-based solvents to new solvents that have not been fully validated and approved may result in damage to UV disinfection performance, leading to regulatory compliance and public health issues. We respectfully request that water treatment agencies using UV for water disinfection operations be allowed to use denatured alcohol and/or Isopropyl alcohol to ensure proper operation of their systems.

4-2 Cont.

We appreciate your consideration of the concerns we have raised and look forward to a collaborative rulemaking effort.

Regards,

Ted Mao
President IUVA

www.iuva.org info@iuva.org

Response to Comment 4-1

Staff agrees and has added ultraviolet to the definition.

Response to Comment 4-2

Staff acknowledges and understands the critical role ultraviolet light treatment and ozone generating equipment play in water treatment and distribution, and to provide clean and safe drinking water. Staff also understands the importance of using the correct cleaning solvents specified by the manufacturer and intends to allow water treatment and distribution facilities to use denatured alcohol or isopropyl alcohol to meet their needs. The proposed volumetric usage limits for denatured alcohol or isopropyl alcohol are based on industry feedback which reflect their current operation and use.

Comment Letter #5

April 11, 2025

Mr. Chris Bradley
Air Quality Specialist
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Dear Mr. Bradley,

Thank you for the opportunity to provide input on the possible proposed revisions to SCAQMD's rule 1171. PRINTING United Alliance (Alliance) appreciates the willingness of the District to work with industry experts in the development of these important requirements. The Alliance hopes that the comments contained herein will prove useful and we stand ready to continue to work with the District in the further development of the requirements.

As background, the Alliance represents the interests of facilities engaged in producing a wide variety of products through screen printing, digital imaging, flexographic, and lithographic print processes. The print industry is comprised primarily of small businesses, with approximately 95 percent of the printing industry falling under the definition of a small business as described by the Small Business Administration.

There has been a long history associated with the cleaning solvent limits for printing operations in Rule 1171. When Rule 1171 was last revised in 1999 for cleaning solvent limits used in the printing industry with the phased in effective dates that extended to January 1, 2010, there was considerable effort invested by the printing industry, solvent suppliers, and the District to find materials that could meet the 100 gram/liter limit and be effective.

As outlined in our letter dated August 21, 2024, this goal has not been achieved. The printing industry and its suppliers have been continuously searching to find blends of chemicals that will meet the cleaning needs of the printing industry and so far, it has not met with satisfactory results.

We are encouraged that an alternative approach using Maximum Incremental Reactivity (MIR) as a parameter to limit the formation of ozone has been included in the proposed revisions to Rule 1171. MIR provides an opportunity to not just rely on VOC content, but to focus on the reactivity of chemicals used to formulate cleaning solution blends. Reactivity-based limits could provide more formulation flexibility while efficiently reducing the ozone formed from these products.

MIR values have been adopted by CARB and the SCAQMD in several rules and allow for flexibility for regulated sources to reduce VOC emissions and reduce emissions of the more reactive VOCs. In reviewing several of these rules, it is apparent that different MIR values have been set based on the type of material, application, and other performance characteristics. These are all critical aspects that need to be considered when setting an MIR value.

5-1

In fact, the proposed MIR limits in Rule 1171 reflect the needs of various cleaning applications and there is not a "one size fits all" approach. It is for these reasons why the proposed alternative MIR limit in 1171 (e)(4) would not be appropriate for the printing industry. Here is the draft provision:

> *(4) Alternative MIR Limit In lieu of complying with the requirements in paragraph (d)(1), a Person may elect to supply for use within South Coast AQMD or use Solvent Cleaning Materials that comply with a PW-MIR limit of 0.38 g O3/g VOC for any Solvent Cleaning Activity.*

The printing industry continues to support efforts to reduce ozone precursors and improve regional air quality. However, the proposed MIR limit of 0.38 g O3/g significantly undercuts what is technologically feasible, even when using the most advanced low-reactivity formulations currently available. We received information from several cleaning solution vendors who evaluated the MIR values of their current products they are selling into the District. They reported back that the MIR values were in the 0.51-1.58 g O3/g VOC range. Therefore, the proposed value of 0.38 g O3/g is too low to provide an equivalent level of reactivity and Rule 1171 compliant cleaning solutions.

Furthermore, with acetone having a MIR value of 0.36 g O3/g, it was pointed out that the proposed 0.38 g O3/g limit does not provide for any formulation flexibility. As discussed in the August 21, 2024 letter acetone is not a printing process friendly chemical, so it is not a viable option. This extremely low threshold does not provide for the necessary ingredients that are required to clean the variety of inks and coatings required for quality products produced in the commercial and packaging printing industry. In addition, cleaning printing equipment requires the use of materials that do not damage critical components such as plates, blankets, rollers, screens, bearers, and other key press components. Cleaning solutions that meet the 100 gram/liter limit do not fulfill these requirements.

5-1 Cont.

In looking at the ingredients necessary to prepare cleaning solutions that are effective and meet the demands required for effective cleaning, several of the cleaning solution vendors have reported that a MIR value range of 0.86-0.89 g O3/g. This MIR range provides the opportunity to formulate cleaning solutions that are effective and would avoid problems with ink and coating removal as well as other key press components. Plus, this value is consistent with other SCAQMD and CARB regulations where MIR is being used to control the emissions of VOC.

To ensure that VOC emissions from cleaning activities are reduced to the lowest level possible while maintaining the integrity of the printing process, it can be coupled with a limit on the VOC composite vapor pressure. As described in the August 21, 2024 letter, vapor pressure is a viable VOC control strategy. While the District is not necessarily in favor of using vapor pressure alone as a control strategy, coupling it with a low MIR value ensures that materials with a high vapor pressure will not be used to formulate cleaning solutions that quickly evaporate allowing for their recovery or destruction during the laundering process.

5-2

As indicated in the July 20, 2015 report *Environmental Fate of Low Vapor Pressure – Volatile Organic Compounds from Consumer Products: A Modeling Approach* by Deborah H. Bennett, once a low vapor pressure VOC makes it to a wastewater treatment facility, it is removed and not released. USEPA has stated in the Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing (EPA-453/R-06-002) low vapor pressure solvents used in conjunction with wipes are assigned a 50% retention factor. EPA defines low vapor pressure as 10 mm Hg at 20°C (68°F). This means that at least 50% of low vapor pressure emissions are captured and destroyed.

Combining the low MIR with a low vapor pressure limit, provides for a very effective VOC emission control strategy. Setting an alternative limit of 5 mm Hg at 68°F, which is one-half of the limit set by USEPA, in conjunction with an MIR value of 0.89 g O3/g in Rule 1171 would significantly reduce emissions and would represent state of the art for cleaning solutions for the printing industry. This combination would result in the least amount of emissions and those that would occur would be VOCs that are less reactive. It would also provide much needed operational flexibility at a reduced cost for the printing industry.

The printing industry continues to support efforts to reduce ozone precursors and improve regional air quality. The District has historically recognized the need for flexibility and category-specific limits based on performance requirements and material availability. Setting an MIR limit of 0.89 g O3/g with a vapor pressure limit of 5 mm Hg at 68oF for the printing industry would maintain consistency with prior rulemaking for other industrial categories while still significantly reducing ozone-forming emissions compared to historical solvent use. We firmly believe that our suggestion control strategy would lead to the establishment of a mutually beneficial set of conditions that are both technically and economically feasible while reducing VOC emissions.

5-2 Cont.

We would be willing to meet with representatives from the District to discuss our concerns with the current draft of the proposed regulation. Please feel free to contact Gary Jones, Vice President of Environmental, Health and Safety Affairs, at (703) 359-1363 with any questions you may have or to arrange a meeting time that is convenient for you and the appropriate staff involved in the development of the regulation.

Sincerely,

Gary A Jones

Gary A. Jones
Vice President EHS Affairs
gjones@printing.org
703-359-1363

3

Response to Comment 5-1

Staff appreciates the comment and considerable efforts undertaken by the printing industry to find suitable compliant material that meets the current 100 g/L limit in the rule. Staff conducted site visits to several printing operations to gain a better understanding of the solvent cleaning materials used by the industry. The printing operations visited have indicated that they have several low VOC compliant options such as soy-based or water-based alternatives that have been effective with satisfactory results. The same facilities have also indicated that these same alternatives can be used as alternatives to pCBtF-containing solvent cleaners. The proposed MIR limit of 0.38 g O_3/g VOC is an alternative limit for all solvent cleaning activities in Table 1 and is not intended to be a substitute for the VOC limits in the Table of Standards. The alternative MIR limit is intentionally set low near that to acetone to prevent VOC emissions backsliding since acetone is an exempt solvent and has a lower potential for ozone formation. Staff understands the importance of formulation flexibility when there are no other options available; several printing operations have indicated that they have suitable effective cleaning solvent options because of the large research and development efforts undertaken over 15 years ago.

Staff understands PW-MIR limits can provide additional flexibility without resulting in more regional ozone formation. For the alternative PW-MIR limit for cleaning lithographic and screen printing ink application equipment, staff consulted with several solvent cleaning manufacturers to determine the PW-MIR limits that would have equivalent or less ozone formation potential than the current 100 g/L VOC limit. Existing solvent cleaning materials were not formulated with the goal of reducing reactivity, so some existing cleaning materials have a very high PW-MIR; however, some solvent cleaners have been formulated to reduce reactivity. Looking at the range of solvents used for cleaning printing equipment and considering what the manufacturers think can be formulated to efficiently clean the equipment, staff is proposing a 0.70 g O_3/g VOC limit. The proposed limit is an alternative limit so facilities can continue to use the 100 g/L mass-based VOC limit that has been in place for 15 years. The alternative is meant to provide flexibility without increasing the ozone formation potential of the cleaning solvents.

Response to Comment 5-2

Staff acknowledges the benefits of having additional flexibility in solvent formulation when limited compliant solvent options are available and is proposing an alternative limit of 0.70 g O_3/g VOC. However, staff does not recommend using vapor pressure as a means by which to limit potential VOC emissions due to findings that some low-vapor pressure VOCs have been found to evaporate nearly as rapidly as the traditional high-volatility solvents and thus can be additional contributors to ozone formation depending on their emission rate, the portion remaining in the gas phase, and their reactivity.

Comment Letter #6

CLEAN WATER SoCAL
CREATING SUSTAINABLE SOLUTIONS

April 11, 2025

Sent via email to: Chris Bradley cbradley@aqmd.gov

South Coast Air Quality Management District
Attn: Planning, Rule Development, and Implementation
21865 Copley Drive
Diamond Bar, CA 91765

Re: PROPOSED AMENDED RULE 1171 – SOLVENT CLEANING OPERATIONS

Clean Water SoCal appreciates the opportunity to comment on the Proposed Amended Rule 1171 – Solvent Cleaning Operations.

Clean Water SoCal represents over 80 public water/wastewater agencies in Southern California. Clean Water SoCal members provide essential water supply, wastewater treatment and water disinfection for approximately 20 million people in San Diego, Orange, Los Angeles, Santa Barbara, Riverside, San Bernardino, and Ventura counties. Our members provide environmentally sound, cost-effective management of more than two billion gallons of wastewater each day and, in the process, convert wastewater into resources for beneficial uses such as recycled water and renewable energy.

We respectfully request that essential public water treatment facilities be exempt from this rule.

The amount of solvents needed to clean water disinfection systems vary widely with the size (capacity) of the treatment facility and the amount of water disinfected. This is not a one size fits all application. Water disinfection system operators need to use alcohols to clean ultraviolet bulbs and ozone generators. They are not able to use low VOC solvents like acetone or waterborne materials. This means that these agencies who are using ultraviolet systems for water disinfection to protect public health and the environment would either not be able to reliably provide regulatory required disinfection or not be able to comply with the district rule. Furthermore, to ensure a drought proof long term water supply for Southern California, several agencies are constructing water recycling facilities that must meet new stringent potable reuse treatment and disinfection requirements to protect public health. These facilities will rely on ultraviolet systems to meet these disinfection requirements. The proposed solvent limits in Table 2 of PAR 1171 may not provide sufficient quantities for effective cleaning of ultraviolet systems limiting much needed recycled water production and stranding expensive public assets. 6-1

P.O Box 231565
Encinitas, CA 92024

email: info@cleanwatersocal.org
phone: 760.415.4332

CLEAN WATER SoCAL
CREATING SUSTAINABLE SOLUTIONS

Beyond water disinfection, Clean Water SoCal members operate and maintain critical infrastructure to provide safe and reliable water and wastewater services to the customers and communities we serve. Agencies utilize aerosol solvents to maintain equipment such as pumps, piping, and engines, at various facilities throughout their service areas. Clean Water SoCal members have voiced concerns about the significant reduction in the proposed rule for the aerosol solvent cleaner's usage limits (PAR Rule 1171 Table 2.) Our members remain concerned with the potential unintended consequences this reduction could have on the maintenance and repair activities of infrastructure and equipment at essential public services. Many maintenance activities at essential public services require the use of aerosols. Aerosols are commonly used because they are quick dry, leave no residue which is critical for proper gasket adhesion and replace effectiveness, and they can reach small inaccessible areas of mechanical components, such as engines and pumps. Non aerosols solvents are typically not conducive to these work environments and equipment types. 6-2

We appreciate the opportunity to provide comments on the proposed amended Rule 1171 and for your consideration of our comments.

Clean Water SoCal supports the SCAQMD mission to clean the air and protect the health of all residents in the South Coast Air District. We have a similar goal and obligation to the public and the environment. As such, we would welcome the opportunity to meet to discuss and develop a solution that meets the public's needs.

If there are any questions regarding these comments, please contact the Clean Water SoCal Air Quality Manager, David Rothbart directly at (714) 878-9655 drothbart@cleanwatersocal.org or contact me directly at (760) 415-4332 sjepsen@cleanwatersocal.org

Sincerely,

Steve Jepsen

Executive Director – Clean Water SoCal

cc: Clean Water SoCal Air Quality Committee

P.O Box 231565
Encinitas, CA 92024

email: info@cleanwatersocal.org
phone: 760.415.4332

Response to Comment 6-1

Staff acknowledges and understands the critical role ultraviolet light treatment and ozone generating equipment play in water treatment and distribution, and to provide clean and safe drinking water. Staff also understands the importance of using the correct cleaning solvents specified by the manufacturer and intends to allow water treatment and distribution facilities to use denatured alcohol or isopropyl alcohol. The proposed volumetric usage limits for denatured alcohol or isopropyl alcohol are based on industry feedback from large water facilities, which reflect their current operation and use. Furthermore, because there are currently existing usage limits for solvent cleaning materials used at public water and wastewater agencies, the requested exemption would result in a backsliding of emissions. If necessary, staff is open to revisiting the issue if the potential need to increase usage arises due to growth or expansion of facilities.

Response to Comment 6-2

Staff acknowledges and understands the critical role public water and wastewater agencies play in providing clean and safe drinking water. Staff has revised the prior proposed allowance of aerosol solvent cleaning products that contain VOC in excess of VOC limits from 160 ounces per day to 1,750 ounces per month. The proposed allowance is based on industry feedback from various stakeholders who stated that they would be able to comply with the latest proposed allowance. Staff is open to meeting and discussing these concerns further.

Comment Letter #7

CIAQC
CONSTRUCTION INDUSTRY AIR QUALITY COALITION

Coalition Members

AGC CALIFORNIA

Associated General Contractors America-San Diego Chapter, Inc.

Building Industry Association of Southern California

California Construction Trucking Association

Engineering Contractors Association

United Contractors

SCCA
Southern California Contractors Association

April 11, 2025

South Coast Air Quality Management Committee
Stationary Source Committee

RE: COMMENTS ON PAR 1171

Dear Chairman Larry McCallon and Members of the Committee:

The Construction Industry Air Quality Coalition (CIAQC) would like to express our serious reservations about the proposed amendments to rule 1171 – Solvent Cleaning Operations.

We wish that the staff had done outreach to our specific industry before the proposed amendments had reached this level of completion.
The use of effective solvents for cleaning parts and equipment used in the construction industry is an integral part of assuring that our equipment is fully operational and in full compliance with the many regulations that govern the use and operation of our unique, on-road, off-road and portable equipment fleets.
Much of this equipment is maintained in the field, on a job site, and away from a better equipped maintenance facility where there may be more options for cleaning parts and tools.

Under the existing rule there are very limited aerosol options that can meet the current 25 g/l VOC emission limits. Further there is also an existing 160 oz/day aerosol limitation which has been challenging to meet when servicing multiple locations simultaneously. 7-1

Proposed Rule 1171 will be eliminating the aerosol spray solvent exemption. Currently, SCAQMD Rule 1171 requires the use of solvents for repair and maintenance with a very low VOC content to 25 g/l or less. Those solvent are not effective on the grease and grime

encountered on off-road mobile equipment. Those solvents are typically citrus-based, or something like Simple Green. The only thing that cuts the grease is petroleum-based solvents. Currently there is an exemption that allows for the use of aerosol solvent cleaner that meet the CARB 10% VOC limitation. The proposed Rule 1171 will eliminate the use of aerosol cleaners (or essentially limit the use to a nonsensical 160 ounces per month per permitted facility). Not all sites are permitted facilities, so this leaves an unlevel playing field.

We have identified several other specific concerns that we would like to address with the staff as soon as possible.

1. Cleaning Effectiveness: Removing proven solvents risks reducing cleaning performance—especially for grease, oil, and other contaminants—which can significantly impact equipment maintenance and lead to increased failures overall, particularly in emissions-related components. 7-2

2. Productivity & Cost Impact: Alternative methods often take longer and require more labor, increasing downtime and repair costs.

3. Compliance Burden: New requirements may force additional costly repairs to equipment, training, and documentation—disproportionately affecting smaller operations.

4. Field Service Limitations: Effective, portable solvents are essential for remote repairs. Restrictions could leave no viable options for field work.

5. Safety & Reliability Risks: Residual buildup from weaker cleaners can compromise equipment safety, performance, and reliability.

6. Insufficient Alternatives & Timeline: Fast-tracking changes without viable substitutes in place risks non-compliance and operational disruption across the industry.

7-2 Cont.

Our industry discussions with solvent suppliers lead us to believe that there may not be an effective compliant alternative available on the schedule established by this proposed amendment.

Finally, if an aerosol solvent is ultimately found that is effective and meets the 25 g/l low VOC requirement for general maintenance, does the 160 oz/day still apply? We would expect that there would be no limit, but this is not stated in the proposed regulation.

CIAQC has several experts available who can speak about these issues and we look forward to the opportunity to address them with your staff.

Sincerely,

Michael Lewis
Senior Vice President
mike@lewisandco.net
951-206-4420

Response to Comment 7-1

Staff appreciates the comment and understands the commenter's concerns regarding PAR 1171. To clarify, staff is not proposing to remove the aerosol allowance in PAR 1171, the provision has been relocated from the exemption subdivision to the alternative compliance options subdivision and made some adjustments to the exemption amounts. Further, staff would like to clarify that the usage limits are for each individual facility or work site; the total cumulative usage between all facilities or work sites does *not* have to be less than the usage limits.

Response to Comment 7-2

Staff acknowledges and understands the challenges in transitioning away from commonly used solvents and understands all the concerns stated in the comment letter. As previously mentioned, staff is not removing the aerosol exemption and just revising it based on stakeholders' request for usage flexibility from a daily to monthly limit. Furthermore, the aerosol allowance applies to aerosol solvent cleaning products that contain VOC in excess if applicable VOC limits listed in Table 1. If an aerosol solvent is used that complies with the 25 g/L VOC limit, there is no restriction on the amount that can be used.

Comment Letter #8

April 11, 2025

Mr. Michael Morris
South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765
Email: mmorris@aqmd.gov

Re: Public Comments-- Proposed Amended Rule 1171 – Solvent Cleaning Operations-- OPPOSE

Dear Mike:

RadTech International is pleased to comment on the proposed amendments to Rule 1171—Solvent Cleaning Operations. RadTech is the premier trade association in North America for Ultraviolet/Electron Beam/Light Emitting Diode (UV/EB/LED) technology. We speak on behalf of our over 800 members who are involved in a myriad of industry sectors ranging from printing and packaging to nail polish. UV/EB/LED processes are all electric, eliminating the need for add-on control devices thereby preventing emissions of criteria pollutants (Nitrogen Oxides) and Greenhouse Gases. Our products are not formulated with conventional solvents and therefore the emissions of Volatile Organic Contaminants (VOCs) are negligible. Energy curable materials are free of toxic materials and are considered "super-compliant" as they go above and beyond current rule requirements and provide the district with excess emission reductions. Transitioning to these cleaner materials help the district achieve its clean air goals. PAR 1171 will impact every single one of our market sectors.

Unfortunately, we cannot support the current rule proposal as it needlessly saddles our industry with burdensome requirements that do not result in any benefit to air quality. On the contrary, these overly prescriptive requirements act as a barrier to the implementation of clean technology. We urge the district to provide incentives in the form of regulatory flexibility, to companies who invest in UV/EB/LED technology. Our suggested changes are as follows:

Comment 8-1

Request for Exemption

As mentioned during the public workshop, RadTech urges the district to provide regulatory flexibility to UV/EB/LED processes. We cannot support the limit of 100 grams per liter for UV/EB/LED operations. Our members and customers have tried to use low VOC cleaners at their facilities for years only to find that acetone based cleaners leave residue on UV lamps and reflectors, thereby compromising the optical efficiency of the system. Additionally, acetone-based cleaners are highly flammable and since UV/EB/LED equipment is electrical, any spark can lead to devastating fires not only for the facility but for the community at large. Waterborne materials also have safety issues associated with their use around electrical equipment. This presents a risk to workers

We request an allowance to use alcohol-type cleaners which, generally have a Volatile Organic Compound (VOC) content of 800 grams per liter. Our materials are typically well below 50 grams/liter in VOC content and are already providing the district with emission reductions above and beyond those called for in district coating rules. Therefore, we humbly ask that you take those reductions into consideration as a mitigating factor in any potential increase in emissions that may result from using alcohol-based cleaners.

Comment 8-1 Cont.

We propose that Section (j)(2)(H) be modified as follows:

Cleaning operations in Printing pre-press or Graphic Arts pre-press and energy curing areas, including the cleaning of film processors, color scanners, plate processors, film cleaning, plate cleaning and UV/EB/LED curing equipment.

Recordkeeping

Comment 8-2

We strongly oppose the new additional requirements for reporting, recordkeeping and labeling in the latest R1171 proposal under Section (g)(2). The current Rule 109 requirements cover UV/EB/LED materials and sufficiently provide the district with compliance verification. PAR 1171 creates a whole host of mandates on businesses, which will not result in any emission reductions such as:

(A) Product name of each Solvent Cleaner used;
(B) Name and address of the supplier for each Solvent Cleaner used;
(C) Dates and quantities in which each Solvent Cleaner was used during the time period specified by the Executive Officer; and
(D) VOC content of each Solvent Cleaner as used.

In fact, these additional requirements will deter businesses from investing in clean technologies like UV/EB/LED. Businesses who are willing to invest in clean technologies should be encouraged to do so and saddling with added regulatory costs will be counterproductive to the District's mission.

Definition

Comment 8-3

We appreciate the inclusion of a definition for energy curable materials in PAR 1171 and would urge the inclusion of ASTM 7767-11 as a suitable test method. The Environmental Protection Agency and the SCAQMD have long recognized that EPA Method 24 is not suitable for thin film UV/EB/LED Materials. The Multiple Test Method Section of the rule, (h)(5), is problematic in that it acts as a "gotcha" to businesses who may be subject to fines by the district due to lack of clarity on which method to employ. Thus, RadTech urges the inclusion of ASTM D7767-11 as suitable test method for UV/EB/LED materials. We propose the following language:

The VOC content of thin film Energy Curable Adhesives and Sealants may be determined by manufacturers using ASTM Test Method 7767-- Standard Test Method to Measure Volatiles from Radiation Curable Acrylate Monomers, Oligomers, and Blends and Thin Coatings Made from Them.

Thank you for your consideration of these issues and we hope we can work towards a resolution.

Sincerely,

Rita M. Loof
Director, Environmental Affairs

Cc: SCAQMD Board

Response to Comment 8-1

Staff appreciates the comment letter and acknowledges the stakeholder's concerns. Energy curable printing cleaning operations have been successfully using 100 g/L cleaning products for decades, but staff understands that lamp and reflector cleaning is a separate solvent cleaning activity than the ink application equipment. Several sources indicate the recommended cleaning of energy curable lamps and reflectors is to use a soft cloth and pure alcohol. Cleaning of the lamps and reflectors is not a frequently required cleaning activity and will require minimal solvent; therefore,

the VOC emissions are anticipated to be negligible. Staff included a separate limit for the cleaning of Energy curable lamps and reflectors with a VOC limit of 800 g/L.

Response to Comment 8-2

Staff acknowledges the stakeholder's concerns regarding recordkeeping and labeling. Staff would like to clarify that the amendments do not propose any reporting requirements, and that no new recordkeeping requirements for end-users are being proposed.

Response to Comment 8-3

ASTM International D7767-11 "Standard test Method to Measure Volatiles from Radiation Curable Acrylate Monomers, Oligomers and Blends and Thin Coatings Made from Them" is not a U.S. EPA approved test method and cannot be used to enforce a SIP approved rule, therefore will not be added to PAR 1171. Further, that test method is to estimate the VOC content of "acrylate monomers, oligomers, and blends and thin coatings made from them" and has no relevance to solvent cleaning materials.

Comment Letters Received After Close of Comment Period

The following letter was received after the close of comment period. The concerns regarding PAR 1171 have been addressed but due to the late submission, official responses have not been included.

Comment Letter 9

Raymond Regulatory Resources (3R), LLC
Doug Raymond 13808 Duncan Run Rd. Galena, Ohio 43021
djraymond@reg-resources.com 440-339-4539

April 28, 2025

Mr. Christopher Bradley
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: South Coast Air Quality Management District Proposed Amended Rule 1171 – Cleaning Operations.

Dear Mr. Bradley:

Raymond Regulatory Resources (3R) appreciates the opportunity to comment on the South Coast Air Quality Management District (SCAQMD) proposed amendments to Rule 1171 Cleaning Coating Operations. 3R Consults for numerous marketers and fillers in the Consumer Products arena. As well 3R is the consultant for the National Aerosol Association (NAA).

3R has worked with SCAQMD since the inception of Rule 1171 in the 1990's. Our collaboration in the past has been to provide the best possible regulation that benefits the environment and is clear and concise for Industry to comply.

Comments

Per discussions with Sarady Ka, 3R appreciates that SCAQMD is willing to delete the ban on Volatile Methylated Siloxanes (VMS) at this time. We understand that pending additional information or work performed by office of Environmental Health Hazard Assessment (OEHHA) this status may change. As well, 3R appreciates the additional ounces being provided for the general aerosol usage to 640 ounces per month. Also, the change from fluid ounce to weight ounces clarifies the usage properly, given aerosols are measured only in weight ounces.

Additional Comments

Several other additional changes are being offered for the amendments to add clarity to the existing rule.

- Aerosol products – 3R believes that some marketers may be unclear on the use of the Aerosol Products exemption, specifically as regards complying with the California Air Resources Board (CARB) VOC limits as stated in Article 2 of the Consumer Products Rule under CARB. To clarify this issue the following wording is suggested for (e)(3) C).
  Such products are compliant with the California Consumer Products Regulations, including meeting the VOC content limit requirements of Article 2 or as allowed by Article 4.
- Alternative MIR Limit – 3R applauds that SCAQMD is providing an MIR Reactivity Alternative limit in Rule 1171. Reactivity is the best science to be used to regulate VOC emissions. However, SCAQMD has Rule 1143 as well. Thus, a marketer may be able to produce a product using the MIR Alternative but still be restricted by Rule 1143. Thus, to clarify this issue and not have to open up Rule 1143, the following wording should be added at the end of (e)(4) so that the entire paragraph reads as follows:
  (4) Alternative MIR Limit – In lieu of complying with the requirements in paragraph (d)(1), a Person may elect to supply for use within South Coast AQMD or use Solvent Cleaning Materials that comply with a PW-MIR limit of 0.38 g O3/g VOC for any Solvent Cleaning Activity. Solvent cleaners that comply with this alternative MIR limit will also be deemed compliant with SCAQMD Rule 1143.
  This would provide clear wording for enforcement and Industry to follow.
- Clarity for Definition – Definition (9) for Cured Coatings, Cured Ink or Cured Adhesive has been modified. This change effects certain adhesives that while cured may appear or feel tacky to the touch. This in no way means that the adhesive has not cured and is not releasing additional VOCs under normal conditions. For a manufacturer to prove that a tacky adhesive has indeed released all it's VOC would be incredibly difficult to prove. Thus, this wording could facilitate unwarranted enforcement actions. We request that this "tacky" status only be used to describe Coatings and Inks. If SCAQMD cannot make this distinction, then the following wording is suggested for definition (9).
  Cured Coating, Cured Ink, or Cured Adhesive means a coating, ink, or adhesive, that is dry to the touch, and that has undergone a chemical or physical process to achieve its final state, where an adhesive may or may not still be tacky and does not release volatile components under normal use conditions.
- Lastly, 3R believes that the June 2025 board hearing date is too early to work through all the possible changes and requests. The board date should be delayed to have more time to completely review this regulation. This rule was last amended in 2009. In 2024 there were two work group meetings with an approximate year in between,

then a workgroup and public workshop within a month. There has not been sufficient time to have a complete review. In addition, it has been 16 years since last amendments, what is the hurry? A few more months may provide a better rule.

Summary

Thank you for all of the changes made to date. Hopefully these additional suggestions will provide more clarity to this rule and avoid any misconceptions in the future.

3R again appreciates the opportunity to comment on the amendments to Rule 1171 and looks forward to working with you in the future. Any questions or comments please contact me at djraymond@me.com or at 440-339-4539.

Sincerely,

Douglas Raymond

Douglas Raymond

cc: Heather Farr
cc. Michael Morris
cc: Sarady Ka

Comment Letter 10

May 5, 2025

Heather Farr, Michael Morris, and Michael Krause
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

COMMUNITIES FOR A BETTER ENVIRONMENT established 1978

RE: Comments on Proposed Amended Rule 1171 – Solvent Cleaning Operations

Dear Proposed Rule 1171 Staff:

Communities for a Better Environment ("CBE") submits these comments on Proposed Rule 1171 ("Proposed Rule"). We appreciate staff's work on Rule 1171 but we remain concerned that the current language will not meaningfully regulate an industry that has been polluting our communities for years. We have some concerns that remain unresolved by the Proposed Rule and it is critical that the South Coast Air Quality Management District ("AQMD") do everything in authority to control pollution from solvent cleaning operations, specifically auto body shops. We understand the need for our local air district to do everything it can to ameliorate the air quality concerns for AB 617 communities in its jurisdiction.

CBE is a member of the Southeast Los Angeles AB 617 Community Steering Committee. We have participated in the Proposed Rule working groups and provided public comments during the April 18, 2025, Stationary Source Committee meeting. Our membership includes youth and adult members who live, work, learn, and play in homes and schools, at times, directly adjacent to industries who use solvent cleaners. Unequitable and racist policies like redlining have and continues to force communities to bear the brunt of potential VOC emissions. Stronger requirements under Rule 1171 could help address excessive air emissions and provide critical safety measures for Southeast Los Angeles communities. While we applaud AQMD for phasing out known carcinogens tertbutyl acetate ("TBAC") and para-chlorobenzotrifluoride ("PCBTF") from solvent cleaning operations, we urge AQMD staff to consider:

1) **Rule 1171 should include a signage provision that requires auto body shops to notify adjacent communities of potential VOC exposure**

While we applaud AQMD for recommending the prohibited use of TBAC and PCBTF in the Proposed Rule, volatile organic compounds ("VOCs") exposure from solvent cleaning operations are still a concern for Southeast Los Angeles ("SELA") communities. Some VOCs are known to be highly toxic while other VOCs have been linked to an elevated risk of cancer and other health issues,[1] which is alarming given that many SELA communities live adjacent or near auto body and repair shops that depend on solvent cleaning products. Additionally, AQMD staff are only recommending a 95% emission reduction for solvent cleaning products despite

[1]Hussain MS, Gupta G, Mishra R, Patel N, Gupta S, Alzarea SI, Kazmi I, Kumbhar P, Disouza J, Dureja H, Kukreti N, Singh SK, Dua K. Unlocking the secrets: Volatile Organic Compounds (VOCs) and their devastating effects on lung cancer. Pathol Res Pract. 2024 Mar;255:155157. doi: 10.1016/j.prp.2024.155157. Epub 2024 Jan 26. PMID: 38320440.

some VOCs being labeled as hazardous.[2] The Proposed Rule should include a signage requirement like Rule 1460[3] where residents can report air quality issues such as odors from facilities that use solvent cleaning products. VOCs can be colorless at room temperature but have strong odors that are either sweet or foul, making daily life uncomfortable for residents who live near auto body and repair shops. Including a signage requirement for residents to report any air quality issue not only protects residents from air pollution but holds facilities accountable to the adherence of Proposed Rule's provisions.

2) Additional provisions require regular facility inspection for rule 1171 compliance

Compared to the last amendment of Rule 1171, CBE supports the Proposed Rule's new provisions and stronger amendments that hold facilities accountable and transparent with their solvent cleaning operations. This includes additions to General Prohibitions, Alternative Compliance Options, and Test Methods. The updated language and tables for Alternative Compliance Options provides clarity for facilities who use solvent cleaning materials such as the Usage Limits and the Product-Weighted MIR ("PW-MIR").[4] This new provision, paired with the additional Test Methods amendments, ensures additional protections for communities living near or adjacent to auto body and repair shops.

We also applaud AQMD staff for finally adding a Recordkeeping Requirement. Record keeping is important to track and evaluate the operations of a business, and for solvent cleaning operations it's conducive to understand the types of solvent cleaners used, where the suppliers are, where the solvent supplies are going, and the amount that be is being supplied.[5] Record keeping can also support a variety of initiatives that can support AQMD with strategic decision-making to further reduce emissions or research efforts that investigate the prevention of VOC exposures and/or the feasibility of safer cleaning alternatives. Lastly, we support section (f) (6) of General Prohibitions states that no solvent cleaner can be used without the proper documentation. While these additions are necessary and imperative to protecting human health, the Proposed Rule is only as strong as AQMD allows it. Meaning that these new amendments require regular facility inspection for the adherence of the Proposed Rule. AQMD staff needs to include language that specifies regular and consistent inspections of solvent cleaning operations to ensure communities are not exposed to VOC emissions.

3) Include language that protects impacted workers who use solvent cleaning materials

As previously mentioned, some VOCs are known to be hazardous and can have carcinogenic effects on the human body. While the Proposed Rule no longer includes solvents with TBAC or PCBTF, VOC exposure still poses a risk to communities and frontline workers. It's disappointing to see that the Proposed Rule exempts cleaning operations such as janitorial cleaning (including graffiti removal), cleaning operations from printing processes, and VOC limits to a variety of applications.[6] Regardless of the solvent use, solvent cleaners that emit high VOCs can have short- and long-term effects on the human body. This is especially true for auto body and repair workers who use solvent cleaning materials daily. AQMD should coordinate

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[2] Beyond the Label: Health Impacts of Harmful Ingredients in Cleaning Products.WVE. April 21, 2021. https://womensvoices.org/wp-content/uploads/2021/04/Beyond-the-Label-Report.pdf. Accessed May 1, 2025.

[3] Rule 1460 – Control of Particulate Emissions from Metal Recycling and Shredding Operations. SCAQMD. Pg. 9. https://www.aqmd.gov/home/rules-compliance/compliance/rule-1460. Accesed May 1, 2025.

[4] Proposed Amended Rule 1171 - Solvent Cleaning Operations, SCAQMD, pg. 17. https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1171.

[5] *Ibid, pg. 20.*

[6] *Ibid. Pg. 25.*

with CalOSHA, Los Angeles Public Work and Planning Commissions to provide and require personal protective equipment and require ventilation controls to reduce VOC exposure.

4) **Updating Rule 1171 when stronger emission control systems are feasible and safer alternatives are available given the range of solvent use cleaners**

Even with the prohibition of TBAC and PCBTF from solvent cleaning operations, the Emission Control Systems in the Proposed Rule fail to protect frontline workers and communities who live near auto body and repair shops. Currently, the highest emission control system stands at 95% with the lowest at 70%. During the March 28, 2025 Public Workshop, AQMD shared that emission control systems are not 99% due to feasibility and operation type. No matter the use, frontline workers and communities must be protected from VOC exposures and that means implementing emission control systems close to 100% capture. AQMD should revisit and amend Rule 1171 when new technologies are available as well as when solvent cleaning materials with lower VOC emissions are available. Stronger requirements under Rule 1171 can help reduce VOC exposure and protect the health of frontline workers and communities living near or adjacent auto body and repair shops.

5) **Regular inspections of facilities using solvent cleaning materials can prevent VOC contamination onsite and offsite, avoiding the possibility of vapor intrusion into residential homes.**

The former Central Metal Inc. ("CMI") site, now today's proposed U-HAUL facility, was a 12-acre scrap metal processing facility that dismantled metals as large as buses, house trailers, fire engines, and rail cars. CMI was located right next door to the residents of Walnut Park and two blocks away from homes in Florence-Firestone. CBE organizes residents in both the Walnut Park and Florence-Firestone areas who experience the cumulative impacts of countless polluting industries, of which CMI was one of the most egregious. According to EJ Screen, Walnut Park ranks in the 95-100th percentile nationally for Hazardous Waste Proximity and in the 80-90th percentile for the Superfund Proximity.[7]

CMI had a history of violations noticed and documented by the Department of Toxic Substances Control ("DTSC"), the Los Angeles Regional Water Quality Control Board ("Water Board"), and the Planning Commission, and yet they were still allowed to operate over the years. Even the U.S. Environmental Protection Agency ("EPA") found that various scrap metal and debris were stored across exterior portions of the site in large, uncontained, and uncovered debris piles since the early 2000s.[8] The piles were not covered to prevent rainwater intrusion, nor were they managed to prevent airborne releases, as required by their then-existing CUP. These soil waste piles were found to have hazardous levels of toxic metals such as lead and arsenic and other unidentified materials that compromised the piles.3 In 2011, DTSC and the South Coast Air Quality Management District ("SCAQMD") conducted air monitoring in and around the facility's perimeter and found exceedingly high lead levels in dust in several locations on the sidewalks outside the facility4 , making it evident that CMI was a fugitive emission source into the communities.[9]

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[7] Data + Screening Tools, "EJ Screen: Environmental Justice Screening & Mapping Tool." Public Environmental Data Partners. Accessed May 1, 2025. https://pedp-ejscreen.azurewebsites.net/.

[8] Site Inspection Report: Central Metal, Huntington Park, Los Angeles County, California. EPA ID: No.: CAN000903324, September 2023.

[9] *Id. at 13.*

After community members shared concerns about contaminated soil from the former CMI site blowing onto their properties, CBE partnered with the EPA in 2018 to assess whether the site qualified for inclusion on the National Priorities List ("NPL") for Superfund cleanup. In 2019, the EPA initiated a Site Inspection and discovered elevated levels of lead, arsenic, and cobalt in the soil and groundwater, prompting further testing to determine if toxic metals had spread through the air to nearby homes.[10] Through the perseverance of community members - even with the challenges brought on by the COVID-19 pandemic - EPA began residential soil testing in 2022, sampling 63 properties in Walnut Park and 20 in Florence-Firestone. The results revealed lead levels exceeding the federal benchmark of 401 ppm at eight properties and arsenic levels above the 22 ppm threshold at three properties. However, the site was ultimately deemed ineligible for NPL listing due to "minimal screening level exceedances", inconsistent contamination levels, and the broader industrial pollution history of the Los Angeles area. To this day, residential homes have not been cleaned up, and residents continue to live with high levels of metal contamination.

During the EPA investigation to determine NPL eligibility, the former CMI parcels were sold to U-Haul in 2022 despite community members' active advocacy for reenvisioning the site and holding agencies accountable to the cleanup of both the site and residential homes. The County approved the Project ministerially, despite the severity of grading heavily contaminated soil, increase in air pollution from the additional truck traffic to and from the site and from extracting and transporting hazardous waste, and potential exposure to VOCs from vehicle repair operation.[11] As mentioned previously, residential homes continue to live with metal contamination while the Project owners will have immunity from any wrongdoing because they entered into a California Land Reuse and Revitalization Act ("CLRRA") agreement. CLRRA's purpose to redevelop contaminated properties for industrial/commercial reuse fails to adequately protect residents that live near contaminated sites such as the Project, especially where it's evident that contamination is not only an onsite issue but a regional one as well.

Through the CLRRA investigation, DTSC shared that not only is there high metal contamination across the proposed U-Haul project ("Project") site, but so are VOCs.[12] The Draft Response Plan ("Plan") for the proposed Project recommends an extensive soil vapor extraction system ("SVES") that could take years to mitigate and prevent potential vapor intrusion. There are 47 residences that live adjacent to the Project site [less than 5 ft away][13] that might be susceptible to vapor intrusion due to the former CMI's operations, and the adjacent facility known as Jack

[10] Site Inspection Interim Sampling Report: Central Metal 8201 Santa Fe Avenue Huntington Park, Los Angeles County, California (EPA ID No.: CAN000903324), https://www.epa.gov/sites/default/files/2020-10/documents/can000903324_site_inspection_interim_sampling_report_central_metal_20074.067.024.0003.01_2020-05.pdf.

[11] Site Plan Review, Los Angeles County EPIC LA. Plan Number: RPPL2022007986. https://epicla.lacounty.gov/energov_prod/SelfService/#/plan/a2ed1c5e-6829-4d44-a8ba-af81cd2b30fc?tab=attachments.

[12] EnviroStor, Department of Toxic Substances Control. Accessed May 1, 2025. https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60002329

[13] Distance Analysis, ArcGIS Pro Desktop. ESRI. Analysis performed on April 29, 2025.

Engle.[14] The Jack Engle ("JE") site has a 100-year history of industrial uses, most recently as a metal and scrap recycler. JE also has a history of operating with expired permits and providing illegal services such as heavy-duty truck storage.[15] DTSC's Plan for the Project makes clear that the VOCs on the proposed Project site possibly originate from the JE site and could be the source of potential vapor intrusion of the residential homes next to the Project. No agency has yet to develop a clear and comprehensive plan on how to address the VOC contamination that crosses multiple parcels and impacts the residential homes living adjacent or close to heavily contaminated sites.

While CMI and JE were not solvent cleaners, it's clear that VOC contamination is a legacy issue. And now with the proposed U-Haul project, which will have auto body and repair services, solvent cleaning operations could potentially exacerbate the VOC contamination and exposures to residents and frontline workers. Community members should not have to wait for problems to be addressed one by one – environmental harm must be addressed from a broader perspective. This is why AQMD has the opportunity to prevent additional VOC exposures, contamination, and vapor intrusion into community member's homes – by strengthening Rule 1171 to prioritize community health over industry. AQMD should include language that requires regular facility inspections to ensure that solvent cleaning materials are not leaking, exposed, and are disposed of properly while ensuring that frontline workers have well-ventilated work areas and adjacent communities are not exposed to VOC emissions. The failure to include consistent facility inspections can result in unnecessary VOC contamination that can leak into the soil and groundwater and potentially migrate into people's homes. Walnut Park and Florence-Firestone communities are already exposed to countless polluting industries and AQMD can prevent one less polluting source.

Sincerely,

Ambar Rivera
Staff Researcher
Communities for a Better Environment

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[14] EnviroStor, Department of Toxic Substances Control. Accessed May 1, 2025. https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60002329

[15] Ashley Orona, " South Gate residents boo decision to delay illegal truck yard's possible closure." LA Public Press. April 23, 2025.

ATTACHMENT H

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SUBJECT: **NOTICE OF EXEMPTION FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT**

PROJECT TITLE: **PROPOSED AMENDED RULE 1171 – SOLVENT CLEANING OPERATIONS**

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, the South Coast Air Quality Management District (South Coast AQMD), as Lead Agency, has prepared a Notice of Exemption pursuant to CEQA Guidelines Section 15062 – Notice of Exemption for the project identified above.

If the proposed project is approved, the Notice of Exemption will be filed for posting with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino Counties. The Notice of Exemption will also be electronically filed with the State Clearinghouse of the Governor's Office of Planning and Research for posting on their CEQAnet Web Portal which may be accessed via the following weblink: https://ceqanet.opr.ca.gov/search/recent. In addition, the Notice of Exemption will be electronically posted on the South Coast AQMD's webpage which can be accessed via the following weblink: http://www.aqmd.gov/nav/about/public-notices/ceqa-notices/notices-of-exemption/noe---year-2025.

NOTICE OF EXEMPTION FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

To:	County Clerks for the Counties of Los Angeles, Orange, Riverside, and San Bernardino; and Governor's Office of Planning and Research – State Clearinghouse	**From:**	South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765

Project Title: Proposed Amended Rule 1171 – Solvent Cleaning Operations

Project Location: The proposed project is located within the South Coast Air Quality Management District's (South Coast AQMD) jurisdiction, which includes the four-county South Coast Air Basin (all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties), and the Riverside County portion of the Salton Sea Air Basin and the non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin.

Description of Nature, Purpose, and Beneficiaries of Project: Rule 1171 limits emissions of volatile organic compounds (VOC), toxic air contaminants, stratospheric ozone-depleting compounds, and global-warming compounds from solvent cleaning materials used in solvent cleaning operations. The purpose of Proposed Amended Rule (PAR) 1171 is to reduce toxicity in formulations of certain solvent cleaning materials and to make other changes to limit the usage of certain solvent cleaning materials by: 1) prohibiting the use of parachlorobenzotrifluoride (pCBtF) and *tert*-Butyl Acetate (t-BAc) in solvent cleaning materials due to toxicity concerns effective January 1, 2026; 2) including a sell-through and use-through provision for solvent cleaning materials that include pCBtF and/or t-BAc and are manufactured prior to the proposed prohibition date of January 1, 2026; 3) prohibiting the possession of non-compliant solvent cleaning materials; 4) including alternative usage and product weighted-maximum incremental reactivity (PW-MIR) VOC limits for electricity and water distribution facilities to allow for the use of liquid denatured alcohol instead of denatured alcohol packaged as an aerosol product; 5) including alternative usage limits for solvent cleaning products packaged as an aerosol; 6) including a higher VOC limit to allow for the manufacturer-recommended use of alcohol-based solvent cleaning materials for cleaning energy curing lamps and reflectors used in the printing industry; 7) including an alternative PW-MIR VOC limit for solvent cleaning materials used for cleaning lithographic printing and screen printing equipment; 8) including an alternative PW-MIR VOC limit of 0.38 gram of ozone per gram of VOC for any solvent cleaning activity; and 9) updating the rule structure, adding new definitions, and removing outdated rule provisions. Implementation of the proposed project is not expected to result in a change in VOC emissions relative to baseline conditions because: 1) alternative formulations of cleaning solvents that do not contain pCBtF or t-BAc are currently available and capable of meeting the established VOC emission limits; 2) the use of liquid alcohol solvent cleaning materials in certain solvent cleaning activities at water and electric utilities are chemically equivalent to aerosol alcohol solvent cleaning materials; 3) only the VOC emission limit for solvent cleaning materials used for energy-curing lamps and reflectors is proposed to be increased, but the use of these materials is minimal and occurs infrequently; and 4) reduced usage limits for aerosol solvent cleaning products that contain VOC in excess of the proposed VOC emission limits are proposed for most solvent cleaning activities. The primary benefit of phasing out pCBtF and t-BAc will reduce the risk of exposure of these toxic chemicals to workers, nearby receptors and the public.

Public Agency Approving Project:	**Agency Carrying Out Project:**
South Coast Air Quality Management District	South Coast Air Quality Management District

Exempt Status:
CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption
CEQA Guidelines Section 15308 – Actions by Regulatory Agencies for Protection of the Environment

Reasons why project is exempt: South Coast AQMD, as Lead Agency, has reviewed the proposed project (PAR 1171) pursuant to: 1) CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA; and 2) CEQA Guidelines Section 15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA. Since PAR 1171 is not expected to result in a change in VOC emissions relative to baseline conditions, and the alternative compliant formulations that do not contain pCBtF and t-BAc are commercially available such that the sell-through and use-through provisions provide sufficient time to find suitable replacements which will prevent stranded assets and the generation of waste, it can be seen with certainty that there is no possibility that the proposed project may have a significant adverse effect on the environment. Therefore, the proposed project is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption. The proposed project is also categorically exempt from CEQA pursuant to CEQA Guidelines Section 15308 – Actions by Regulatory Agencies for Protection of the Environment, because PAR 1171 is intended to further protect or enhance the environment by reducing the potential exposure to toxic chemicals. Further, there is no substantial evidence indicating that any of the exceptions to the categorical exemption set forth in CEQA Guidelines Section 15300.2 – Exceptions, apply to the proposed project.

Date When Project Will Be Considered for Approval (subject to change):
South Coast AQMD Governing Board Public Hearing: June 6, 2025

CEQA Contact Person: Sina Taghvaee, Ph.D.	**Phone Number:** (909) 396-2192	**Email:** staghvaee@aqmd.gov
PAR 1171 Contact Person: Christopher Bradley	**Phone Number:** (909) 396-2185	**Email:** cbradley@aqmd.gov

Date Received for Filing: _____ **Signature:** *(Signed and Dated Upon Board Approval)*

Kevin Ni
Program Supervisor, CEQA
Planning, Rule Development, and
Implementation

Proposed Amended Rule 1171
Solvent Cleaning Operations

GOVERNING BOARD PRESENTATION
June 6, 2025

ATTACHMENT I

Rule 1171 Background

- Adopted in August 1991, most recently amended in 2009
  - Establishes VOC limits for solvent cleaning materials used as part of business or public service
  - Broad applicability and covers many industries
- Proposed amendments needed to:
  - Partially implement 2022 AQMP control measure by phasing out of pCBtF and *t*-BAc
  - Address concerns at water and electricity distribution operations regarding availability of aerosol denatured alcohol
- Public process began January 2024
  - Three Working Group Meetings
  - One Public Workshop

Phasing Out pCBtF and *t*-BAc in Solvent Cleaning Materials

- Some solvents are exempt under definition of VOC
  - Used to meet lower VOC limits
- pCBtF and *t*-BAc are exempt solvents determined to have high cancer potency
  - 2017 Stationary Source Committee directed staff to prioritize toxicity over VOC emissions
- Solvent cleaning formulations
  - No *t*-BAc use identified
  - Limited use of pCBtF identified and suitable alternatives widely available
- Proposing quick phase out due to limited use
  - Prohibition effective date January 1, 2026
  - One-and-a-half-year sell through in supply chain
  - Two-and-a-half-year use through at shop level

Other Proposed Revisions

Aerosol Exemption

- Changed to monthly allowance better fits industry needs
- Lowered some usage limits to reflect current needs

Cleaning at Utilities

- Allow limited use of liquid alcohol cleaning products instead of aerosols
- Usage threshold to reflect industry needs

Reactivity-based VOC limits

- Allowing alternative reactivity-based limits for printing industry and general cleaning to provide for formulation flexibility

Cleaning Energy Curable Lamps and Reflectors

- Carved out a higher VOC limit to allow for limited use of alcohol wipe cleaning

Proposed changes will <u>Not</u> increase VOC emissions

Key Issue #1

Recordkeeping, labeling and reporting requirements are too burdensome

- PAR 1171 includes two new recordkeeping requirements to ensure enforceability
  - If a remote reservoir cleaning system is repaired, a record of the repair must be maintained
  - Operators maintain records of VOC content and usage quantities similar to Rule 109 requirements
- Streamlined recordkeeping requirements
- New labeling requirement for alternative Maximum Incremental Reactivity (MIR) VOC limit
  - Only applies if manufacturer opts to comply with alternative limit
- No new reporting requirements

Key Issue #2

Clean Water SoCal, an advocacy group for water agencies, and the International Ultraviolet Association, a non-profit that focuses on advancing UV technologies, requested a rule exemption for cleaning operations at essential public services and cleaning of UV equipment

- Staff worked directly with Los Angeles Department of Water and Power (LADWP) and Metropolitan Water District (MWD) to determine their cleaning needs
- Proposed changes to allow for liquid alcohol use is based on water treatment agencies' request
- Water treatment agencies support usage limits included in PAR 1171

CEQA and Socioeconomic Impact Assessment

California Environmental Quality Act (CEQA)

- Prohibition of pCBtF and t-BAc is health protective and alternative formulations are currently available
- No change in VOC emissions expected
- PAR 1171 qualifies for exemption from CEQA
- Notice of Exemption has been prepared

Socioeconomic Impact Assessment

- PAR 1171 does not significantly affect air quality or emission limitations
- No socioeconomic impact assessment is required pursuant to Health and Safety Code Sections 40440.8 and 40728.5

Staff Recommendations

Determining that Proposed Amended Rule 1171 is exempt from CEQA; and

Amending Rule 1171 – Solvent Cleaning Operations