

## **MEETING, MARCH 2, 2018**

A meeting of the South Coast Air Quality Management District Board will be held at 9:00 a.m., in the Auditorium at SCAQMD Headquarters, 21865 Copley Drive, Diamond Bar, California.

The agenda and documents in the agenda packet will be made available upon request in appropriate alternative formats to assist persons with a disability. Disability-related accommodations will also be made available to allow participation in the Board meeting. Any accommodations must be requested as soon as practicable. Requests will be accommodated to the extent feasible. Please telephone the Clerk of the Boards Office at (909) 396-2500 from 7:00 a.m. to 5:30 p.m. Tuesday through Friday.

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 the South Coast Air Quality Management District Clerk of the Boards Office, 21865 Copley Drive, Diamond Bar, CA 91765.



## **CALL TO ORDER**

- Pledge of Allegiance
- Opening Comments: William A. Burke, Ed.D., Chair  
Other Board Members  
Wayne Nastri, Executive Officer

---

Staff/Phone (909) 396-

## **CONSENT CALENDAR (Items 1 through 21)**

Note: Consent Calendar items held for discussion will be moved to Item No. 22

1. Approve Minutes of February 2, 2018 Board Meeting **Garzaro/2500**
2. Set Public Hearings April 6, 2018 to Consider Adoption of and/or Amendments to SCAQMD Rules and Regulations: **Nastri/3131**
  - A. Certify Final Environmental Assessment and Amend Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations **Nakamura/3105**

Rule 1469 currently establishes requirements to control hexavalent chromium from electroplating and chromic acid anodizing operations. Proposed Amended Rule 1469 (PAR 1469) proposes new requirements for hexavalent chromium-containing tanks that are currently not regulated, building enclosures, housekeeping and best management practices, periodic source testing, and parameter monitoring of pollution control equipment. PAR 1469 includes provisions for a revised chemical fume suppressant certification process that further considers toxicity and exposure, and provisions to encourage the elimination of hexavalent chromium in Rule 1469 processes. Additional proposed amendments are incorporated to align Rule 1469 with the U.S. EPA National Emission Standards for Hazardous Air Pollutants for Chromium Electroplating. This action is to adopt the Resolution:1) Certifying the Final Environmental Assessment for Proposed Amended Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations; and 2) Amending Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations. (Reviewed: Stationary Source Committee, November 17, 2017 and February 16, 2018)



- B. Determine that Proposed Amendments to Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities and Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II Are Exempt from CEQA; and Amend Rules 1178 and 219 **Nakamura/3105**

The proposed rule amendments to Rule 1178 will incorporate provisions that allow the use of a flexible enclosure for slotted guidepoles for petroleum storage tanks under certain conditions. Additionally, Rule 219 will be amended to exempt from permitting, slotted guidepoles that meet specific emission control configurations that are specified in Proposed Amended Rule 1178. This action is to adopt the Resolution: 1) Determining that the proposed amendments to Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities, and Rule 219 - Equipment Not Requiring a Written Permit Pursuant to Regulation II are exempt from the requirements of the California Environmental Quality Act; and 2) Amending Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities, and Rule 219 - Equipment Not Requiring a Written Permit Pursuant to Regulation II. (Reviewed: Stationary Source Committee, February 16, 2018)

**Budget/Fiscal Impact**

3. Execute Contract to Implement Consumer Rebate Program for Rule 1111 Compliant Natural Gas-Fired, Fan-Type Central Furnaces **Fine/2239**

On December 1, 2017, the Board authorized: (1) utilizing \$3,000,000 in Rule 1111 rebate funding from the Air Quality Investment Fund (27), as well as any additional incremental mitigation fee funding from future Rule 1111 amendments, to have a third-party contractor for implementation of the consumer rebate program; and (2) issuing an RFP to solicit proposals to administer the rebate program for consumers who purchase and install compliant furnaces in the SCAQMD. This action is to execute a contract with Electric & Gas Industries Association to implement the rebate program in an original amount not to exceed \$3,000,000, and add any additional incremental mitigation fee funding from future Rule 1111 amendments through contract modifications. (Reviewed: Stationary Source Committee, February 16, 2018; Recommended for Approval)



4. **Issue RFPs to Implement Recommendations to Enhance Socioeconomic Assessments for AQMP** **Fine/2239**

In 2014, Abt Associates recommended that SCAQMD enhance socioeconomic assessments for future AQMPs. Staff is proposing the release of RFPs related to the evaluation of various clean air benefits, to assist in the implementation of recommendations by Abt Associates. This action is to issue two RFPs to solicit bids for 1) literature review and development of the methodologies on quantification and valuation of visibility benefits for future AQMPs; and 2) literature review of the benefits to agriculture, ecology, building, and materials from improved air quality and recommendations on analyzing these benefits for future AQMPs. Funds for the study of visibility benefits in an amount not to exceed \$100,000, and funds for the study of agriculture, ecology, buildings, and materials benefits in an amount not to exceed \$50,000 are both included in the Planning, Rule Development and Area Sources FY 2017-18 Budget. (Reviewed: Administrative Committee, February 9, 2018; Recommended for Approval)
5. **Adopt Resolution Recognizing Funds and Accepting Terms and Conditions for FY 2017-18 Carl Moyer Program Award, Issue Program Announcements for Carl Moyer Program and SOON Provision, Transfer Funds for Voucher Incentive Program and Amend Contract** **Minassian/2641**

These actions are to adopt a Resolution recognizing up to \$27 million in Carl Moyer Program grant awards from CARB under SB 1107 with its terms and conditions for FY 2017-18 and issue Program Announcements for the FY 2017-18 "Year 20" Carl Moyer Program and SOON Provision to provide incentive funding for low emitting on- and off-road vehicles and equipment. Funding for the Carl Moyer and SOON projects will be provided from the Carl Moyer Program SB 1107, AB 134 and AB 923 funds. This action is to also transfer \$2 million from the Carl Moyer Program AB 923 Special Revenue Fund (80) to the Voucher Incentive Program Fund (59) to continue funding truck replacement projects on a first-come, first-served basis. Finally, this action is to amend a contract, adding an additional \$105,677 from the Carl Moyer Program SB 1107 Fund (32). (Reviewed: Technology Committee, February 16, 2018; Recommended for Approval)
6. **Appropriate Funds and Execute Contract for Strategic Consulting Services** **Alatorre/3122**

Staff requires professional consulting services related to the implementation of the 2016 AQMP and related issues. This action is to appropriate funds from the General Fund Undesignated (Unassigned) Fund Balance and execute a contract with Double Nickel Advisors, LLC, for strategic communication and messaging to stakeholders, the Legislature and the Governor's Administration in support of the 2016 AQMP, its required elements, and related issues. (Reviewed: Administrative Committee, February 9, 2018; Recommended for Approval)



7.       **Issue Purchase Order to Promote "The Right to Breathe" Video**       **Atwood/3687**

This action is to add \$375,000 to SCAQMD's 2018 Google AdWords campaign to promote the new "The Right to Breathe" video. Funding for this effort will come from the BP ARCO Settlement Projects Special Revenue Fund (46). (Reviewed: Administrative Committee, February 9, 2018; Recommended for Approval)
8.       **Transfer and Appropriate Funds and Execute Contracts for Short- and Long-Term Systems Development, Maintenance and Support Services**       **Moskowitz/3329**

On November 3, 2017, the Board approved the release of an RFP to obtain short- and long-term software systems development, maintenance and support services. This action is to transfer and appropriate funds and execute new contracts to obtain these services on a task order basis. Executing contracts with multiple bidders provides a pool of well-qualified professionals who have demonstrated their understanding of and expertise in meeting agency needs, and enables SCAQMD to obtain cost-effective and technically responsive support. (Reviewed: Administrative Committee, February 9, 2018; Recommended for Approval)
9.       **Amend Contracts to Provide Systems Development Services for Legal Division Case Management System Development and Implementation**       **Moskowitz/3329**

SCAQMD currently has contracts with several companies for short- and long-term systems development, maintenance and support services. These contracts are periodically amended to add budgeted funds as additional needs are defined. This action is to amend one of the contracts approved by the Board to add additional funding of \$500,000 for development and implementation of a new web-based case management software system for the Legal Division. (Reviewed: Administrative Committee, February 9, 2018; Recommended for Approval)
10.      **Approve SCAQMD Annual Investment Policy and Delegation of Authority to Appointed Treasurer to Invest SCAQMD Funds**       **Jain/2804**

State law requires a local government entity annually to provide a statement of investment policy for consideration at a public meeting and to renew its delegation of authority to its treasurer to invest or to reinvest funds of the local agency. (Reviewed: Investment Oversight Committee, February 16, 2018; Recommended for Approval)
11.      **Approve Contract Awards Approved by MSRC**       **Pettis**

As part of their FYs 2016-18 Work Program, the MSRC approved new contracts under the Major Event Center Transportation, Natural Gas Infrastructure, and Local Government Partnership Programs. The MSRC also approved a replacement contract under their FYs 2014-16 Work Program. At this time the MSRC seeks Board approval of the contract awards. (Reviewed: Mobile Source Air Pollution Reduction Review Committee, February 15, 2018; Recommended for Approval)



12. Amend Award for Participation in California Hydrogen Infrastructure Research Consortium

Miyasato/3249

Last month, the Board approved executing an agreement with the National Renewable Energy Laboratory (NREL) for \$100,000 from the Clean Fuels Program Fund (31) for participation in the California Hydrogen Infrastructure Research Consortium. National laboratories, however, are managed and operated by third parties. The Alliance for Sustainable Energy, LLC, operates and manages NREL. Therefore, this action is to execute an agreement with the Alliance for Sustainable Energy, LLC, to facilitate participation in the California Hydrogen Infrastructure Research Consortium. Several state offices and agencies may also join the agreement. No funding changes are required. (No Committee Review)

**Action Item/No Fiscal Impact**

13. Annual Meeting of Health Effects of Air Pollution Foundation

Gilchrist/3459

This item is to conduct the annual meeting of the Health Effects of Air Pollution Foundation. The Foundation staff will present an annual report detailing the research supported by the Foundation over the past year, the Foundation's plans for the future, and a final report. (No Committee Review)

**Items 14 through 21 - Information Only/Receive and File**

14. Legislative, Public Affairs and Media Report

Alatorre/3122

This report highlights the January 2018 outreach activities of the Legislative, Public Affairs and Media Office, which include: Environmental Justice Update, Community Events/Public Meeting, Business Assistance, Media Relations, and Outreach to Business, Federal, State, and Local Government. (No Committee Review)

15. Hearing Board Report

Prussack/2500

This reports the actions taken by the Hearing Board during the period of January 1 through January 31, 2018. (No Committee Review)

16. Civil Filings and Civil Penalties Report

Gilchrist/3459

This reports the monthly penalties from January 1 through January 31, 2018, and legal actions filed by the General Counsel's Office from January 1 through January 31, 2018. An Index of District Rules is attached with the penalty report. (Reviewed: Stationary Source Committee, February 16, 2018)



17. **Lead Agency Projects and Environmental Documents Received by SCAQMD** **Nakamura/3105**
- This report provides, for the Board's consideration, a listing of CEQA documents received by the SCAQMD between January 1, 2018 and January 31, 2018, and those projects for which the SCAQMD is acting as lead agency pursuant to CEQA. (Reviewed: Mobile Source Committee, February 16, 2018)
18. **Rule and Control Measure Forecast** **Fine/2239**
- This report highlights SCAQMD rulemaking activities and public workshops potentially scheduled for 2018. (No Committee Review)
19. **Report of RFQs Scheduled for Release in March** **Jain/2804**
- This report summarizes the RFQs for budgeted services over \$75,000 scheduled to be released for advertisement for the month of March. (Reviewed: Administrative Committee, February 9, 2018)
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 SCAQMD operations. This action is to provide the monthly status report on major automation contracts and planned projects. (Reviewed: Administrative Committee, February 9, 2018)
21. **FY 2017-18 Contract Activity** **Jain/2804**
- This report lists the number of contracts let during the first six months of FY 2017-18, the respective dollar amounts, award type, and the authorized contract signatory for the SCAQMD. (No Committee Review)
22. **Items Deferred from Consent Calendar**

## **BOARD CALENDAR**

23. **Administrative Committee (Receive & File)** **Chair: Burke** **Nastri/3131**
24. **Investment Oversight Committee (Receive & File)** **Chair: Cacciotti** **Jain/2804**



25A. Legislative Committee **Chair: Mitchell Alatorre/3122**

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

<b>Agenda Item</b>	<b>Recommendation</b>
Proposed Sales Tax Increase Legislative Concept for Approval	Continue This Item Until a Future Meeting; Pending Approval of a Draft Public Survey
Proposed Public Fleet Rule Legislative Proposal and Draft Language for Approval	Sponsor in Concept With Amendments to Draft Language
Proposed Amendments to 2018 SCAQMD State and Federal Legislative Goals and Objectives	Continue This Item Until Next Meeting
Proposed Public Notice Requirements Modernization Draft Bill Language for Approval	Approve

25B. Special Legislative Committee **Chair: Mitchell Alatorre/3122**

Receive and file this report, and approve agenda items as specified:

<b>Agenda Item</b>	<b>Recommendation</b>
Proposed Sales Tax Increase Legislative Concept and Related Public Survey for Approval	Approve Survey and Sponsor in Concept if Positive Feedback from Public Survey

26. Mobile Source Committee (Receive & File) **Chair: Parker Fine/2239**

27. Refinery Committee (Receive & File) **Chair: Parker Fine/2239**

28. Stationary Source Committee (Receive & File) **Chair: Benoit Tisopulos/3123**

29. Technology Committee (Receive & File) **Chair: Buscaino Miyasato/3249**

30. Mobile Source Air Pollution Reduction  
Review Committee (Receive & File) **Board Liaison: Benoit Minassian/2641**



31. California Air Resources Board Monthly Board Rep: Mitchell Garzaro/2500  
Report (Receive & File)

**Staff Presentation/Board Discussion**

32. Potential Strategies for Facility-Based Mobile Source Measures Adopted in Final 2016 AQMP Fine/2239

Following the commitment made in the 2016 AQMP, staff has conducted significant public outreach over the past year to identify potential voluntary and, if needed, regulatory emission reduction strategies for sources covered by Facility-Based Mobile Source Measures. After reviewing the feedback received during this process, staff has developed a recommended approach tailored to each of the five facility sectors including airports, marine ports, new and redevelopment projects, rail yards, and warehouses. This recommendation includes a spectrum of potential voluntary and regulatory approaches that show the most promise for achieving emission reductions. Any potential rule or agreements included in this approach would be subject to a full public process, including further public outreach, environmental and economic analysis, and subsequent Board consideration. This action is to seek Board direction for next steps in the development of Facility-Based Mobile Source Measures. (Reviewed: Mobile Source Committee, February 16, 2018)

**PUBLIC HEARINGS**

33. Certify Final Subsequent Environmental Assessment and Amend Rule 1111 – Reduction of NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces; and Recognize Revenue Nakamura/3105

In 2009, Rule 1111 was amended to lower the NO<sub>x</sub> emission limit for natural-gas-fired fan-type residential furnaces. In 2014, Rule 1111 was amended to provide manufacturers additional time to develop and commercialize compliant units by allowing a mitigation fee option. Although three manufacturers have certified furnaces, only one has a commercialized product available for sale. Additional time is needed to commercialize a range of compliant units for the various categories. Proposed Amended Rule 1111 will increase and extend the mitigation fee alternative compliance option and will also prevent the installation of propane furnaces in the SCAQMD capable of being fired on natural gas without proper certification. A companion to the proposed rule amendments is a rebate program to encourage manufacturers to commercialize compliant furnaces and incentivize consumers to purchase them. This action is to adopt the Resolution: 1) Certifying the Final Subsequent Environmental Assessment for Proposed Amended Rule 1111 – Reduction of NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces; 2) Amending Rule 1111 – Reduction of NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces; and 3) Recognizing into the Air Quality Investment Fund (27), upon receipt of the increased amounts beyond the current mitigation fees paid by the furnace manufacturers, as potential funding for the Rule 1111 consumer rebate program. Reviewed: Stationary Source Committee, November 17, 2017, January 19 and February 16, 2018)



34. Approve and Adopt Technology Advancement Office Clean Fuels Program 2017 Annual Report and 2018 Plan Update and Resolution, Receive and File Revised Membership of Technology Advancement Advisory Group, and Approve and Adopt Membership Changes for Clean Fuels Advisory Group **Miyasato/3249**

Each year by March 31, the Technology Advancement Office must submit to the California Legislative Analyst an approved Annual Report for the past year and a Plan Update for the current calendar year. Staff has reviewed the Clean Fuels Program with the Clean Fuels Advisory Group, the Technology Advancement Advisory Group and other technical experts. Additionally, the 2018 Clean Fuels Program Draft Plan Update was presented to the Technology Committee for review and comment at its October 20, 2017 meeting. This action is to approve and adopt the final Technology Advancement Clean Fuels Program Annual Report for 2017 and 2018 Plan Update as well as the Resolution finding that proposed projects do not duplicate any past or present programs. This action is to also receive and file revised membership of the Technology Advancement Advisory Group and approve and adopt membership changes to the SB 98 Clean Fuels Advisory Group. (Reviewed: Technology Committee, February 16, 2018)

35. Annual RECLAIM Audit Report for 2016 Compliance Year **Tisopulos/3123**

The annual report on the NOx and SOx RECLAIM program is prepared in accordance with Rule 2015 - Backstop Provisions. The report assesses emission reductions, availability of RECLAIM Trading Credits (RTCs) and their average annual prices, job impacts, compliance issues, and other measures of performance for the twenty-third year of this program. In addition, recent trends in trading future year RTCs are analyzed and presented in this report. Further, a list of facilities that did not reconcile their emissions for the 2016 Compliance Year is included in the report. (Reviewed: Stationary Source Committee, February 16, 2018)

## **OTHER BUSINESS**

36. Approve Amendments to Compensation and Work Condition Provisions for Non-Represented Employees, and Amend Agreements with Executive Officer and General Counsel for Comparable Terms **Olvera/2309**

This action is to present amendments to the SCAQMD Salary Resolution and SCAQMD Administrative Code for consideration and approval. The proposed amendments address compensation and work conditions for non-represented employees for a three-year period. This action is also to amend the executive management agreements of the Executive Officer and the General Counsel to increase their salary and to amend benefit provisions, with terms comparable to those for the non-represented employees. (No Committee Review)



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

**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.

**CONFLICT OF INTEREST DISCLOSURES – (No Written Material)**

Under the approval authority of the Executive Officer, the District has entered into a contract with Southern California Edison Company (Contract No. C18205). Southern California Edison Company is a potential source of income for Governing Board Member Joseph Lyou, which qualifies for the remote interest exception of Section 1090 of the California Government Code. Dr. Lyou abstained from any participation in the making of the contract.

**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 SCAQMD is a party. The actions are:

- In the Matter of SCAQMD v. Aerocraft Heat Treating Co., Inc. and Anaplex Corp., SCAQMD Hearing Board Case No. 6066-1 (Order for Abatement);
- SCAQMD v. Anaplex, Los Angeles Superior Court Case No. BC608322 (Paramount Hexavalent Chromium);
- Arizona v. Bahr, United States Supreme Court Case No. 16-1369 (Contingency Measures);
- In the Matter of SCAQMD v. Browning-Ferris Industries of California, Inc. dba Sunshine Canyon Landfill, Hearing Board Case No. 3448-14;
- Communities for a Better Environment v. SCAQMD, Los Angeles Superior Court Case No. BS161399 (RECLAIM);
- Communities for a Better Environment v. South Coast Air Quality Management District, Los Angeles Superior Court Case No. BS169841; Safe Fuel and Energy Resources California, et al. v. South Coast Air Quality Management District, Los Angeles Superior Court Case No. BS169923 (Tesoro);
- People of the State of California, ex rel. SCAQMD v. Exide Technologies, Inc., Los Angeles Superior Court Case No. BC533528;
- In re: Exide Technologies, Inc., U.S. Bankruptcy Court, District of Delaware, Case No. 13-11482 (KJC) (Bankruptcy Case);
- Fast Lane Transportation, Inc. et al. v. City of Los Angeles, et al., Court of Appeals, First Appellate District, Case No. A148993 (formerly Contra Costa County Superior Court Case No. MSN14-0300) (SCIG);



- Ferguson v. Coachella Valley Association of Governments, Riverside County Transportation Commission and South Coast Air Quality Management District, Riverside Superior Court Case No. PSC 1705629 (CV Link);
- SCAQMD v. EPA, U.S. Court of Appeals, D.C. Circuit, Case No. 15-1115 (consolidated with 15-1123, Sierra Club, et al. v. EPA) (Out-of-Area RFP Ozone);
- SCAQMD v. EPA, U.S. Court of Appeals, D.C. Circuit, Case No. 16-1364 (Out-of-Area RFP PM2.5);
- South Coast Air Quality Management District v. Top Shelf Consulting LLC, Los Angeles Superior Court, Case No. BC676606;
- In the Matter of SCAQMD v. Torrance Refining Company, LLC, SCAQMD Hearing Board Case No. 6060-5 (Order for Abatement);
- Woodland vs. South Coast Air Quality Management District, WCAB Case No. ADJ 8372472;
- Gluck vs. South Coast Air Quality Management District, WCAB Case No. ADJ 9937438; and
- Zbigniew (Phil) Szymanski v. SCAQMD, WCAB No: ADJ9752399.

#### 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 (two cases).

It is also necessary for the Board to recess to closed session pursuant to Government Code section 54956.9(a), 54956.9(d)(2), and 54956.9(e)(4) based on the existence of significant exposure to litigation (one case), the specific facts and circumstances of which are the February 6, 2018 motion by the Carson City Council authorizing litigation to compel SCAQMD to install monitors near the Andeavor refinery.

#### CONFERENCE WITH NEGOTIATORS

It is also necessary to recess to closed session pursuant to Government Code Section 54957.6 to confer regarding upcoming labor negotiations with:

- designated representatives regarding represented employee salaries and benefits or other mandatory subjects within the scope of representation [Negotiator: A. John Olvera; Represented Employees: Teamsters Local 911 and SCAQMD Professional Employees Association];

and to confer with:

- labor negotiators regarding unrepresented employees [Agency Designated Representative: A. John Olvera; Unrepresented Employees: 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. Please notify the Clerk of the Board, (909) 396-2500, if you wish to do so. All agendas are posted at SCAQMD Headquarters, 21865 Copley Drive, Diamond Bar, California, at least 72 hours in advance of the meeting. At the end of the agenda, an opportunity is also provided for the public to speak on any subject within the SCAQMD's authority. Speakers will be limited to a total of three (3) minutes for the Consent Calendar and Board Calendar and three (3) minutes or less for 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, provided 25 copies are presented to the Clerk of the Board. Electronic submittals to [cob@agmd.gov](mailto:cob@agmd.gov) of 10 pages or less including attachment, in MS WORD, PDF, plain or HTML format will also be accepted by the Board and made part of the record if received no later than 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

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

CTG = Control Techniques Guideline

DOE = Department of Energy

EV = 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

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

OEHA = Office of Environmental Health Hazard  
Assessment

PAMS = Photochemical Assessment Monitoring  
Stations

PAR = Proposed Amended Rule

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

PR = Proposed Rule

RECLAIM = Regional Clean Air Incentives Market

RFP = Request for Proposals

RFQ = Request for 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



 [Back to Agenda](#)

BOARD MEETING DATE: March 2, 2018

AGENDA NO. 1

MINUTES: Governing Board Monthly Meeting

SYNOPSIS: Attached are the Minutes of the February 2, 2018 meeting.

**RECOMMENDED ACTION:**

Approve Minutes of the February 2, 2018 Board Meeting.

Denise Garzaro  
Clerk of the Boards

DG

---



**FRIDAY, FEBRUARY 2, 2018**

Notice having been duly given, the regular meeting of the South Coast Air Quality Management District Board was held at District Headquarters, 21865 Copley Drive, Diamond Bar, California. Members present:

William A. Burke, Ed.D., Chairman  
Speaker of the Assembly Appointee

Dr. Clark E. Parker, Sr., Vice Chairman  
Senate Rules Committee Appointee

Mayor Ben Benoit,  
Cities of Riverside County

Supervisor Marion Ashley  
County of Riverside

Council Member Joe Buscaino  
City of Los Angeles

Council Member Michael A. Cacciotti  
Cities of Los Angeles County – Eastern Region

Dr. Joseph K. Lyou  
Governor's Appointee

Mayor Larry McCallon  
Cities of San Bernardino County

Mayor Pro Tem Judith Mitchell  
Cities of Los Angeles County – Western Region

Supervisor Shawn Nelson (Arrived at 9:50 a.m.)  
County of Orange

Council Member Dwight Robinson  
Cities of Orange County

Supervisor Janice Rutherford  
County of San Bernardino

Supervisor Hilda L. Solis  
County of Los Angeles



**CALL TO ORDER:** Chairman Burke called the meeting to order at 9:05 a.m.

- Pledge of Allegiance: Led by Dr. Lyou.
- Opening Comments

Mayor Pro Tem Mitchell reported that she attended the Martin Luther King, Jr. Day of Service Forum in Los Angeles on January 15, 2018, where former Los Angeles Mayor Antonio Villaraigosa gave a wonderful speech and Danny Bakewell was honored with the Environmental Justice For All award. She encouraged her fellow Board Members to attend this annual event.

Dr. Lyou expressed appreciation to staff for their prompt response to a complaint regarding an odor issue by a neighbor.

Chairman Burke presented Kurt Wiese, General Counsel a retirement award in recognition of his 29 years of dedicated District service.

Mr. Wiese expressed appreciation to the Board and staff for the opportunity to serve in an agency that has made great accomplishments.

Council Member Cacciotti announced an upcoming demonstration project by Ford for hybrid police pursuit vehicles on February 13, 2018 at the Auto Club Speedway in Fontana and invited fellow Board Members and staff to attend. He added that the purchase of these vehicles will result in significant cost reductions for public safety agencies and emission reductions within the District.

Wayne Nastri, Executive Officer, noted that an errata sheet with amendments to the January 5, 2018 Board meeting minutes was distributed to Board Members and copies made available to the public.

- Swearing in of Reappointed Board Member Marion Ashley

Chairman Burke administered the oath of office to Supervisor Marion Ashley who was reappointed to the Board by the County of Riverside Board of Supervisors for a term ending January 15, 2022.

Supervisor Ashley expressed appreciation for the opportunity to continue to serve on the Board.



## **CONSENT CALENDAR**

1. Approve Minutes of January 5, 2018 Board Meeting

An errata sheet containing amendments to the Board meeting minutes was distributed to Board Members and copies made available to the public.

2. Set Public Hearing March 2, 2018 to Consider Adoption of and/or Amendments to SCAQMD Rules and Regulations:

Certify Final Environmental Assessment and Amend Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces

### **Budget/Fiscal Impact**

3. Demonstrate Zero Emission Cargo Handling Vehicles at Port of Long Beach
4. Renew California Fuel Cell Partnership Membership and Participation, Receive and File California Fuel Cell Partnership Board Meeting Agenda and Quarterly Updates, and Participate in California Hydrogen Infrastructure Research Consortium
5. Recognize Revenue to Develop Test Standard for Performance Verification of Low-Cost Indoor Air Quality Sensors
6. Recognize Revenue and Appropriate and Transfer Funds for U.S. EPA PAMS Program and Issue RFQ and Purchase Orders for Equipment
7. Issue Request for Qualifications for Technical Assistance to Support Technology Advancement Activities
8. Authorize Funding, Recognize Anticipated Revenue and Conduct Air Quality Conferences for Seniors
9. Establish List of Prequalified Vendors to Provide Computer, Network, Printer, Hardware and Software, and Audio Visual Equipment
10. Execute Contract for Data Cabling Infrastructure Upgrade



11. Authorize Purchase of Servers and Storage Devices Maintenance and Support Services
12. Approve Contract Awards and Modification as Approved by MSRC
13. Approve Funding for Air Filtration Systems at East Los Angeles Schools

**Items 14 through 19 - Information Only/Receive and File**

14. Legislative, Public Affairs and Media Report
15. Hearing Board Report
16. Civil Filings and Civil Penalties Report
17. Lead Agency Projects and Environmental Documents Received by SCAQMD
18. Rule and Control Measure Forecast
19. Status Report on Major Ongoing and Upcoming Projects for Information Management

Dr. Lyou announced his abstention on Item No. 3 because the Port of Long Beach is a potential source of income to him; Item No. 12 because City of Long Beach is potential source of income to him; and Item No. 13 because IQAir North America is a potential source of income to him, all because they made contributions to his employer.

Mayor McCallon noted that he serves on the Board of Directors for the Southern California Regional Rail Authority which is involved with Item No. 12.

Mayor Pro Tem Mitchell noted that she is a Board Member of the CARB which is involved with Item Nos. 3 and 4.

Mayor Benoit and Supervisor Ashley noted that they are members of the Riverside County Transportation Commission which is involved with Item No. 12.

Due to a number of requests to speak received on Consent Calendar items including agenda Items 2, 4, 5, 8, 12, 13 and 14, the vote on the Consent Calendar was deferred until after those comments were made.



20. Items Deferred from Consent Calendar

2. Set Public Hearing March 2, 2018 to Consider Adoption of and/or Amendments to SCAQMD Rules and Regulations:

Certify Final Environmental Assessment and Amend Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces

The following individuals addressed the Board on Agenda Item 2.

Rusty Tharp, Goodman Manufacturing, expressed appreciation to staff for their work with stakeholders during the rule making process. He expressed support for the current proposal to extend the mitigation fee as it fosters consumer choice and correctly applies a difference in mitigation fees due to actual emissions of the product and added support for the staging of the fee increase. He noted that the consumer rebate adequately rewards both manufacturers and consumers who are first to adopt compliant products.

David Winningham, Lennox International, expressed opposition to the proposed rule amendments which provide an economic advantage for non-compliant furnaces and do not support the manufacturers who have invested heavily in early adoption of compliant products. Lennox also finds the mitigation fee proposal to be too complex and difficult to administer with loopholes and exceptions for construction and propane use. He added that the extension of the mitigation period must be balanced with economic measures that ensure viability of compliant products on the market. He strongly urged continued discussions to address these issues.

Dr. Lyou asked Mr. Winningham if his position on the rule had changed as he recalled that he was previously in support of the rule.

Mr. Winningham commented that they were in support of the proposed amendments in October and November, but changed their position with the January proposal.

Harvey Eder, Public Solar Power Coalition, commented on the need to incorporate discussions on the cost benefits and application of solar technologies. He added that the District needs to look at complete toxics for natural gas and PM.

Dr. Lyou asked staff for clarification on the changes to the rule amendment as it relates to the change in position by Lennox and whether staff will be addressing their concerns before the public hearing.



Dr. Philip Fine, DEO/Planning, Rule Development and Area Sources, explained that changes to the proposed rule were made based on comments received by stakeholders to address concerns about the timing of increased mitigation fees in the middle of the compliance period, and after annual reporting and financial planning had already occurred. Staff also developed a graduated fee schedule to address concerns about larger units with higher emissions and a phased in fee schedule was developed to ease the transition of increased mitigation fees. Staff has worked to strike a balanced proposal while providing consumer choice. A rebate program is also proposed that will assist manufacturers and lower costs for consumers. Discussions with stakeholders are ongoing.

Mayor Benoit expressed concern that a sell-through provision is needed for manufacturers.

Dr. Fine explained that the 18-month mitigation fee period should provide the flexibility to handle the inventory issue but additional discussions with stakeholders are planned to better understand their concerns.

Council Member Cacciotti asked staff to explain the development and commercialization of compliant units.

Mr. Wiese recommended that further discussions about the rule amendments take place at next month's public hearing as this item is to set the matter for public hearing.

Mr. Nastri noted that staff will continue to meet with stakeholders to address the concerns that were expressed today and provide further information to the Board at next month's meeting.

MOVED BY BENOIT, SECONDED BY  
CACCIOTTI, AGENDA ITEM NO. 2  
APPROVED, AS RECOMMENDED, BY THE  
FOLLOWING VOTE:

AYES: Ashley, Benoit, Burke, Buscaino,  
Cacciotti, Lyou, McCallon,  
Mitchell, Parker, Robinson,  
Rutherford and Solis

NOES: None

ABSENT: Nelson



4. Renew California Fuel Cell Partnership Membership and Participation, Receive and File California Fuel Cell Partnership Board Meeting Agenda and Quarterly Updates, and Participate in California Hydrogen Infrastructure Research Consortium

Mr. Eder expressed support for the use of solar fuel cells rather than natural gas technologies and recommended that this be a condition of joining the partnership.

5. Recognize Revenue to Develop Test Standard for Performance Verification of Low-Cost Indoor Air Quality Sensors

Mr. Eder noted that radon is included in the monitoring of indoor air quality and recommended that indoor air monitoring sensors be expanded to include other radioactive materials.

8. Authorize Funding, Recognize Anticipated Revenue and Conduct Air Quality Conferences for Seniors

Mr. Eder referenced a study of premature deaths from NO<sub>x</sub> published in the New England Journal of Medicine and recommended that the information be disseminated to seniors.

Supervisor Solis expressed support for the item and encouraged staff to conduct outreach and potentially partner with AARP, Metrolink and others to assist in targeting outreach to the senior population and getting them to the event.

Chairman Burke commented that he participated in a meeting this morning to discuss outreach efforts to seniors.

Derrick Alatorre, DEO/Legislative, Public Affairs and Media, explained that an extensive outreach program is proposed to attract seniors and cosponsors.

Dr. Lyou left the room during discussion of Item Nos. 12 and 13.

12. Approve Contract Awards and Modification as Approved by MSRC

Supervisor Solis asked staff to explain what kind of technical assistance is provided to smaller cities to apply for grants.



Ray Gorski, MSRC Technical Advisor, explained that the MSRC works closely with public affairs staff and contracts with an outreach coordinator to provide focused outreach to cities that need assistance or lack technical resources.

Supervisor Solis noted that there are 88 cities in the County of Los Angeles and encouraged staff to conduct more targeted outreach and provide assistance to underrepresented areas and the County.

Council Member Cacciotti expressed concern that the Local Government Partnership Program deadline is March 2, 2018 and many cities may have difficulty meeting application deadlines because of budget cycles within their cities. He asked if there is a process in place for extension of the deadline.

Mr. Gorski explained that the Local Government Partnership Program was designed to be success-oriented giving the MSRC the authority to grant extensions. The 22 million dollars of funding has been set aside on a pro rata basis for each city and county and the goal is to provide funding for projects which further the goals of the 2016 AQMP, specifically for zero and near-zero emission technologies. MSRC staff will relay the Board's concerns to the committee regarding application deadlines so that cities within the District will have additional time to take advantage of the funding.

Mayor McCallon noted that as Vice Chair of the MSRC committee every effort will be made to ensure greater participation within the program.

13. Approve Funding for Air Filtration Systems at East Los Angeles Schools

Mr. Eder noted the importance of filtering for radon and other radioactive materials and expanding the funding to areas beyond East Los Angeles.

Supervisor Solis noted that the schools receiving this funding are within her district and asked staff to provide background information on the distribution of settlement funds and how communities are selected for funding.

Kurt Wiese, General Counsel, explained that the funds were from a two-part settlement agreement with Brenntag Pacific. There was a civil penalty paid to the District in the amount of one million dollars and a payment of \$250,000 to be used to fund a supplemental environmental project (SEP) to benefit the residents of the District. The Administrative Committee directed the funds be used to install filters near the Brenntag Pacific facility.



Supervisor Solis stressed the importance of using settlement monies in areas that are the most impacted by air pollution violations and asked if more mitigation measures could be considered for surrounding areas that may also be impacted.

Mr. Wiese noted that this penalty was distributed pursuant to an existing policy that sets forth that SEP funds are to be used, if possible, in the area where the particular violation occurred.

Supervisor Solis requested a report to the Board on the distribution of past settlement monies, so a policy to expand remedies for impacted areas could be considered.

Mr. Nastri explained that when an environmental penalty is imposed it is up to the Board to decide how to utilize the funds. The SEPs are in addition to the penalty, have a direct nexus to the violation and provide a benefit. Staff can come to the Board with suggestions and recommendations based on the comments.

Supervisor Solis recommended that staff return with a report detailing the use of penalty funds in highly impacted communities within 60 days.

Mr. Nastri replied that a report could be presented to the Administrative Committee within 60 to 90 days.

Supervisor Rutherford asked if funds have been allocated for air filtration systems for homes near the BNSF yard in San Bernardino.

Dr. Matt Miyasato, DEO/Science and Technology Advancement, responded that staff is continuing to work with CARB to identify additional SEP funds that can be used for homes near rail yards.

Council Member Robinson commented on the transient nature of emissions and noted that when monies are directed to the General Fund they are made available to other impacted communities and not just the area where the violation occurred. He requested that this information be included in the report to the Administrative Committee.

#### 14. Legislative, Public Affairs and Media Report

Mayor McCallon noted that the report on outreach to communities is focused on several cities in Los Angeles and Orange counties and only a few cities in Riverside and San Bernardino counties. He asked for more outreach to Inland Empire communities.



Mr. Nastri provided assurance that many outreach efforts are directed to San Bernardino and the Inland Empire and will be enhanced with the implementation of AB 617 and the addition of CARB's headquarters in Riverside. The funds from AB 617 will be dedicated to mobile sources this year and discussion is taking place in the legislature to expand the funding to stationary sources which will provide greater opportunities for pollution reduction efforts in all counties within the District.

MOVED BY CACCIOTTI, SECONDED BY BENOIT, AGENDA ITEMS 1, 3 THROUGH 19 APPROVED AS RECOMMENDED, WITH THE MODIFICATION TO THE MINUTES AS SET FORTH BELOW, BY THE FOLLOWING VOTE:

AYES: Ashley, Benoit, Buscaino, Burke, Cacciotti, Lyou (*except Items # 3, #12, and #13*), McCallon, Mitchell, Parker, Robinson, Rutherford and Solis

NOES: None

ABSTAIN: Lyou (*Items #3, #12, and #13*)

ABSENT: Nelson

**Amend Minutes of January 5, 2018 Board meeting as follows:**

Add the following paragraphs after the seventh paragraph on Page 11:

**Ms. Mitchell made a second inquiry regarding the fate of RTCs. Dr. Fine further explained that once a final determination is made and a facility completely exits RECLAIM, the facility RTC holdings are frozen. Which essentially means they cannot be used for compliance because if they are not in RECLAIM they will not be needed except potentially for that first year carry over for reconciliation. Otherwise the facility cannot sell or transfer the remaining RTCs, which no longer have value. That final notification and exit action renders them useless. The RTCs may however be used for SIP accounting or New Source Review purposes and potentially help with the transition as there is currently a dearth of ERCs in the open market. Decisions regarding the future of RTCs will be brought back to the Board for consideration.**



**Dr. Fine added that the proposed amendments specify that once a facility exits from RECLAIM, then the RTCs are frozen. The RTCs can be used for that current compliance year, but they cannot be sold or transferred. RTCs are not going to be used as a compliance tool for RECLAIM facilities that transition to a command and control regulatory program. However, staff is working with CARB and U.S. EPA regarding the accounting of RTCs for New Source Review and SIP commitments.**

Modify the first paragraph on Page 12 to read:

~~Dr. Lyou explained that since the discussion regarding RECLAIM from~~ **stated that since the minutes of the November** Stationary Source Committee November meeting, as reflected in the minutes, is **are** part of the record, and that discussion between Board Members and staff today has further clarified the intent of the rule, he would not be introducing a motion to amend the Resolution language. **He stated that he would expect that staff will not make decisions about the future of RTCs without returning to the Board. Mr. Nastri agreed.**

## **BOARD CALENDAR**

21A. Administrative Committee

21B. Special Administrative Committee

22. Legislative Committee

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

<b>Agenda Item</b>	<b>Recommendation</b>
Proposed Legislative Concept for Approval	Approve

23. Mobile Source Committee

24. ***This item was withdrawn by staff.***

25. Technology Committee



- 26. Mobile Source Air Pollution Reduction Review Committee
- 27. Stationary Source Committee

MOVED BY SOLIS, SECONDED BY BUSCAINO, AGENDA ITEMS 21A THROUGH 23, AND 25 THROUGH 27 APPROVED AS RECOMMENDED, RECEIVING AND FILING THE COMMITTEE, AND MSRC REPORTS, AND APPROVING THE PROPOSED LEGISLATIVE CONCEPT, BY THE FOLLOWING VOTE:

AYES: Ashley, Benoit, Buscaino, Burke, Cacciotti, Lyou, McCallon, Mitchell, Parker, Robinson, Rutherford and Solis

NOES: None

ABSENT: Nelson

(Supervisor Nelson arrived at 9:50 a.m.)

**Staff Presentation/Board Discussion**

- 28. Update on Community Air Toxics Monitoring Efforts

Dr. Jason Low, Assistant DEO/Science and Technology Advancement, gave the staff presentation on Item 28.

Dr. Parker inquired about monitoring of hydrogen fluoride (HF) near refineries above 10 ppm. He expressed concerns that some refineries may be exceeding this level.

Dr. Low responded that as part of the implementation of Rule 1180 refineries may be required to monitor HF with perimeter monitoring. In addition, other electric chemical sensors to detect higher levels of HF will be investigated as part of the implementation of Rule 1180.

Mr. Nastri explained the challenges and limitations related to HF detection systems and notification to the community. Both refineries that use modified HF are upgrading their systems now.



Dr. Parker expressed concern for public safety due to the volatility of HF at relatively low temperature and stressed the importance of deploying sensors and monitors that can detect HF to provide immediate notification to the public.

Supervisor Solis inquired about the potential to include monitoring odors from landfills, recycling and scrap metal facilities in the future.

Mr. Nastri responded that AB 617 was designed to focus on disadvantaged communities that are impacted by odors and toxic emissions, and funding for community monitoring will be prioritized in these areas. Odor issues are challenging and SCAQMD takes action when we can.

Mayor Pro Tem Mitchell inquired about low-cost sensors that are part of the AQ-SPEC program and the pollutants that can be monitored reliably with these sensors.

Dr. Low explained that the low-cost sensors evaluated in the AQ-SPEC program are very reliable in measuring ozone and PM.

Mayor Pro Tem Mitchell asked if NO<sub>x</sub> can be monitored with low cost sensors and inquired about monitoring and sensors for other pollutants.

Dr. Low replied that NO<sub>x</sub> sensors are being used in MATES V and can indicate if levels are elevated but are not as accurate or consistent as ozone or PM sensors. He added that availability of sensors is driven by market demand and there is support in the statewide plan for VOC monitoring. The most popular sensors are those that measure PM because they are reliable and health related. As reliability and measurement capability improves for VOC sensors, the public interest and market demand would be expected to increase.

Mayor Pro Tem Mitchell inquired about the FluxSense mobile unit and the types of pollutants that are measured and whether the unit has been used to detect odors in Huntington Beach and Seal Beach.

Dr. Low explained that the FluxSense mobile van is fitted with a monitoring detection laboratory that evaluates levels of pollutants from the ground and a considerable distance to the air. The unit is driven around a perimeter of a site and has the ability to measure wind direction as well as pollutants. The unit measures VOCs and other types of pollutants and has been successful in detecting leaking tanks at a local refinery. He added that a monitor was mounted onto a boat and on land as part of an experimental demonstration project monitoring off-shore sources. Adverse weather conditions affected the demonstration, but the unit proved to have the ability to measure off-shore sources.



Dr. Lyou commented on the success and importance of monitoring toxics. He detailed multiple instances where monitoring has played a key role in uncovering air quality issues and public health concerns. He expressed concern about the results of the FluxSense study in which B-TEX measurements were on average six times higher than the refineries reported emissions and the inferred benzene measurements were 34 times higher than the emissions inventory had indicated. He suggested establishing a Board monitoring committee or ensuring a regular report is provided to the Board on the District's monitoring programs.

Chairman Burke noted the challenges associated with rapid changes in monitoring technology and the public health concerns about toxics emissions.

Supervisor Rutherford commented on the extensive monitoring and effort that will be required in the future under AB 617 and inquired about the sources of continued funding and the selection of communities for monitoring.

Mr. Nastri explained that the selection criteria for communities is determined in conjunction with CARB, other air districts, and community and industry groups and is based on a number of factors. The availability of funding is key and the monies need to be allocated and spent in order to show an ongoing need. The District is fortunate that past efforts through the MATES program and monitoring programs has provided a good understanding of air pollution and toxics. There are specific areas, such as communities near the Ports, rail yards and transportation corridors, where the District is aware of elevated risks due to air pollution and other communities will be identified through AB 617 programs. Toxics programs require extensive staff time and cannot be deployed without extensive funding. The idea is to identify many communities, but realistically the funding resources will be limited. The commitment for long-term funding is necessary. One option that staff is researching is funding for community air toxics programs through the greenhouse gas Cap and Trade program. Staff is moving forward to obtain additional funding, identify communities and the needs, and securing the long term commitment for funding of these programs. He added one of the challenges the District is facing is hiring qualified individuals at a time when several air districts are trying to hire the same individuals. Staff is recruiting at a number of colleges and encouraging students to intern and consider a career at the SCAQMD.

Council Member Cacciotti inquired about wind patterns and how toxics and air pollution from highly polluted areas dissipates to other areas within the District.

Dr. Low explained that many factors affect the way pollutants are dispersed. A gaseous or particulate pollutant will disperse differently and meteorology, topography and the source strength of the pollutant are additional factors. In general, toxic pollutants are localized, such as in Paramount where emissions of hexavalent chromium do not go beyond city borders. However, many other pollution sources, such as ozone, are not directly emitted and affect air quality in different areas.



Mr. Eder stressed the importance of studies on the health effects of PM exposure and noted the dangers of natural gas, benzene and formaldehyde. He expressed support for solar technologies which are cost-effective.

INFORMATION ONLY; NO ACTION NECESSARY.

29. Status Report on Regulation XIII – New Source Review

The presentation on Item No. 29 was waived.

INFORMATION ONLY; RECEIVE AND FILE.

-0-

- Swearing in of Reappointed Board Member Shawn Nelson

Chairman Burke administered the oath of office to Supervisor Shawn Nelson who was reappointed to the Board by the Orange County Board of Supervisors for a term ending January 15, 2022.

-0-

## **PUBLIC HEARING**

30. Determine that Proposed Amendments to BACT Guidelines are Exempt from CEQA and Amend BACT Guidelines

The presentation on Item No. 30 was waived.

The public hearing was opened and the following individual addressed the Board on Item 30.

Mr. Eder commented that the CEQA document did not look at solar alternatives as BACT. He noted the social costs of premature deaths due to the use of fossil fuels and urged support for conversion to solar technologies.

There being no further public testimony on this item, the public hearing was closed.



MOVED BY CACCIOTTI, SECONDED BY  
ROBINSON, AGENDA ITEM NO. 30  
APPROVED, BY THE FOLLOWING VOTE:

AYES: Ashley, Benoit, Burke, Buscaino,  
Cacciotti, Lyou, McCallon,  
Mitchell, Nelson, Parker,  
Robinson, Rutherford and Solis

NOES: None

ABSENT: None

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

Mr. Eder encouraged Board members to read a copy of a brief challenging the PUC's first solar proceedings for solar hot water. He added that the demurrer related to the legal case that he has filed is due and no settlement has been discussed.

Tatyana Reznik, VIG Furniture, explained that she submitted a letter to the Board detailing concerns regarding the sale of asbestos contaminated furniture from a warehouse that was previously rented by VIG Furniture. The warehouse was previously an asbestos manufacturing plant. She noted that VIG had filed a complaint with the SCAQMD over concerns for worker safety and the contamination of furniture inventory when the warehouse roof, which was found to contain asbestos, was being replaced. The District issued a Notice to Comply, but closed the case after the owners of the warehouse conducted a limited assessment and declared the warehouse and contents free of asbestos. VIG's insurance investigator deemed the furniture inventory to be contaminated with dangerous levels of asbestos. She added that the contaminated furniture is currently being sold at auction by the warehouse landlord and she has contacted the District, U.S. EPA and other agencies about the concern for public health over the sale of this furniture.

Chairman Burke requested that staff meet with Ms. Reznik.

**CLOSED SESSION**

The Board recessed to closed session at 11:15 a.m., pursuant to Government Code sections:



#### CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION

- 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 SCAQMD is a party. The actions are:

People of the State of California, ex rel. SCAQMD v. Exide Technologies, Inc., Los Angeles Superior Court Case No. BC533528;

In re: Exide Technologies, Inc., U.S. Bankruptcy Court, District of Delaware, Case No. 13-11482 (KJC) (Bankruptcy Case); and

Fast Lane Transportation, Inc. et al. v. City of Los Angeles, et al., Court of Appeals, First Appellate District, Case No. A148993 (formerly Contra Costa County Superior Court Case No. MSN14-0300) (SCIG).

#### CONFERENCE WITH LEGAL COUNSEL – INITIATING LITIGATION

- 54956.9(a) and 54956.9(d)(4) to consider initiation of litigation (two cases)—one case is a potential amicus brief in Valero Refining Co. v. Hearing Board of the BAAQMD, San Francisco Superior Court Case No. CPF-15-514407/Valero Refining Company – California v. Hearing Board of the Bay Area Air Quality Management District, et al., California Court of Appeals Case No. A151004.

#### PUBLIC EMPLOYEE EMPLOYMENT/APPOINTMENT

- 54957 as specified below:

Title: General Counsel

#### CONFERENCE WITH NEGOTIATORS RE COMPENSATION

- 54957.6:

Agency Designated Representatives: Kurt R. Wiese and A. John Olvera

Unrepresented Employee: General Counsel

Following closed session, the Board reconvened in open session at 11:45 a.m. and Mr. Wiese reported that the Board had unanimously approved the appointment of Bayron Gilchrist as General Counsel effective February 20, 2018.



## **OPEN SESSION**

### 31. Approval of Contract and Public Employee Compensation

Mr. Wiese explained that the proposed employment contract for Mr. Gilchrist includes compensation of \$202,684 per year with benefits including health, dental, vision, life and disability insurance premiums, two-thirds match to a deferred compensation program, annual physical and provision for the sell-back of 2 weeks vacation and 60 hours compensatory time per year.

Supervisor Nelson noted that he would not support the item because of the contract provision addressing sell-back of leave time and recommended increasing base salary rather than providing sell-back provisions to be more transparent. He asked that this matter be addressed in the future.

Council Member Robinson concurred with Supervisor Nelson and recommended the issue of restructuring compensation for unrepresented employees be agendaized for a future Administrative Committee meeting.

DR. LYOU MOVED TO APPROVE THE  
COMPENSATION PACKAGE FOR  
MR. GILCHRIST AS RECOMMENDED BY  
STAFF, THE MOTION WAS SECONDED BY  
COUNCIL MEMBER CACCIOTTI, AND  
PASSED BY THE FOLLOWING VOTE:

AYES: Ashley, Benoit, Burke, Buscaino,  
Cacciotti, Lyou, Mitchell, Parker,  
Robinson, Rutherford and Solis

NOES: McCallon and Nelson

ABSENT: None

Mr. Wiese announced that a report of any reportable actions taken in closed session will be filed with the Clerk of the Board's office and made available to the public upon request.



## **ADJOURNMENT**

There being no further business, the meeting was adjourned by Mr. Wiese at 11:50 a.m.

The foregoing is a true statement of the proceedings held by the South Coast Air Quality Management District Board on February 2, 2018.

Respectfully Submitted,

Denise Garzaro  
Clerk of the Boards

Date Minutes Approved: \_\_\_\_\_

\_\_\_\_\_  
Dr. William A. Burke, Chairman

---

## **ACRONYMS**

AQ-SPEC = Air Quality Sensor Performance Evaluation Center  
BACT = Best Available Control of Technology  
CARB = California Air Resources Board  
CEQA = California Environmental Quality Act  
DEO = Deputy Executive Officer  
EJ = Environmental Justice  
FY = Fiscal Year  
MATES = Multiple Air Toxics Exposure Study  
MSRC = Mobile Source (Air Pollution Reduction) Review Committee  
NOx = Oxides of Nitrogen  
PAMS = Photochemical Assessment Monitoring Stations  
PM = Particulate Matter  
RFP = Request for Proposals  
U.S. EPA = United States Environmental Protection Agency  
VOC = Volatile Organic Compound



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 2

PROPOSAL: Set Public Hearings April 6, 2018 to Consider Adoption of and/or Amendments to SCAQMD Rules and Regulations:

(A) Certify Final Environmental Assessment and Amend Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations

Rule 1469 currently establishes requirements to control hexavalent chromium from electroplating and chromic acid anodizing operations. Proposed Amended Rule 1469 (PAR 1469) proposes new requirements for hexavalent chromium-containing tanks that are currently not regulated, building enclosures, housekeeping and best management practices, periodic source testing, and parameter monitoring of pollution control equipment. PAR 1469 includes provisions for a revised chemical fume suppressant certification process that further considers toxicity and exposure, and provisions to encourage the elimination of hexavalent chromium in Rule 1469 processes. Additional proposed amendments are incorporated to align Rule 1469 with the U.S. EPA National Emission Standards for Hazardous Air Pollutants for Chromium Electroplating. This action is to adopt the Resolution: 1) Certifying the Final Environmental Assessment for Proposed Amended Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations; and 2) Amending Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations. (Reviewed: Stationary Source Committee, November 17, 2017 and February 16, 2018)



- (B) Determine that Proposed Amendments to Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities and Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II Are Exempt from CEQA; and Amend Rules 1178 and 219

The proposed rule amendments to Rule 1178 will incorporate provisions that allow the use of a flexible enclosure for slotted guidepoles for petroleum storage tanks under certain conditions. Additionally, Rule 219 will be amended to exempt from permitting, slotted guidepoles that meet specific emission control configurations that are specified in Proposed Amended Rule 1178. This action is to adopt the Resolution: 1) Determining that the proposed amendments to Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities and Rule 219 - Equipment Not Requiring a Written Permit Pursuant to Regulation II are exempt from the requirements of the California Environmental Quality Act; and 2) Amending Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities and Rule 219 - Equipment Not Requiring a Written Permit Pursuant to Regulation II. (Reviewed: Stationary Source Committee, February 16, 2018)

The complete text of the proposed amendments, staff report and other supporting documents will be available from SCAQMD's Public Information Center, (909) 396-2001 and on the Internet ([www.aqmd.gov](http://www.aqmd.gov)) as of March 7, 2018.

**RECOMMENDED ACTION:**

Set Public Hearings April 6, 2018 to amend Rules 219, 1178 and 1469.

Wayne Natri  
Executive Officer

dg

---



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 3

**PROPOSAL:** Execute Contract to Implement Consumer Rebate Program for Rule 1111 Compliant Natural Gas-Fired, Fan-Type Central Furnaces

**SYNOPSIS:** On December 1, 2017, the Board authorized: (1) utilizing \$3,000,000 in Rule 1111 rebate funding from the Air Quality Investment Fund (27), as well as any additional incremental mitigation fee funding from future Rule 1111 amendments, to have a third-party contractor for implementation of the consumer rebate program; and (2) issuing RFP #P2018-05 to solicit proposals to administer the rebate program for consumers who purchase and install compliant furnaces in the SCAQMD. This action is to execute a contract with Electric & Gas Industries Association to implement the rebate program in an original amount not to exceed \$3,000,000, and add any additional incremental mitigation fee funding from future Rule 1111 amendments through contract modifications.

**COMMITTEE:** Stationary Source, February 16, 2018; Recommended for Approval

**RECOMMENDED ACTIONS:**

Authorize the Chairman to (1) execute a contract with Electric & Gas Industries Association in an original amount not to exceed \$3,000,000 and (2) add any additional incremental mitigation fee funding from future Rule 1111 amendments through contract modifications to implement the consumer rebate program for Rule 1111 compliant natural gas-fired fan-type central furnaces.

Wayne Nastri  
Executive Officer



## **Background**

Rule 1111 - Reduction of NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces, was adopted to reduce emissions of nitrogen oxides (NO<sub>x</sub>) from residential and commercial gas-fired fan-type space heating furnaces 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. This rule applies to manufacturers, distributors, sellers, and installers of such furnaces.

Rule 1111 was amended in 2009 to lower the NO<sub>x</sub> emission limit from 40 to 14 ng/Joule (ng/J), and was again amended in 2014 to provide additional time for manufacturers to develop compliant products by providing an alternate compliance option of a per-unit mitigation fee in lieu of meeting the new lower NO<sub>x</sub> emission limit for up to 36 months past the applicable compliance date.

Staff is proposing amendments to Rule 1111 for Board consideration at the March 2, 2018 Board meeting. A companion proposal to the proposed rule amendments is a rebate program for consumers to encourage purchase of the 14 ng/J furnaces. The mitigation fees collected previously and those that will be collected, if the Board approves the rule amendments in March, will provide funding for the rebate program and administration by a third-party contractor. The proposed rebate is \$500 for the first 6,000 compliant furnaces that are purchased and installed, \$300 for compliant condensing furnaces and \$200 for compliant non-condensing, weatherized, and mobile home furnaces. The estimated number of rebates could range from 10,000 to 50,000 for the first year. The duration of the program may be two to three years for condensing, non-condensing, and weatherized furnaces, and up to four years for mobile home furnaces, depending on how long the funding lasts. The consumer rebate program is expected to not only offset costs for consumers, but also motivate commercialization of compliant products.

On December 1, 2017, the Board authorized the following for the Rule 1111 rebate program: (1) utilizing \$3,000,000 in rebate funding from the Air Quality Investment Fund (27), as well as any additional incremental mitigation fee funding from future Rule 1111 amendments, and to have a third-party contractor implement the rebate program; and (2) issuing RFP #P2018-05 to solicit proposals to administer the rebate program for consumers who purchase and install compliant furnaces in the SCAQMD.

## **Outreach**

In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the RFP/RFQ and inviting bids was published in the Los Angeles Times, 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 South Coast Basin.



Additionally, potential bidders may have been notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the RFP has been emailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at SCAQMD's website (<http://www.aqmd.gov>).

The RFP was also posted on social media such as Facebook and Twitter, and emailed to environmental justice groups. The RFP was also sent by email newsletter to the Rule 1111 working group and all interested potential bidders that stakeholders recommended.

A bidder's conference was held at the SCAQMD Diamond Bar headquarters on December 19, 2017. Five interested bidders were present for clarification of the rebate program. Staff also received further questions from individual bidders after the bidder's conference, and sent responses to all the interested bidders via email.

### **Proposal Evaluation**

By the January 9, 2018 RFP deadline, a total of three proposals were received. Each proposal consisted of a technical proposal, a cost proposal, and certifications.

The RFP contained a point scoring system with a total of 100 points: 70 points for the technical proposal; and 30 points for the cost proposal. In addition, up to 15 points could be granted to self-certified small businesses, disabled veteran business enterprises, local businesses, or most favored customers.

The evaluation panel consisted of a staff member from the San Joaquin Valley Air Pollution Control District and three SCAQMD staff members from Legislative, Public Affairs & Media and Planning Rule Development & Area Sources, including two Program Supervisors and one Manager. Of the four panelists, two are Asian-Pacific Islander and two are Caucasian; one female and three males.

The resulting proposal scores are summarized in the attachment. Electrical & Gas Industries Association (EGIA) scored the highest with 98 points. The cost proposal was a key component in distinguishing the total points for the proposals. Cost evaluation criteria was based on Section IX (B)(4) of the RFP: The lowest cost proposal will be awarded the maximum cost points available and all other cost proposals will receive points on a prorated basis. Moreover, to ensure a fair comparison, the evaluation panel decided to exclude marketing costs from the other proposals before prorating the points for cost, due to the consideration that the EGIA proposal did not include the portion of marketing costs that are subject to the SCAQMD's approval. This provided a more even approach in evaluating the cost proposals.



## **Proposal**

EGIA is a non-profit organization that has conducted incentive programs for several of the manufacturers that sell products in the SCAQMD jurisdiction (e.g., Goodman, Lennox, and Rheem). EGIA had, by far, the lowest cost proposal and is not asking for any advance funding, rather, administrative charges will come in the form of a fixed percentage of each rebate issued (not to exceed \$17.50 per rebate). The recommended contractor will start in 30 days from contract execution, and has a local network of over 2,000 contractors in Southern California that have participated in past EGIA programs. The rebate processing system will have an online application submittal, processing, status tracking, and can be linked via the SCAQMD website. EGIA will also have an online dashboard for staff to track the effectiveness of the program and to be able to make any adjustments to the rebate program to ensure its success.

Staff recommends that the Board authorize the Chairman to execute a contract with EGIA in an original amount not to exceed \$3,000,000 to implement the Rule 1111 consumer rebate program, and add any additional incremental mitigation fee funding from future Rule 1111 amendments through contract modifications.

## **Benefits to SCAQMD**

The recommended contract will provide the SCAQMD with the resources needed to promote and process consumer rebate applications for Rule 1111 compliant furnaces.

## **Resource Impacts**

Total available funding for this rebate program is the combination of the following: (1) the previously authorized \$3,000,000 in rebate funding, which remains unspent in the Air Quality Investment Fund (27); and (2) the increased portion of the mitigation fee as part of the proposed Rule 1111 amendment to be considered for adoption on March 2, 2018<sup>1</sup>.

EGIA's marketing, rebate processing, and reporting costs will be on a fixed-percentage of the rebates processed and depend on total available rebate funding.

## **Attachments**

Evaluation of Proposals for RFP #P2018-05

---

<sup>1</sup> The rebate program can be implemented with the \$3,000,000 funding even in the absence of the proposed March 2, 2018 amendments.



## ATTACHMENT

### Evaluation of Proposals for RFP #P2018-05

Summary	Technical Points (Average)					Additional Points (Average)		Total Points (Average)
Bidders	Understanding the Problem (20)	Technical/ Management Approach (20)	Contractor Qualifications (20)	Previous Experience on Similar Projects (10)	Cost (30)	Points (self-certified)	Specified Criteria	
Electric & Gas Industries Association (EGIA)	17	20	19	10	30	2	Most favored customer	98
Frontier Energy Inc.	19	15	18	10	7	7	Most favored customer; Local business	76
CLEARresult Consulting Inc. (CLEARresult)	17	16	19	10	14	0		76



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 4

**PROPOSAL:** Issue RFPs to Implement Recommendations to Enhance Socioeconomic Assessments for AQMP

**SYNOPSIS:** In 2014, Abt Associates recommended that SCAQMD enhance socioeconomic assessments for future AQMPs. Staff is proposing the release of RFPs related to the evaluation of various clean air benefits, to assist in the implementation of recommendations by Abt Associates. This action is to issue two RFPs to solicit bids for 1) literature review and development of the methodologies on quantification and valuation of visibility benefits for future AQMPs; and 2) literature review of the benefits to agriculture, ecology, building, and materials from improved air quality and recommendations on analyzing these benefits for future AQMPs. Funds for the study of visibility benefits in an amount not to exceed \$100,000, and funds for the study of agriculture, ecology, buildings, and materials benefits in an amount not to exceed \$50,000 are both included in the Planning, Rule Development and Area Sources FY 2017-18 Budget.

**COMMITTEE:** Administrative, February 9, 2018; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Issue RFP #P2018-09 to solicit proposals for a literature review and empirical study of residential visibility benefits of clean air in an amount not to exceed \$100,000; and
2. Issue RFP #P2018-08 to solicit proposals for a literature review of other public welfare benefits of clean air including agriculture, materials, ecology, and recreational visibility benefits in an amount not to exceed \$50,000.

Wayne Nastri  
Executive Officer



## **Background**

Following the Board's 2012 Resolution that called for a comprehensive review of SCAQMD's socioeconomic assessments, the independent reviewer Abt Associates made recommendations for potential enhancements in its 2014 report. SCAQMD staff committed, to the extent feasible, to implement these recommendations. To date, ten key recommendations have been fully implemented in recent socioeconomic impact assessments of proposed and proposed amended rules and in the 2016 AQMP Socioeconomic Report. Staff is seeking Board approval to release two RFPs to solicit qualified firms or sole practitioners (Contractor) to assist staff in implementing additional recommendations to enhance and potentially expand the public welfare benefits analysis, including visibility benefits analysis, for future AQMPs.

The Federal Clean Air Act identifies two types of national ambient air quality standards (NAAQS). While primary standards provide public health protection, secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings and other materials. In addition to visibility, agriculture, and materials benefits, more recent research on public welfare benefits has also estimated ecological benefits of clean air, which can be generally defined as the utility that individuals or firms obtain from the preservation of ecosystems.

The socioeconomic analyses of previous AQMPs quantified several types of public welfare benefits of clean air. As the analyses relied upon data and methodologies that may not fully reflect more recent developments in the literature, the 2014 Abt Associates' report recommended that staff conduct an updated literature search and review of public welfare benefits. For residential visibility benefits, Abt Associates further recommended that staff consider potentially sponsoring an updated empirical study.

## **Proposal**

Staff is seeking Board approval to release two RFPs to assist in the implementation of recommendations by Abt Associates to enhance and potentially expand the public welfare benefits analysis for future AQMPs.

The purpose of RFP #P2018-09 is to solicit a Contractor to conduct a literature review and empirical study of the clean air benefits related to residential visibility improvement, from which the study results can be applied to quantifying potential visibility benefits of implementing future AQMPs. Residential visibility benefits were quantified in the socioeconomic analyses of previous AQMPs based on a 2001 local study. In its 2014 review of SCAQMD's socioeconomic analyses, Abt Associates recommended several potential methodological enhancements to the 2001 study and the benefits transfer method, following recent developments in economics literature. The Contractor's literature review and empirical study will assist SCAQMD staff with implementing the recommended enhancements. Funds for this proposal shall not exceed \$100,000.



The purpose of RFP #P2018-08 is to solicit a Contractor to conduct a literature review of most updated studies on agriculture, ecology, recreational visibility, and materials benefits of clean air that are applicable to the South Coast Air Basin region and can potentially inform the welfare benefits analysis for the implementation of future AQMPs. The clean air benefits of improved agricultural crop productivity and avoided materials damage were analyzed in the socioeconomic analyses of previous AQMPs. Abt Associates recommended several potential enhancements and additions to update SCAQMD's welfare benefits analysis. . Based on the outcome of the literature review, the Contractor will make recommendations for analyzing these benefits for future AQMPs. Funds for this proposal shall not exceed \$50,000.

### **Bid Evaluation**

Proposals received will be evaluated by a panel consisting of SCAQMD staff members and technically qualified outside experts who have appropriate expertise. The panel will make recommendations and the final selection of the Contractors will be subject to approval by the Board.

### **Outreach**

In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the RFPs and inviting bids will be published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and the Riverside County's Press Enterprise newspapers to leverage the most cost-effective method of outreach within SCAQMD's jurisdiction.

Additionally, potential bidders may be notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the RFPs will be emailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at SCAQMD's website (<http://www.aqmd.gov>) where it can be viewed by making the selection "Grants & Bids."

Staff will also contact potential qualified bidders whose work have been cited in related literature or referred to staff by other subject experts.

### **Resource Impacts**

Sufficient funds are available in the Planning, Rule Development, and Area Sources FY 2017-18 Budget for the services requested.

### **Attachments**

RFP #P2018-08

RFP #P2018-09





## **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

### **REQUEST FOR PROPOSALS**

#### **Literature Review of Public Welfare Benefits of Clean Air**

**P2018-08**

South Coast Air Quality Management District (SCAQMD) requests proposals for the following purpose according to terms and conditions attached. In the preparation of this Request for Proposals (RFP) the words "Proposer," "Contractor," "Consultant," "Bidder" and "Firm" are used interchangeably.

#### **PURPOSE**

The purpose of this Request for Proposals (RFP) is to solicit qualified firms or sole practitioners (Contractor) to conduct a literature review of most updated studies on agriculture, ecology, recreational visibility, and materials benefits of clean air that are applicable to the South Coast Air Basin and can potentially inform the public welfare benefits analysis for the implementation of future Air Quality Management Plans (AQMPs). The clean air benefits of improved agricultural crop productivity and avoided materials damage were analyzed in the socioeconomic analyses of previous AQMPs. Following its 2014 review of SCAQMD's socioeconomic analyses, Abt Associates recommended several potential enhancements and additions to update SCAQMD's welfare benefits analysis. The Contractor will conduct a literature review of recent research on the welfare benefits of clean air, including but not limited to agriculture, ecology, recreational visibility, and materials benefits. Based on the review outcome, the Contractor will make recommendations to SCAQMD staff for analyzing these benefits for future AQMPs. The Contractor will report findings, results, and recommendations to SCAQMD staff. The Contractor shall demonstrate knowledge in the economics of air quality regulations and programs and relevant experience in researching public welfare benefits of clean air.

#### **INDEX - The following are contained in this RFP:**

Section I	Background/Information
Section II	Contact Person
Section III	Schedule of Events
Section IV	Participation in the Procurement Process
Section V	Statement of Work/Schedule of Deliverables
Section VI	Required Qualifications
Section VII	Proposal Submittal Requirements
Section VIII	Proposal Submission
Section IX	Proposal Evaluation/Contractor Selection Criteria
Section X	Funding
Section XI	Sample Contract

Attachment A - Participation in the Procurement Process  
Attachment B - Certifications and Representations



## SECTION I: BACKGROUND/INFORMATION

The Federal Clean Air Act identifies two types of national ambient air quality standards (NAAQS). While Primary standards provide public health protection, Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, buildings and other materials.<sup>1</sup> In the socioeconomic analyses for previous AQMPs,<sup>2</sup> agricultural benefits were quantified as the increases to agricultural crop productivity as a result of air quality improvements. The analyses were based on studies from the 1980s and 1990s, with the benefits primarily accruing from ozone reductions. Materials benefits of clean air were also quantified based on studies from the 1980s, with the benefits accrued by avoiding air pollution related damage to building materials and rubber products such as tires, and by reducing household cleaning costs. In its 2014 review of SCAQMD's socioeconomic assessments,<sup>3</sup> Abt Associates recommended that staff potentially enhance and expand the public welfare analysis of future AQMPs via an updated literature review. SCAQMD is committed, to the extent feasible, to implementing the recommendation. This RFP is being issued to assist SCAQMD staff in conducting a literature review to identify more recent studies on agricultural and materials benefits and include research in new areas of welfare benefits, such as recreational visibility benefits, which are related to visibility improvements at parks and wilderness areas that are experienced by recreational visitors, and ecological benefits or ecosystem services, which can be generally defined as the utility that individuals or firms obtain from the preservation of ecosystems. A separate RFP (P2018-09) is simultaneously being issued with regards to residential visibility benefits.

## SECTION II: CONTACT PERSON:

Questions regarding the content or intent of this RFP or on procedural matters should be addressed to:

**Anthony Oliver, Air Quality Specialist – Socioeconomic Analysis**  
 SCAQMD  
 21865 Copley Drive  
 Diamond Bar, CA 91765-4178  
 (909) 396-2851  
 aoliver@aqmd.gov

## SECTION III: SCHEDULE OF EVENTS

Date	Event
March 2, 2018	RFP Released
April 4, 2018	Proposals Due to SCAQMD - <b>No Later Than 1:00 pm</b>
April 10-April 13, 2018	Proposal Evaluations
June 1, 2018	Governing Board Approval
June 15, 2018	Anticipated Contract Execution

<sup>1</sup> <https://www.epa.gov/criteria-air-pollutants/naaqs-table>

<sup>2</sup> Socioeconomic Assessments for past AQMPs are available here: <http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/socioeconomic-analysis>.

<sup>3</sup> <http://www.aqmd.gov/docs/default-source/Agendas/aqmp/scaqmd-report---review-socioeconomic-assessments.pdf>.



## **SECTION IV: PARTICIPATION IN THE PROCUREMENT PROCESS**

It is the policy of SCAQMD to ensure that all businesses including minority business enterprises, women business enterprises, disabled veteran business enterprises and small businesses have a fair and equitable opportunity to compete for and participate in SCAQMD contracts. Attachment A to this RFP contains definitions and further information.

## **SECTION V: STATEMENT OF WORK/SCHEDULE OF DELIVERABLES**

The socioeconomic analyses of previous AQMPs quantified agricultural and materials benefits based on studies from the 1980s and 1990s. In its 2014 review of SCAQMD's socioeconomic analyses, Abt Associates recommended that staff conduct an updated literature review, which will identify more recent studies on agricultural and materials benefits and include research in new areas of welfare benefits such as recreational visibility and ecological benefits.

The goal of this contract is to conduct a thorough literature review of recent research on public welfare benefits of clean air, including, but not limited to, agriculture, ecology, recreational visibility, and materials benefits. Based on the review outcome, the Contractor will make recommendations to SCAQMD staff for analyzing these benefits for future AQMPs.

Under SCAQMD staff's direction, the Contractor shall provide all labor, reports, services, and materials necessary to complete the following tasks:

- (1) Conduct a detailed review of the current state of literature and methodologies on the topic of agricultural benefits of clean air and make recommendations to SCAQMD staff for evaluating those benefits. The review must cover both the recent literature on crop dose-response (damage) functions, which are used to quantify crop productivity changes, and the economic modeling methodology used for valuation of those productivity changes. The literature review of dose-response functions must include the recent estimates by U.S. EPA (2014).<sup>4</sup> The literature review of economic modeling methodology must include those studies using partial and general equilibrium models, and fixed price methodologies. The recommendations made based on this literature review shall be responsive to the recommended enhancements in the 2014 Abt Associates report submitted to SCAQMD<sup>5</sup>.
- (2) Conduct a detailed review of the literature on the ecological benefits of clean air and make recommendations to SCAQMD staff for evaluating these benefits. The review must include the studies cited in both the U.S. EPA's Particulate Matter (PM) Integrated Science Assessment (2009) and the PM Regulatory Impact Assessment (RIA) (2012).<sup>6</sup> The review must also include more recent research than that included in the 2012 PM RIA. The recommendations made based on this literature review shall be responsive to the recommended enhancements in the 2014 Abt Associates report submitted to SCAQMD.
- (3) Conduct a detailed review of the literature on materials benefits and make recommendations to SCAQMD staff for evaluating those benefits. The review must include studies cited in the U.S. EPA's PM RIA (2012). The review must also include the following studies cited in the Abt Associates review:

<sup>4</sup> U.S. EPA. 2014. "Welfare Risk and Exposure Assessment for Ozone." U.S. Environmental Protection Agency. Office of Air Quality Planning and Standards. Available at: <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100KQ0H.txt>.

<sup>5</sup> Available at: <http://www.aqmd.gov/docs/default-source/Agendas/aqmp/scaqmd-report---review-socioeconomic-assessments.pdf>

<sup>6</sup> U.S. EPA. 2009. "2009 Final Report: Integrated Science Assessment for Particulate Matter." No. EPA/600/R-08/139F, Available at: <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=216546>

U.S. EPA. 2012. "Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter." No. EPA-452/R-12-005, U.S. Environmental Protection Agency.



- Brimblecombe, P. 2003. The Effects of Air Pollution on the Built Environment. World Scientific.
- Brimblecombe, P., and C.M. Grossi. 2005. "Aesthetic thresholds and blackening of stone buildings." *Science of The Total Environment* 349(1–3):175–189.
- Watt, J., D. Jarrett, and R. Hamilton. 2008. "Dose–response functions for the soiling of heritage materials due to air pollution exposure." *Science of The Total Environment* 400(1–3):415–424.

The review must also include more recent research than those cited in the PM RIA (2012) and mentioned above. The recommendations made based on this literature review shall be responsive to the recommended enhancements in the 2014 Abt Associates report submitted to SCAQMD.

- (4) Conduct a detailed literature review on recreational visibility benefits of clean air and make recommendations to SCAQMD staff for evaluating those benefits. This review must include studies cited in the U.S. EPA's PM Regulatory Impact Assessment (2012). This review must also include:

- Smith, V.K., and L.L. Osborne. 1996. "Do Contingent Valuation Estimates Pass a 'Scope' Test? A Meta-analysis." *Journal of Environmental Economics and Management* 31(3):287–301.
- Smith, A.E., M.A. Kemp, T.H. Savage, and C.L. Taylor. 2005. "Methods and Results from a New Survey of Values for Eastern Regional Haze Improvements." *Journal of the Air & Waste Management Association* 55(11):1767–1779.
- IEc. 2013. "National Park Service Visibility Valuation Study: Pilot Survey Results." Industrial Economics.

The review must also include more recent research than those cited in the PM RIA (2012) and mentioned above. The recommendations made based on this literature review shall be responsive to the recommended enhancements in the 2014 Abt Associates report submitted to SCAQMD.

- (5) Compile all literature reviews and Contractor's recommendations into a final report, which includes an Executive Summary.
- (6) Attend meetings to present analysis and findings as requested by the SCAQMD.

#### **Schedule of Deliverables:**

- (1) Contractor shall, two months from entering into the Contract, submit a draft report on Task (1).
- (2) Two months from SCAQMD staff's approval of the draft report on Task (1), submit a draft report on Task (2).
- (3) Two months from SCAQMD staff's approval of the draft report on Task (2), submit a draft report on Task (3).
- (4) Two months from SCAQMD staff's approval of the draft report on Task (3), submit a draft report on Task (4).
- (5) One month from SCAQMD staff's approval of the draft report on Task (4), submit a final report on Task (5).
- (6) Contractor may be requested to make oral presentation(s) of the analysis and findings, either by traveling to SCAQMD headquarters or via teleconference, during the term of the contract.



## **SECTION VI: REQUIRED QUALIFICATIONS**

- A. Persons or Firms proposing to bid on this proposal must be qualified and experienced in non-market valuation and benefit transfer methodologies. They must submit qualifications demonstrating this ability and knowledge of the economics of air quality regulations and programs.
- B. Proposer must submit the following:
  1. Resumes or similar statement of qualifications of person or persons who may be designated in leading the execution of the contracted tasks.
  2. List of representative clients.
  3. Summary of Proposer's general qualifications to meet required qualifications and fulfill statement of work, including additional Firm personnel and resources beyond those of the designated lead personnel.

## **SECTION VII: PROPOSAL SUBMITTAL REQUIREMENTS**

Submitted proposals must follow the format outlined below and all requested information must be supplied. Failure to submit proposals in the required format will result in elimination from proposal evaluation. SCAQMD may modify the RFP or issue supplementary information or guidelines during the proposal preparation period prior to the due date. Please check our website for updates (<http://www.aqmd.gov/grants-bids>). The cost for developing the proposal is the responsibility of the Contractor, and shall not be chargeable to SCAQMD.

Each proposal must be submitted in three separate volumes:

- Volume I - Technical Proposal
- Volume II - Cost Proposal
- Volume III - Certifications and Representations included in Attachment B to this RFP, must be completed and executed by an authorized official of the Contractor.

A separate cover letter including the name, address, and telephone number of the contractor, and signed by the person or persons authorized to represent the Firm should accompany the proposal submission. Firm contact information as follows should also be included in the cover letter:

1. Address and telephone number of office in, or nearest to, Diamond Bar, California.
2. Name and title of Firm's representative designated as contact.

A separate Table of Contents should be provided for Volumes I and II.

## **VOLUME I - TECHNICAL PROPOSAL**

**DO NOT INCLUDE ANY COST INFORMATION IN THE TECHNICAL VOLUME**



Summary (Section A) - State overall approach to meeting the objectives and satisfying the scope of work to be performed, the sequence of activities, and a description of methodology or techniques to be used.

Program Schedule (Section B) - Provide projected milestones or benchmarks for completing the project (to include reports) within the total time allowed.

Project Organization (Section C) - Describe the proposed management structure, program monitoring procedures, and organization of the proposed team. Provide a statement detailing your approach to the project, specifically address the Firm's ability and willingness to commit and maintain staffing to successfully complete the project on the proposed schedule.

Qualifications (Section D) - Describe the technical capabilities of the Firm. Provide references of other similar studies or projects performed during the last five years demonstrating ability to successfully complete the work. Include contact name, title, and telephone number for any references listed. Provide a statement of your Firm's background and related experience in performing similar services for other governmental organizations.

Assigned Personnel (Section E) - Provide the following information about the staff to be assigned to this project:

1. List all key personnel assigned to the project by level, name and location. Provide a resume or similar statement describing the background, qualifications and experience of the lead person and all persons assigned to the project. Substitution of project manager or lead personnel will not be permitted without prior written approval of SCAQMD.
2. Provide a spreadsheet of the labor hours proposed for each labor category at the task level.
3. Provide a statement indicating whether or not 90% of the work will be performed within the geographical boundaries of SCAQMD.
4. Provide a statement of education and training programs provided to, or required of, the staff identified for participation in the project, particularly with reference to management consulting, governmental practices and procedures, and technical matters.
5. Provide a summary of your Firm's general qualifications to meet required qualifications and fulfill statement of work, including additional Firm personnel and resources beyond those who may be assigned to the project.

Subcontractors (Section F) - This project may require expertise in multiple technical areas. List any subcontractors that will be used, identifying functions to be performed by them, their related qualifications and experience and the total number of hours or percentage of time they will spend on the project.

Conflict of Interest (Section G) - Address possible conflicts of interest with other clients affected by actions performed by the Firm on behalf of SCAQMD. SCAQMD recognizes that prospective Contractors may be performing similar projects for other clients. Include a complete list of such clients for the past three (3) years with the type of work performed and the total number of years performing such tasks for each client. Although the Proposer will not be automatically disqualified by reason of work performed for such clients, SCAQMD reserves the right to consider the nature and extent of such work in evaluating the proposal.

Additional Data (Section H) - Provide other essential data that may assist in the evaluation of this proposal.



## **VOLUME II - COST PROPOSAL**

Name and Address - The Cost Proposal must list the name and complete address of the Proposer in the upper left-hand corner.

Cost Proposal – SCAQMD anticipates awarding a fixed price contract. Cost information must be provided as listed below:

1. Detail must be provided by the following categories:
  - A. Labor – The Cost Proposal must list the fully-burdened hourly rates and the total number of hours estimated for each level of professional and administrative staff to be used to perform the tasks required by this RFP. Costs should be estimated for each of the components of the work plan.
  - B. Subcontractor Costs - List subcontractor costs and identify subcontractors by name. Itemize subcontractor charges per hour or per day.
  - C. Travel Costs - Indicate amount of travel cost and basis of estimate to include trip destination, purpose of trip, length of trip, airline fare or mileage expense, per diem costs, lodging and car rental.
  - D. Other Direct Costs -This category may include such items as postage and mailing expense, printing and reproduction costs, etc. Provide a basis of estimate for these costs.
2. It is the policy of the SCAQMD to receive at least as favorable pricing, warranties, conditions, benefits and terms as other customers or clients making similar purchases or receiving similar services. SCAQMD will give preference, where appropriate, to vendors who certify that they will provide “most favored customer” status to the SCAQMD. To receive preference points, Proposer shall certify that SCAQMD is receiving “most favored customer” pricing in the Business Status Certifications page of Volume III, Attachment B – Certifications and Representations.

## **VOLUME III - CERTIFICATIONS AND REPRESENTATIONS** (see Attachment B to this RFP)

### **SECTION VIII: PROPOSAL SUBMISSION**

All proposals must be submitted according to specifications set forth in the section above, and this section. Failure to adhere to these specifications may be cause for rejection of the proposal.

Signature - All proposals must be signed by an authorized representative of the Proposer.

Due Date - **All proposals are due no later than 1:00 p.m., April 4, 2018, and should be directed to:**

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



**Submittal** - Submit four (4) complete copies of the proposal in a sealed envelope, plainly marked in the upper left-hand corner with the name and address of the Proposer and the words "Request for Proposals P2018-08."

**Late bids/proposals will not be accepted under any circumstances.**

**Grounds for Rejection** - A proposal may be immediately rejected if:

- It is not prepared in the format described, or
- It is signed by an individual not authorized to represent the Firm.

**Modification or Withdrawal** - Once submitted, proposals cannot be altered without the prior written consent of SCAQMD. All proposals shall constitute firm offers and may not be withdrawn for a period of ninety (90) days following the last day to accept proposals.

## **SECTION IX: PROPOSAL EVALUATION/CONTRACTOR SELECTION CRITERIA**

- A. Proposals will be evaluated by a panel of three to five SCAQMD staff members familiar with the subject matter of the project. The panel shall be appointed by the Executive Officer or his designee. In addition, the evaluation panel may include such outside public sector or academic community expertise as deemed desirable by the Executive Officer. The panel will make a recommendation to the Executive Officer and/or the Governing Board of SCAQMD for final selection of a contractor and negotiation of a contract.
- B. Each member of the evaluation panel shall be accorded equal weight in his or her rating of proposals. The evaluation panel members shall evaluate the proposals according to the specified criteria and numerical weightings set forth below.

### **1. Proposal Evaluation Criteria**

#### **R&D Projects Requiring Technical or Scientific Expertise, or Special Projects Requiring Unique Knowledge or Abilities**

Understanding the Problem	10
Technical/Management Approach	15
Contractor Qualifications	15
Previous Experience on Similar Projects	30
Cost	<u>30</u>
<b>TOTAL</b>	<b>100</b>

#### **Additional Points**

Small Business or Small Business Joint Venture	10
DVBE or DVBE Joint Venture	10
Use of DVBE or Small Business Subcontractors	7



Low-Emission Vehicle Business	5
Local Business (Non-Federally Funded Projects Only)	5
Off-Peak Hours Delivery Business	2
Most Favored Customer	2

**The cumulative points awarded for small business, DVBE, use of small business or DVBE subcontractors, low-emission vehicle business, local business, and off-peak hours delivery business shall not exceed 15 points. Most Favored Customer status incentive points shall be added, as applicable for a total of 17 points.**

#### **Self-Certification for Additional Points**

**The award of these additional points shall be contingent upon Proposer completing the Self-Certification section of Attachment B – Certifications and Representations and/or inclusion of a statement in the proposal self-certifying that Proposer qualifies for additional points as detailed above.**

2. To receive additional points in the evaluation process for the categories of Small Business or Small Business Joint Venture, DVBE or DVBE Joint Venture or Local Business (for non-federally funded projects), the proposer must submit a self-certification or certification from the State of California Office of Small Business Certification and Resources at the time of proposal submission certifying that the proposer meets the requirements set forth in Section III. To receive points for the use of DVBE and/or Small Business subcontractors, at least 25 percent of the total contract value must be subcontracted to DVBEs and/or Small Businesses. To receive points as a Low-Emission Vehicle Business, the proposer must demonstrate to the Executive Officer, or designee, that supplies and materials delivered to SCAQMD are delivered in vehicles that operate on either clean-fuels or if powered by diesel fuel, that the vehicles have particulate traps installed. To receive points as a Local Business, the proposer must affirm that it has an ongoing business within the South Coast AQMD at the time of bid/proposal submittal and that 90% of the work related to the contract will be performed within the South Coast AQMD. Proposals for legislative representation, such as in Sacramento, California or Washington D.C. are not eligible for local business incentive points. Federally funded projects are not eligible for local business incentive points. To receive points as an Off-Peak Hours Delivery Business, the proposer must submit, at proposal submission, certification of its commitment to delivering supplies and materials to SCAQMD between the hours of 10:00 a.m. and 3:00 p.m. To receive points for Most Favored Customer status, the proposer must submit, at proposal submission, certification of its commitment to provide most favored customer status to the SCAQMD. The cumulative points awarded for small business, DVBE, use of Small Business or DVBE Subcontractors, Local Business, Low-Emission Vehicle Business and Off-Peak Hour Delivery Business shall not exceed 15 points.
3. For procurement of Research and Development (R & D) projects or projects requiring technical or scientific expertise or special projects requiring unique



knowledge and abilities, technical factors including past experience shall be weighted at 70 points and cost shall be weighted at 30 points. A proposal must receive at least 56 out of 70 points on R & D projects and projects requiring technical or scientific expertise or special projects requiring unique knowledge and abilities, in order to be deemed qualified for award.

4. The lowest cost proposal will be awarded the maximum cost points available and all other cost proposals will receive points on a prorated basis. For example if the lowest cost proposal is \$1,000 and the maximum points available are 30 points, this proposal would receive the full 30 points. If the next lowest cost proposal is \$1,100 it would receive 27 points reflecting the fact that it is 10% higher than the lowest cost (90% of 30 points = 27 points).
- C. During the selection process the evaluation panel may wish to interview some proposers for clarification purposes only. No new material will be permitted at this time. Additional information provided during the bid review process is limited to clarification by the Proposer of information presented in his/her proposal, upon request by SCAQMD.
  - D. The Executive Officer or Governing Board may award the contract to a Proposer other than the Proposer receiving the highest rating in the event the Governing Board determines that another Proposer from among those technically qualified would provide the best value to SCAQMD considering cost and technical factors. The determination shall be based solely on the Evaluation Criteria contained in the Request for Proposal (RFP), on evidence provided in the proposal and on any other evidence provided during the bid review process.
  - E. Selection will be made based on the above-described criteria and rating factors. The selection will be made by and is subject to Executive Officer or Governing Board approval. Proposers may be notified of the results by letter.
  - F. The Governing Board has approved a Bid Protest Procedure which provides a process for a Bidder or prospective Bidder to submit a written protest to SCAQMD Procurement Manager in recognition of two types of protests: Protest Regarding Solicitation and Protest Regarding Award of a Contract. Copies of the Bid Protest Policy can be secured through a request to SCAQMD Procurement Department.
  - G. The Executive Officer or Governing Board may award contracts to more than one proposer if in (his or their) sole judgment the purposes of the (contract or award) would best be served by selecting multiple proposers.
  - H. If additional funds become available, the Executive Officer or Governing Board may increase the amount awarded. The Executive Officer or Governing Board may also select additional proposers for a grant or contract if additional funds become available.
  - I. Disposition of Proposals – Pursuant to SCAQMD's Procurement Policy and Procedure, SCAQMD reserves the right to reject any or all proposals. All proposals become the property of SCAQMD, and are subject to the California Public Records Act. One copy of the proposal shall be retained for SCAQMD files. Additional copies and materials will be returned only if requested and at the proposer's expense.
  - J. **If proposal submittal is for a Public Works project as defined by State of California Labor Code Section 1720, Proposer is required to include Contractor Registration**



No. in Attachment B. Proposal submittal will be deemed as non-responsive and Bidder may be disqualified if Contractor Registration No. is not included in Attachment B. Proposer is alerted to changes to California Prevailing Wage compliance requirements as defined in Senate Bill 854 (Stat. 2014, Chapter 28), and California Labor Code Sections 1770, 1771 and 1725.

**SECTION X: FUNDING**

The total funding for the work contemplated by this RFP shall not exceed \$50,000.

**SECTION XI: SAMPLE CONTRACT**

A sample contract to carry out the work described in this RFP is available on SCAQMD's website at <http://www.aqmd.gov/grants-bids> or upon request from the RFP Contact Person (Section II).



## **ATTACHMENT A**

### **PARTICIPATION IN THE PROCUREMENT PROCESS**

A. It is the policy of South Coast Air Quality Management District (SCAQMD) to ensure that all businesses including minority business enterprises, women business enterprises, disabled veteran business enterprises and small businesses have a fair and equitable opportunity to compete for and participate in SCAQMD contracts.

B. Definitions:

The definition of minority, women or disadvantaged business enterprises set forth below is included for purposes of determining compliance with the affirmative steps requirement described in Paragraph G below on procurements funded in whole or in part with federal grant funds which involve the use of subcontractors. The definition provided for disabled veteran business enterprise, local business, small business enterprise, low-emission vehicle business and off-peak hours delivery business are provided for purposes of determining eligibility for point or cost considerations in the evaluation process.

1. "Women business enterprise" (WBE) as used in this policy means a business enterprise that meets all of the following criteria:
  - a. a business that is at least 51 percent owned by one or more women, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more women.
  - b. a business whose management and daily business operations are controlled by one or more women.
  - c. a business which is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign-based business.
2. "Disabled veteran" as used in this policy is a United States military, naval, or air service veteran with at least 10 percent service-connected disability who is a resident of California.
3. "Disabled veteran business enterprise" (DVBE) as used in this policy means a business enterprise that meets all of the following criteria:
  - a. is a sole proprietorship or partnership of which at least 51 percent is owned by one or more disabled veterans or, in the case of a publicly owned business, at least 51 percent of its stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.



- b. the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
  - c. is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.
- 4. "Local business" as used in this policy means a company that has an ongoing business within geographical boundaries of SCAQMD at the time of bid or proposal submittal and performs 90% of the work related to the contract within the geographical boundaries of SCAQMD and satisfies the requirements of subparagraph H below. Proposals for legislative representation, such as in Sacramento, California or Washington D.C. are not eligible for local business incentive points.
- 5. "Small business" as used in this policy means a business that meets the following criteria:
  - a. 1) an independently owned and operated business; 2) not dominant in its field of operation; 3) together with affiliates is either:
    - A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or
    - A manufacturer with 100 or fewer employees.
  - b. Manufacturer means a business that is both of the following:
    - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.
    - 2) Classified between Codes 311000 and 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.
- 6. "Joint ventures" as defined in this policy pertaining to certification means that one party to the joint venture is a DVBE or small business and owns at least 51 percent of the joint venture.
- 7. "Low-Emission Vehicle Business" as used in this policy means a company or contractor that uses low-emission vehicles in conducting deliveries to SCAQMD. Low-emission vehicles include vehicles powered by electric, compressed natural gas (CNG), liquefied natural gas (LNG), liquefied petroleum gas (LPG), ethanol, methanol, hydrogen and diesel retrofitted with particulate matter (PM) traps.



8. "Off-Peak Hours Delivery Business" as used in this policy means a company or contractor that commits to conducting deliveries to SCAQMD during off-peak traffic hours defined as between 10:00 a.m. and 3:00 p.m.
9. "Benefits Incentive Business" as used in this policy means a company or contractor that provides janitorial, security guard or landscaping services to SCAQMD and commits to providing employee health benefits (as defined below in Section VIII.D.2.d) for full time workers with affordable deductible and co-payment terms.
10. "Minority Business Enterprise" as used in this policy means a business that is at least 51 percent owned by one or more minority person(s), or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more or minority persons.
  - a. a business whose management and daily business operations are controlled by one or more minority persons.
  - b. a business which is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign-based business.
  - c. "Minority person" for purposes of this policy, means a Black American, Hispanic American, Native-American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian (including a person whose origins are from India, Pakistan, and Bangladesh), Asian-Pacific-American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, and Taiwan).
11. "Most Favored Customer" as used in this policy means that the SCAQMD will receive at least as favorable pricing, warranties, conditions, benefits and terms as other customers or clients making similar purchases or receiving similar services.
12. "Disadvantaged Business Enterprise" as used in this policy means a business that is an entity owned and/or controlled by a socially and economically disadvantaged individual(s) as described by Title X of the Clean Air Act Amendments of 1990 (42 U.S.C. 7601 note) (10% statute), and Public Law 102-389 (42 U.S.C. 4370d)(8% statute), respectively;  
a Small Business Enterprise (SBE);  
a Small Business in a Rural Area (SBRA);  
a Labor Surplus Area Firm (LSAF); or  
a Historically Underutilized Business (HUB) Zone Small Business Concern, or a concern under a successor program.

C. Under Request for Quotations (RFQ), DVBEs, DVBE business joint ventures, small businesses, and small business joint ventures shall be granted a preference in an amount equal to 5% of the lowest cost responsive bid. Low-Emission Vehicle Businesses shall be granted a preference in an amount equal to 5 percent of the lowest cost responsive bid.



Off-Peak Hours Delivery Businesses shall be granted a preference in an amount equal to 2 percent of the lowest cost responsive bid. Local businesses (if the procurement is not funded in whole or in part by federal grant funds) shall be granted a preference in an amount equal to 2% of the lowest cost responsive bid. Businesses offering Most Favored Customer status shall be granted a preference in an amount equal to 2 percent of the lowest cost responsive bid.

- D. Under Request for Proposals, DVBEs, DVBE joint ventures, small businesses, and small business joint ventures shall be awarded ten (10) points in the evaluation process. A non-DVBE or large business shall receive seven (7) points for subcontracting at least twenty-five (25%) of the total contract value to a DVBE and/or small business. Low-Emission Vehicle Businesses shall be awarded five (5) points in the evaluation process. On procurements which are not funded in whole or in part by federal grant funds local businesses shall receive five (5) points. Off-Peak Hours Delivery Businesses shall be awarded two (2) points in the evaluation process. Businesses offering Most Favored Customer status shall be awarded two (2) points in the evaluation process.
- E. SCAQMD will ensure that discrimination in the award and performance of contracts does not occur on the basis of race, color, sex, national origin, marital status, sexual preference, creed, ancestry, medical condition, or retaliation for having filed a discrimination complaint in the performance of SCAQMD contractual obligations.
- F. SCAQMD requires Contractor to be in compliance with all state and federal laws and regulations with respect to its employees throughout the term of any awarded contract, including state minimum wage laws and OSHA requirements.
- G. When contracts are funded in whole or in part by federal funds, and if subcontracts are to be let, the Contractor must comply with the following, evidencing a good faith effort to solicit disadvantaged businesses. Contractor shall submit a certification signed by an authorized official affirming its status as a MBE or WBE, as applicable, at the time of contract execution. SCAQMD reserves the right to request documentation demonstrating compliance with the following good faith efforts prior to contract execution.
  - 1. Ensure Disadvantaged Business Enterprises (DBEs) are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and Local Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.
  - 2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
  - 3. Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and Local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.



4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
  5. Using the services and assistance of the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.
  6. If the prime contractor awards subcontracts, require the prime contractor to take the above steps.
- H. To the extent that any conflict exists between this policy and any requirements imposed by federal and state law relating to participation in a contract by a certified MBE/WBE/DVBE as a condition of receipt of federal or state funds, the federal or state requirements shall prevail.
- I. When contracts are not funded in whole or in part by federal grant funds, a local business preference will be awarded. For such contracts that involve the purchase of commercial off-the-shelf products, local business preference will be given to suppliers or distributors of commercial off-the-shelf products who maintain an ongoing business within the geographical boundaries of SCAQMD. However, if the subject matter of the RFP or RFQ calls for the fabrication or manufacture of custom products, only companies performing 90% of the manufacturing or fabrication effort within the geographical boundaries of SCAQMD shall be entitled to the local business preference. Proposals for legislative representation, such as in Sacramento, California or Washington D.C. are not eligible for local business incentive points.
- J. In compliance with federal fair share requirements set forth in 40 CFR Part 33, SCAQMD shall establish a fair share goal annually for expenditures with federal funds covered by its procurement policy.



## ATTACHMENT B



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

### **Business Information Request**

Dear SCAQMD Contractor/Supplier:

South Coast Air Quality Management District (SCAQMD) is committed to ensuring that our contractor/supplier records are current and accurate. If your firm is selected for award of a purchase order or contract, it is imperative that the information requested herein be supplied in a timely manner to facilitate payment of invoices. In order to process your payments, we need the enclosed information regarding your account. **Please review and complete the information identified on the following pages, remember to sign all documents for our files, and return them as soon as possible to the address below:**

**Attention: Accounts Payable, Accounting Department  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765-4178**

If you do not return this information, we will not be able to establish you as a vendor. This will delay any payments and would still necessitate your submittal of the enclosed information to our Accounting department before payment could be initiated. Completion of this document and enclosed forms would ensure that your payments are processed timely and accurately.

If you have any questions or need assistance in completing this information, please contact Accounting at (909) 396-3777. We appreciate your cooperation in completing this necessary information.

Sincerely,

Sujata Jain  
Deputy Executive Officer  
Finance

DH:tm

Enclosures: Business Information Request  
Disadvantaged Business Certification  
W-9  
Form 590 Withholding Exemption Certificate  
Federal Contract Debarment Certification  
Campaign Contributions Disclosure  
Direct Deposit Authorization





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178

(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

## BUSINESS INFORMATION REQUEST

Business Name	
Division of	
Subsidiary of	
Website Address	
Type of Business <i>Check One:</i>	<input type="checkbox"/> Individual <input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____ <input type="checkbox"/> Other _____

## REMITTING ADDRESS INFORMATION

Address			
City/Town			
State/Province		Zip	
Phone	(     )     -     Ext	Fax	(     )     -
Contact		Title	
E-mail Address			
Payment Name if Different			

All invoices must reference the corresponding Purchase Order Number(s)/Contract Number(s) if applicable and mailed to:

**Attention: Accounts Payable, Accounting Department  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765-4178**



## BUSINESS STATUS CERTIFICATIONS

Federal guidance for utilization of disadvantaged business enterprises allows a vendor to be deemed a small business enterprise (SBE), minority business enterprise (MBE) or women business enterprise (WBE) if it meets the criteria below.

- is certified by the Small Business Administration or
- is certified by a state or federal agency or
- is an independent MBE(s) or WBE(s) business concern which is at least 51 percent owned and controlled by minority group member(s) who are citizens of the United States.

### Statements of certification:

As a prime contractor to SCAQMD, (name of business) will engage in good faith efforts to achieve the fair share in accordance with 40 CFR Section 33.301, and will follow the six affirmative steps listed below **for contracts or purchase orders funded in whole or in part by federal grants and contracts.**

1. Place qualified SBEs, MBEs, and WBEs on solicitation lists.
2. Assure that SBEs, MBEs, and WBEs are solicited whenever possible.
3. When economically feasible, divide total requirements into small tasks or quantities to permit greater participation by SBEs, MBEs, and WBEs.
4. Establish delivery schedules, if possible, to encourage participation by SBEs, MBEs, and WBEs.
5. Use services of Small Business Administration, Minority Business Development Agency of the Department of Commerce, and/or any agency authorized as a clearinghouse for SBEs, MBEs, and WBEs.
6. If subcontracts are to be let, take the above affirmative steps.

### **Self-Certification Verification: Also for use in awarding additional points, as applicable, in accordance with SCAQMD Procurement Policy and Procedure:**

Check all that apply:

- |   |  |
|---|--|
| <input type="checkbox"/> Small Business Enterprise/Small Business Joint Venture | <input type="checkbox"/> Women-owned Business Enterprise                               |
| <input type="checkbox"/> Local business   | <input type="checkbox"/> Disabled Veteran-owned Business Enterprise/DVBE Joint Venture |
| <input type="checkbox"/> Minority-owned Business Enterprise                     | <input type="checkbox"/> Most Favored Customer Pricing Certification                   |

Percent of ownership: \_\_\_\_\_ %

Name of Qualifying Owner(s): \_\_\_\_\_

**State of California Public Works Contractor Registration No. \_\_\_\_\_ MUST BE INCLUDED IF BID PROPOSAL IS FOR PUBLIC WORKS PROJECT.**

I, the undersigned, hereby declare that to the best of my knowledge the above information is accurate. Upon penalty of perjury, I certify information submitted is factual.

\_\_\_\_\_  
*NAME*

\_\_\_\_\_  
*TITLE*

\_\_\_\_\_  
*TELEPHONE NUMBER*

\_\_\_\_\_  
*DATE*



## **Definitions**

**Disabled Veteran-Owned Business Enterprise** means a business that meets all of the following criteria:

- is a sole proprietorship or partnership of which is at least 51 percent owned by one or more disabled veterans, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.
- the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
- is a sole proprietorship, corporation, partnership, or joint venture with its primary headquarters office located in the United States and which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.

**Joint Venture** means that one party to the joint venture is a DVBE and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that DVBE will receive at least 51 percent of the project dollars.

**Local Business** means a business that meets all of the following criteria:

- has an ongoing business within the boundary of SCAQMD at the time of bid application.
- performs 90 percent of the work within SCAQMD's jurisdiction.

**Minority-Owned Business Enterprise** means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more minority persons or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more minority persons.
- is a business whose management and daily business operations are controlled or owned by one or more minority person.
- is a business which is a sole proprietorship, corporation, partnership, joint venture, an association, or a cooperative with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

“Minority” person means a Black American, Hispanic American, Native American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian American (including a person whose origins are from India, Pakistan, or Bangladesh), Asian-Pacific American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, or Taiwan).

**Small Business Enterprise** means a business that meets the following criteria:

- a. 1) an independently owned and operated business; 2) not dominant in its field of operation; 3) together with affiliates is either:
  - **A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or**
  - A manufacturer with 100 or fewer employees.
- b. Manufacturer means a business that is both of the following:
  - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.
  - 2) Classified between Codes 311000 to 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.



**Small Business Joint Venture** means that one party to the joint venture is a Small Business and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that the Small Business will receive at least 51 percent of the project dollars.

**Women-Owned Business Enterprise** means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more women or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more women.
- is a business whose management and daily business operations are controlled or owned by one or more women.
- is a business which is a sole proprietorship, corporation, partnership, or a joint venture, with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

**Most Favored Customer** as used in this policy means that the SCAQMD will receive at least as favorable pricing, warranties, conditions, benefits and terms as other customers or clients making similar purchases or receiving similar services.



**Request for Taxpayer  
Identification Number and Certification**

► Go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9) for instructions and the latest information.

**Give Form to the  
requester. Do not  
send to the IRS.**

Print or type. See Specific Instructions on page 3.	<b>1</b> Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	<b>2</b> Business name/disregarded entity name, if different from above	
	<b>3</b> Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only <b>one</b> of the following seven boxes.  <input type="checkbox"/> Individual/sole proprietor or single-member LLC  <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► _____ <b>Note:</b> Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is <b>not</b> disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.  <input type="checkbox"/> Other (see instructions) ► _____	<b>4</b> Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):  Exempt payee code (if any) _____  Exemption from FATCA reporting code (if any) _____  <small>(Applies to accounts maintained outside the U.S.)</small>
	<b>5</b> Address (number, street, and apt. or suite no.) See instructions.	Requester's name and address (optional)
	<b>6</b> City, state, and ZIP code	
<b>7</b> List account number(s) here (optional)		

**Part I Taxpayer Identification Number (TIN)**

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

**Note:** If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

<b>Social security number</b>									
				-			-		
or									
<b>Employer identification number</b>									
				-					

**Part II Certification**

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

<b>Sign Here</b>	Signature of U.S. person ►	Date ►
------------------	----------------------------	--------

**General Instructions**

Section references are to the Internal Revenue Code unless otherwise noted.

**Future developments.** For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9).

**Purpose of Form**

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

*If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.*



By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

**Note:** If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

**Foreign person.** If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, *Withholding of Tax on Nonresident Aliens and Foreign Entities*).

**Nonresident alien who becomes a resident alien.** Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

**Example.** Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

## Backup Withholding

**What is backup withholding?** Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

**Payments you receive will be subject to backup withholding if:**

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the instructions for Part II for details),
3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships*, earlier.

## What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

## Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

## Penalties

**Failure to furnish TIN.** If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

**Civil penalty for false information with respect to withholding.** If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.



**Criminal penalty for falsifying information.** Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

**Misuse of TINs.** If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

## Specific Instructions

### Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

**Note: ITIN applicant:** Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

### Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

### Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

### Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

#### Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)

2—The United States or any of its agencies or instrumentalities

3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

4—A foreign government or any of its political subdivisions, agencies, or instrumentalities

5—A corporation

6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession

7—A futures commission merchant registered with the Commodity Futures Trading Commission

8—A real estate investment trust

9—An entity registered at all times during the tax year under the Investment Company Act of 1940

10—A common trust fund operated by a bank under section 584(a)

11—A financial institution

12—A middleman known in the investment community as a nominee or custodian

13—A trust exempt from tax under section 664 or described in section 4947



The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 <sup>1</sup>	Generally, exempt payees 1 through 5 <sup>2</sup>
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

<sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

<sup>2</sup> However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

**Exemption from FATCA reporting code.** The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

**Note:** You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

## Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

## Line 6

Enter your city, state, and ZIP code.

## Part I. Taxpayer Identification Number (TIN)

**Enter your TIN in the appropriate box.** If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

**Note:** See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

**How to get a TIN.** If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at [www.SSA.gov](http://www.SSA.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/Businesses](http://www.irs.gov/Businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. Go to [www.irs.gov/Forms](http://www.irs.gov/Forms) to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to [www.irs.gov/OrderForms](http://www.irs.gov/OrderForms) to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

**Note:** Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

**Caution:** A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

## Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

**Signature requirements.** Complete the certification as indicated in items 1 through 5 below.



**1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.** You must give your correct TIN, but you do not have to sign the certification.

**2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

**3. Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.

**4. Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

## What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account <sup>1</sup>
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
5. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee <sup>1</sup> The actual owner <sup>1</sup>
6. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor <sup>4</sup>
For this type of account:	Give name and EIN of:
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity <sup>4</sup>
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

<sup>1</sup> List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

<sup>2</sup> Circle the minor's name and furnish the minor's SSN.

<sup>3</sup> You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.

**\*Note:** The grantor also must provide a Form W-9 to trustee of trust.

**Note:** If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

## Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

**Protect yourself from suspicious emails or phishing schemes.** Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.



The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to [phishing@irs.gov](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at [spam@uce.gov](mailto:spam@uce.gov) or report them at [www.ftc.gov/complaint](http://www.ftc.gov/complaint). You can contact the FTC at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see [www.IdentityTheft.gov](http://www.IdentityTheft.gov) and Pub. 5027.

Visit [www.irs.gov/IdentityTheft](http://www.irs.gov/IdentityTheft) to learn more about identity theft and how to reduce your risk.

## Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.



**2018 Withholding Exemption Certificate****590**

The payee completes this form and submits it to the withholding agent. The withholding agent keeps this form with their records.

**Withholding Agent Information**

Name \_\_\_\_\_

**Payee Information**

Name \_\_\_\_\_

☐ SSN or ITIN ☐ FEIN ☐ CA Corp no. ☐ CA SOS file no.

Address (apt./sta., room, PO box, or PMB no.) \_\_\_\_\_

City (if you have a foreign address, see instructions.) \_\_\_\_\_

State \_\_\_\_\_

ZIP code \_\_\_\_\_

**Exemption Reason****Check only one box.**

By checking the appropriate box below, the payee certifies the reason for the exemption from the California income tax withholding requirements on payment(s) made to the entity or individual.

☐ **Individuals — Certification of Residency:**

I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

☐ **Corporations:**

The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

☐ **Partnerships or Limited Liability Companies (LLCs):**

The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.

☐ **Tax-Exempt Entities:**

The entity is exempt from tax under California Revenue and Taxation Code (R&amp;TC) Section 23701 \_\_\_\_\_ (insert letter) or Internal Revenue Code Section 501(c) \_\_\_\_\_ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.

☐ **Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit-Sharing Plans:**

The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.

☐ **California Trusts:**

At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.

☐ **Estates — Certification of Residency of Deceased Person:**

I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.

☐ **Nonmilitary Spouse of a Military Servicemember:**

I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

**CERTIFICATE OF PAYEE: Payee must complete and sign below.**To learn about your privacy rights, how we may use your information, and the consequences for not providing the requested information, go to [ftb.ca.gov/forms](http://ftb.ca.gov/forms) and search for 1131. To request this notice by mail, call 800.852.5711.

Under penalties of perjury, I declare that I have examined the information on this form, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. I further declare under penalties of perjury that if the facts upon which this form are based change, I will promptly notify the withholding agent.

Type or print payee's name and title \_\_\_\_\_ Telephone (\_\_\_\_) \_\_\_\_\_

Payee's signature ► \_\_\_\_\_ Date \_\_\_\_\_



# 2017 Instructions for Form 590

## Withholding Exemption Certificate

References in these instructions are to the California Revenue and Taxation Code (R&TC).

### General Information

**Registered Domestic Partners (RDP)** – For purposes of California income tax, references to a spouse, husband, or wife also refer to a Registered Domestic Partner (RDP) unless otherwise specified. For more information on RDPs, get FTB Pub. 737, Tax Information for Registered Domestic Partners.

### A Purpose

Use Form 590, Withholding Exemption Certificate, to certify an exemption from nonresident withholding.

Form 590 does not apply to payments of backup withholding. For more information, go to [ftb.ca.gov](http://ftb.ca.gov) and search for **backup withholding**.

Form 590 does not apply to payments for wages to employees. Wage withholding is administered by the California Employment Development Department (EDD). For more information, go to [edd.ca.gov](http://edd.ca.gov) or call 888.745.3886.

**Do not** use Form 590 to certify an exemption from withholding if you are a **Seller of California real estate**. Sellers of California real estate use Form 593-C, Real Estate Withholding Certificate, to claim an exemption from the real estate withholding requirement.

**The following are excluded from withholding and completing this form:**

- The United States and any of its agencies or instrumentalities.
- A state, a possession of the United States, the District of Columbia, or any of its political subdivisions or instrumentalities.
- A foreign government or any of its political subdivisions, agencies, or instrumentalities.

### B Income Subject to Withholding

California Revenue and Taxation Code (R&TC) Section 18662 requires withholding of income or franchise tax on payments of California source income made to nonresidents of California.

Withholding is required on the following, but is not limited to:

- Payments to nonresidents for services rendered in California.
- Distributions of California source income made to domestic nonresident partners, members, and S corporation shareholders and allocations of California source income made to foreign partners and members.
- Payments to nonresidents for rents if the payments are made in the course of the withholding agent's business.
- Payments to nonresidents for royalties from activities sourced to California.

- Distributions of California source income to nonresident beneficiaries from an estate or trust.
- Endorsement payments received for services performed in California.
- Prizes and winnings received by nonresidents for contests in California.

However, withholding is optional if the total payments of California source income are \$1,500 or less during the calendar year.

For more information on withholding get FTB Pub. 1017, Resident and Nonresident Withholding Guidelines. To get a withholding publication, see Additional Information.

### C Who Certifies this Form

Form 590 is certified by the payee. California residents or entities exempt from the withholding requirement should complete Form 590 and submit it to the withholding agent before payment is made. The withholding agent is then relieved of the withholding requirements if the agent relies in good faith on a completed and signed Form 590 unless notified by the Franchise Tax Board (FTB) that the form should not be relied upon.

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed exemption certificate, the withholding agent may accept a letter from the payee as a substitute explaining why they are not subject to withholding. The letter must contain all the information required on the certificate in similar language, including the under penalty of perjury statement and the payee's taxpayer identification number (TIN). The withholding agent must retain a copy of the certificate or substitute for at least five years after the last payment to which the certificate applies, and provide it upon request to the FTB.

If an entertainer (or the entertainer's business entity) is paid for a performance, the entertainer's information must be provided. **Do not** submit the entertainer's agent or promoter information.

The grantor of a grantor trust shall be treated as the payee for withholding purposes. Therefore, if the payee is a grantor trust and one or more of the grantors is a nonresident, withholding is required. If all of the grantors on the trust are residents, no withholding is required. Resident grantors can check the box on Form 590 labeled "Individuals — Certification of Residency."

### D Definitions

For California nonwage withholding purposes, **nonresident** includes all of the following:

- Individuals who are not residents of California.
- Corporations not qualified through the California Secretary of State (CA SOS) to do business in California or having no permanent place of business in California.
- Partnerships or limited liability companies (LLCs) with no permanent place of business in California.
- Any trust without a resident grantor, beneficiary, or trustee, or estates where the decedent was not a California resident.

Foreign refers to non-U.S.

For more information about determining resident status, get FTB Pub. 1031, Guidelines for Determining Resident Status. Military servicemembers have special rules for residency. For more information, get FTB Pub. 1032, Tax Information for Military Personnel.

### Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or it has qualified through the CA SOS to transact intrastate business. A corporation that has not qualified to transact intrastate business (e.g., a corporation engaged exclusively in interstate commerce) will be considered as having a permanent place of business in California only if it maintains a permanent office in California that is permanently staffed by its employees.

### E Military Spouse Residency Relief Act (MSRRA)

Generally, for tax purposes you are considered to maintain your existing residence or domicile. If a military servicemember and nonmilitary spouse have the same state of domicile, the MSRRA provides:

- A spouse shall not be deemed to have lost a residence or domicile in any state solely by reason of being absent to be with the servicemember serving in compliance with military orders.
- A spouse shall not be deemed to have acquired a residence or domicile in any other state solely by reason of being there to be with the servicemember serving in compliance with military orders.

**Domicile** is defined as the one place:

- Where you maintain a true, fixed, and permanent home.
- To which you intend to return whenever you are absent.



A military servicemember's nonmilitary spouse is considered a nonresident for tax purposes if the servicemember and spouse have the same domicile outside of California and the spouse is in California solely to be with the servicemember who is serving in compliance with Permanent Change of Station orders.

California may require nonmilitary spouses of military servicemembers to provide proof that they meet the criteria for California personal income tax exemption as set forth in the MSRRRA.

Income of a military servicemember's nonmilitary spouse for services performed in California is not California source income subject to state tax if the spouse is in California to be with the servicemember serving in compliance with military orders, and the servicemember and spouse have the same domicile in a state other than California.

For additional information or assistance in determining whether the applicant meets the MSRRRA requirements, get FTB Pub. 1032.

## Specific Instructions

### Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the TIN and check the appropriate TIN box.

You must provide a valid TIN as requested on this form. The following are acceptable TINs: social security number (SSN); individual taxpayer identification number (ITIN); federal employer identification number (FEIN); California corporation number (CA Corp no.); or CA SOS file number.

**Private Mail Box (PMB)** – Include the PMB in the address field. Write "PMB" first, then the box number. Example: 111 Main Street PMB 123.

**Foreign Address** – Follow the country's practice for entering the city, county, province, state, country, and postal code, as applicable, in the appropriate boxes. **Do not** abbreviate the country name.

**Exemption Reason** – Check the box that reflects the reason why the payee is exempt from the California income tax withholding requirement.

### Withholding Agent Instructions

**Do not** send this form to the FTB. The withholding agent retains this form for a minimum of five years or until the payee's status changes, and must provide this form to the FTB upon request.

The payee must notify the withholding agent if any of the following situations occur:

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.

- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

If any of these situations occur, then withholding may be required. For more information, get Form 592, Resident and Nonresident Withholding Statement, Form 592-B, Resident and Nonresident Withholding Tax Statement, and Form 592-V, Payment Voucher for Resident and Nonresident Withholding.

## Additional Information

**Website:** For more information go to [ftb.ca.gov](http://ftb.ca.gov) and search for **nonwage**.

**MyFTB** offers secure online tax account information and services. For more information and to register, go to [ftb.ca.gov](http://ftb.ca.gov) and search for **myftb**.

**Telephone:** 888.792.4900 or 916.845.4900, Withholding Services and Compliance phone service

**Fax:** 916.845.9512

**Mail:** WITHHOLDING SERVICES AND COMPLIANCE MS F182  
FRANCHISE TAX BOARD  
PO BOX 942867  
SACRAMENTO CA 94267-0651

For questions unrelated to withholding, or to download, view, and print California tax forms and publications, or to access the TTY/TDD numbers, see the information below.

### Internet and Telephone Assistance

**Website:** [ftb.ca.gov](http://ftb.ca.gov)

**Telephone:** 800.852.5711 from within the United States  
916.845.6500 from outside the United States

**TTY/TDD:** 800.822.6268 for persons with hearing or speech impairments

### Asistencia Por Internet y Teléfono

**Sitio web:** [ftb.ca.gov](http://ftb.ca.gov)

**Teléfono:** 800.852.5711 dentro de los Estados Unidos  
916.845.6500 fuera de los Estados Unidos

**TTY/TDD:** 800.822.6268 para personas con discapacidades auditivas o de habla



## **Certification Regarding Debarment, Suspension, and Other Responsibility Matters**

The prospective participant certifies to the best of its knowledge and belief that it and the principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them or commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statute or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

---

Typed Name & Title of Authorized Representative

---

Signature of Authorized Representative Date

☐ I am unable to certify to the above statements. My explanation is attached.

---





## CAMPAIGN CONTRIBUTIONS DISCLOSURE

In accordance with California law, bidders and contracting parties are required to disclose, at the time the application is filed, information relating to any campaign contributions made to South Coast Air Quality Management District (SCAQMD) Board Members or members/alternates of the MSRC, including: the name of the party making the contribution (which includes any parent, subsidiary or otherwise related business entity, as defined below), the amount of the contribution, and the date the contribution was made. 2 C.C.R. §18438.8(b).

California law prohibits a party, or an agent, from making campaign contributions to SCAQMD Governing Board Members or members/alternates of the Mobile Source Air Pollution Reduction Review Committee (MSRC) of more than \$250 while their contract or permit is pending before SCAQMD; and further prohibits a campaign contribution from being made for three (3) months following the date of the final decision by the Governing Board or the MSRC on a donor's contract or permit. Gov't Code §84308(d). For purposes of reaching the \$250 limit, the campaign contributions of the bidder or contractor plus contributions by its parents, affiliates, and related companies of the contractor or bidder are added together. 2 C.C.R. §18438.5.

In addition, SCAQMD Board Members or members/alternates of the MSRC must abstain from voting on a contract or permit if they have received a campaign contribution from a party or participant to the proceeding, or agent, totaling more than \$250 in the 12-month period prior to the consideration of the item by the Governing Board or the MSRC. Gov't Code §84308(c).

The list of current SCAQMD Governing Board Members can be found at SCAQMD website ([www.aqmd.gov](http://www.aqmd.gov)). The list of current MSRC members/alternates can be found at the MSRC website (<http://www.cleantransportationfunding.org>).

### **SECTION I.**

**Contractor (Legal Name):** \_\_\_\_\_

DBA, Name \_\_\_\_\_, County Filed in \_\_\_\_\_

Corporation, ID No. \_\_\_\_\_

LLC/LLP, ID No. \_\_\_\_\_

**List any parent, subsidiaries, or otherwise affiliated business entities of Contractor:**  
(See definition below).

---

---

### **SECTION II.**

Has Contractor and/or any parent, subsidiary, or affiliated company, or agent thereof, made a campaign contribution(s) totaling \$250 or more in the aggregate to a current member of the South Coast Air Quality Management Governing Board or member/alternate of the MSRC in the 12 months preceding the date of execution of this disclosure?

☐

Yes

☐

No

**If YES, complete Section II below and then sign and date the form.  
If NO, sign and date below. Include this form with your submittal.**



**Campaign Contributions Disclosure, continued:**

Name of Contributor \_\_\_\_\_

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

Name of Contributor \_\_\_\_\_

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

Name of Contributor \_\_\_\_\_

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

Name of Contributor \_\_\_\_\_

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

**I declare the foregoing disclosures to be true and correct.**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**DEFINITIONS**

Parent, Subsidiary, or Otherwise Related Business Entity (2 Cal. Code of Regs., §18703.1(d).)

- (1) Parent subsidiary. A parent subsidiary relationship exists when one corporation directly or indirectly owns shares possessing more than 50 percent of the voting power of another corporation.
- (2) Otherwise related business entity. Business entities, including corporations, partnerships, joint ventures and any other organizations and enterprises operated for profit, which do not have a parent subsidiary relationship are otherwise related if any one of the following three tests is met:
  - (A) One business entity has a controlling ownership interest in the other business entity.
  - (B) There is shared management and control between the entities. In determining whether there is shared management and control, consideration should be given to the following factors:
    - (i) The same person or substantially the same person owns and manages the two entities;
    - (ii) There are common or commingled funds or assets;
    - (iii) The business entities share the use of the same offices or employees, or otherwise share activities, resources or personnel on a regular basis;
    - (iv) There is otherwise a regular and close working relationship between the entities; or
  - (C) A controlling owner (50% or greater interest as a shareholder or as a general partner) in one entity also is a controlling owner in the other entity.





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178

(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

## Direct Deposit Authorization

### STEP 1: Please check all the appropriate boxes

- |  |  |
|--|--|
| <input type="checkbox"/> Individual (Employee, Governing Board Member) | <input type="checkbox"/> New Request           |
| <input type="checkbox"/> Vendor/Contractor                             | <input type="checkbox"/> Cancel Direct Deposit |
| <input type="checkbox"/> Changed Information                           |  |

### STEP 2: Payee Information

Last Name		First Name		Middle Initial	Title
Vendor/Contractor Business Name (if applicable)					
Address				Apartment or P.O. Box Number	
City		State	Zip	Country	
Taxpayer ID Number		Telephone Number		Email Address	

### Authorization

- I authorize South Coast Air Quality Management District (SCAQMD) to direct deposit funds to my account in the financial institution as indicated below. I understand that the authorization may be rejected or discontinued by SCAQMD at any time. If any of the above information changes, I will promptly complete a new authorization agreement. If the direct deposit is not stopped before closing an account, funds payable to me will be returned to SCAQMD for distribution. This will delay my payment.
- This authorization remains in effect until SCAQMD receives written notification of changes or cancellation from you.
- I hereby release and hold harmless SCAQMD for any claims or liability to pay for any losses or costs related to insufficient fund transactions that result from failure within the Automated Clearing House network to correctly and timely deposit monies into my account.

### STEP 3:

You must verify that your bank is a member of an Automated Clearing House (ACH). Failure to do so could delay the processing of your payment. You must attach a voided check or have your bank complete the bank information and the account holder must sign below.

### To be Completed by your Bank

Staple Voided Check Here	Name of Bank/Institution		
	Account Holder Name(s)		
	<input type="checkbox"/> Saving <input type="checkbox"/> Checking	Account Number	Routing Number
	Bank Representative Printed Name	Bank Representative Signature	Date
	ACCOUNT HOLDER SIGNATURE:		Date

For SCAQMD Use  
Only

Input By \_\_\_\_\_

Date \_\_\_\_\_





## **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

### **REQUEST FOR PROPOSALS**

#### **Literature Review and Empirical Study of Residential Visibility Benefits of Clean Air**

**P2018-09**

South Coast Air Quality Management District (SCAQMD) requests proposals for the following purpose according to terms and conditions attached. In the preparation of this Request for Proposals (RFP) the words "Proposer," "Contractor," "Consultant," "Bidder" and "Firm" are used interchangeably.

#### **PURPOSE**

The purpose of this Request for Proposals (RFP) is to solicit qualified firms or sole practitioners (Contractor) to conduct a literature review and empirical study of the clean air benefits related to residential visibility improvement, from which the study results can be applied to quantifying potential visibility benefits of implementing future Air Quality Management Plans (AQMPs) for the South Coast Air Basin (SCAB). Residential visibility benefits were quantified in the socioeconomic analyses of previous AQMPs based on a 2001 local study. In its 2014 review of SCAQMD's socioeconomic analyses, Abt Associates recommended several potential methodological enhancements to the 2001 study and the benefits transfer method, following recent developments in economics literature. To assist SCAQMD staff with implementing the recommended enhancements, the Contractor will conduct a literature review of recent research on residential visibility benefits transfer and valuation, and contingent upon the review outcome, conduct an empirical study of the clean air benefits attributable to residential visibility improvement including but not limited to the SCAB region. The Contractor will report findings and results to SCAQMD staff. The Contractor shall demonstrate knowledge in the economics of air quality regulations and programs and experience in conducting non-market valuation and/or related meta-analysis studies.

#### **INDEX - The following are contained in this RFP:**

Section I	Background/Information
Section II	Contact Person
Section III	Schedule of Events
Section IV	Participation in the Procurement Process
Section V	Statement of Work/Schedule of Deliverables
Section VI	Required Qualifications
Section VII	Proposal Submittal Requirements
Section VIII	Proposal Submission
Section IX	Proposal Evaluation/Contractor Selection Criteria
Section X	Funding
Section XI	Sample Contract

Attachment A - Participation in the Procurement Process

Attachment B - Certifications and Representations



## SECTION I: BACKGROUND/INFORMATION

Residential visibility benefits from air quality improvements have been quantified in the socioeconomic analyses of previous AQMPs, which primarily used a benefits transfer approach based on the local hedonic study by Beron et al. (2001).<sup>1</sup> In its 2014 review of SCAQMD's socioeconomic analyses,<sup>2</sup> Abt Associates recommended several potential enhancements to the methodology utilized for the previous analyses. SCAQMD is committed, to the extent feasible, to implementing the recommendations. This RFP is being issued to assist SCAQMD staff in conducting a literature research and review for more recent hedonic studies that have improved upon the method used in the 2001 study, potentially comparing revealed preference (i.e. hedonic studies) results with those derived in recent stated preference publications, improving the benefits valuation and transfer methodology used for quantification of residential visibility benefits; and potentially conducting an updated empirical study on the topic. A separate RFP (P2018-08) is simultaneously being issued with regards to other public welfare benefits.

## SECTION II: CONTACT PERSON:

Questions regarding the content or intent of this RFP or on procedural matters should be addressed to:

**Anthony Oliver, Air Quality Specialist – Socioeconomic Analysis**  
 SCAQMD  
 21865 Copley Drive  
 Diamond Bar, CA 91765-4178  
 (909) 396-2851  
 aoliver@aqmd.gov

## SECTION III: SCHEDULE OF EVENTS

Date	Event
March 2, 2018	RFP Released
April 5, 2018	Proposals Due to SCAQMD - <b>No Later Than 1:00 pm</b>
April 10-April 13, 2018	Proposal Evaluations
June 1, 2018	Governing Board Approval
June 15, 2018	Anticipated Contract Execution

## SECTION IV: PARTICIPATION IN THE PROCUREMENT PROCESS

It is the policy of SCAQMD to ensure that all businesses including minority business enterprises, women business enterprises, disabled veteran business enterprises and small businesses have a fair and equitable opportunity to compete for and participate in SCAQMD contracts. Attachment A to this RFP contains definitions and further information.

<sup>1</sup> Beron, Kurt, James Murdoch, and Mark Thayer. 2001. "The Benefits of Visibility Improvement: New Evidence from the Los Angeles Metropolitan Area." *The Journal of Real Estate Finance and Economics* 22 (2-3): 319-37.

<sup>2</sup> <http://www.aqmd.gov/docs/default-source/Agendas/aqmp/scaqmd-report---review-socioeconomic-assessments.pdf>



## SECTION V: STATEMENT OF WORK/SCHEDULE OF DELIVERABLES

### Statement of Work

Residential visibility benefits from air quality improvements were quantified in the socioeconomic analyses of previous AQMPs. The analyses relied on estimates of visibility changes, based on changes in PM<sub>10</sub> concentrations resulting from AQMP implementation. The estimated visibility changes were then valued based on the marginal willingness to pay (MWTP) estimates by Beron et al. (2001) that were inferred from variations in local housing prices in the SCAB region. To mitigate potential double counting of public health benefits of clean air, which were separately quantified but might be confounded with visibility benefits, an adjustment factor based on Loehman et al. (1994)<sup>3</sup> was additionally applied to account only for aesthetics-related visibility benefits. In its 2014 review of SCAQMD's socioeconomic analyses,<sup>4</sup> Abt Associates recommended several potential enhancements to the methodology utilized for the previous analyses. They included: a literature research and review of more recent hedonic studies that have improved upon the method used in the 2001 study in several areas, including dealing with omitted spatially delineated variables, specification of functional form, spatial endogeneity, and design of the second stage model; potentially comparing revealed preference (i.e. hedonic studies) results with those derived in recent stated preference publications; improve the benefits valuation and transfer methodology used for quantification of residential visibility benefits; and potentially conduct an updated empirical study on the topic.

The goal of this contract is to conduct a thorough literature review of recent research on residential visibility benefits. Based on the review outcome, conduct an empirical study using the most updated methodologies. The empirical study shall provide results that can be applied, via benefits transfer, to quantifying potential visibility benefits of implementing future AQMPs in the SCAB region.

Under SCAQMD staff's direction, the Contractor shall provide all labor, reports, services, and materials necessary to complete the following tasks:

- (1) Conduct a detailed review of the current state of literature on quantifying residential visibility benefits. Literature reviewed must include:
  - Contractor's own review of the Beron et al. (2001) study.
  - The studies cited for residential visibility benefits in U.S. EPA's 2012 Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter.<sup>5</sup>
  - Studies cited in the Abt Associates review:
    - Kuminoff, N., C. Parmeter & J. Pope. 2010. Which Hedonic Models Can We Trust to Recover the Marginal Willingness to Pay for Environmental Amenities. *Journal of Environmental Economics and Management* 60 (3): 145-160
    - Klaiber, H.A. & V.K. Smith. 2013. Quasi Experiments, Hedonic Models, and Estimating Trade-offs for Local Amenities. *Land Economics* 89 (3): 413-431.
    - Galiani, S., A. Murphy & J. Pantano. 2012. "Estimating Neighborhood Choice Models: Lessons from a Housing Assistance Experiment". Working Paper Series, Washington University in St. Louis.

<sup>3</sup> Loehman, Edna T., Schoon Park, and David Boldt. 1994. "Willingness to Pay for Gains and Losses in Visibility and Health." *Land Economics* 70 (4): 478-98.

<sup>4</sup> Available at: <http://www.aqmd.gov/docs/default-source/Agendas/aqmp/scaqmd-report---review-socioeconomic-assessments.pdf>

<sup>5</sup> Must include the methodology used for quantifying the visibility changes using the CMAQ model in conjunction with the IMPROVE algorithm.



- (2) Conduct a detailed review of research on methods of producing visibility or viewshed estimates that may include advancements that have not been used in the economics literature. This could include a review of newly available data sources or interpolation methods.
- (3) Based on results of the literature review conducted in Tasks (1) and (2), Contractor shall provide a detailed assessment regarding the feasibility of conducting an empirical study of clean air benefits attributable to residential visibility improvement and an appropriate benefits transfer method assessment for the benefits in the SCAB region. This shall include a comparison of different options for empirical study:
  - Update to the Beron et al. (2001) study with more recent data and econometric methods;
  - A new hedonic study using the most recent data and econometric methods;
  - A meta-analysis of results from relevant revealed and stated preference studies.
- (4) Contingent upon the results of the assessment specified in Task (3) and at SCAQMD staff's direction, Contractor may be authorized to develop a technical proposal which includes specific data sources and methodologies to be used in the empirical study. The technical proposal shall describe how the proposed data and methodologies would implement the enhancements recommended in the 2014 review by Abt Associates. It is expected that Contractor will use the most recent available data and incorporate spatial econometric methods and/or meta-analysis.
- (5) Contingent upon the feasibility assessment as specified in Task (3), the technical proposal specified in Task (4), and SCAQMD staff's approval, Contractor may be authorized to conduct an empirical analysis, likely using hedonic methods and spatial econometrics and/or meta-analysis, to estimate the MWTP for residential visibility improvements that are applicable to the SCAB region via benefits transfer. This task shall involve the following stages:
  - a. Obtaining and cleaning data, merging data, diagnostic checks, creating summary statistics;
  - b. Econometric estimation of MWTP for residential visibility benefits;
  - c. Presenting results in table and graphical formats;
  - d. Synthesizing results with those already available in the literature;
  - e. Summarizing the aim, methodology, data, results, and conclusions;
  - f. Making recommendations for applying these results to the socioeconomic analyses for future AQMPs via benefits transfer.
- (6) Attend meetings to present analysis and findings as requested by SCAQMD.

#### **Schedule of Deliverables:**

- (1) Contractor shall, two months from entering into the Contract, submit a draft report on Task (1).
- (2) One month from SCAQMD staff's approval of the draft report on Task (1), submit a draft report on Task (2).
- (3) One month from SCAQMD staff's approval of the draft report on Task (2), submit a draft report on Task (3).
- (4) Three months from SCAQMD staff's approval of the draft report on Task (3), submit a draft report on Task (4).
- (5) Eight months from SCAQMD staff's approval of the draft report on Task (4), submit a draft report on Task (5).
- (6) Contractor may be requested to make oral presentation(s) of the analysis and findings, either by traveling to SCAQMD headquarters or via teleconference, during the term of the contract.



## **SECTION VI: REQUIRED QUALIFICATIONS**

- A. Persons or Firms proposing to bid on this proposal must be qualified and experienced in non-market valuation and benefit transfer methodologies. They must submit qualifications demonstrating this ability and knowledge of the economics of air quality regulations and programs.
- B. Proposer must submit the following:
  1. Resumes or similar statement of qualifications of person or persons who may be designated in leading the execution of the contracted tasks.
  2. List of representative clients.
  3. Summary of Proposer's general qualifications to meet required qualifications and fulfill statement of work, including additional Firm personnel and resources beyond those of the designated lead personnel.

## **SECTION VII: PROPOSAL SUBMITTAL REQUIREMENTS**

Submitted proposals must follow the format outlined below and all requested information must be supplied. Failure to submit proposals in the required format will result in elimination from proposal evaluation. SCAQMD may modify the RFP or issue supplementary information or guidelines during the proposal preparation period prior to the due date. Please check our website for updates (<http://www.aqmd.gov/grants-bids>). The cost for developing the proposal is the responsibility of the Contractor, and shall not be chargeable to SCAQMD.

Each proposal must be submitted in three separate volumes:

- Volume I - Technical Proposal
- Volume II - Cost Proposal
- Volume III - Certifications and Representations included in Attachment B to this RFP, must be completed and executed by an authorized official of the Contractor.

A separate cover letter including the name, address, and telephone number of the contractor, and signed by the person or persons authorized to represent the Firm should accompany the proposal submission. Firm contact information as follows should also be included in the cover letter:

1. Address and telephone number of office in, or nearest to, Diamond Bar, California.
2. Name and title of Firm's representative designated as contact.

A separate Table of Contents should be provided for Volumes I and II.

## **VOLUME I - TECHNICAL PROPOSAL**

**DO NOT INCLUDE ANY COST INFORMATION IN THE TECHNICAL VOLUME**



Summary (Section A) - State overall approach to meeting the objectives and satisfying the scope of work to be performed, the sequence of activities, and a description of methodology or techniques to be used.

Program Schedule (Section B) - Provide projected milestones or benchmarks for completing the project (to include reports) within the total time allowed.

Project Organization (Section C) - Describe the proposed management structure, program monitoring procedures, and organization of the proposed team. Provide a statement detailing your approach to the project, specifically address the Firm's ability and willingness to commit and maintain staffing to successfully complete the project on the proposed schedule.

Qualifications (Section D) - Describe the technical capabilities of the Firm. Provide references of other similar studies or projects performed during the last five years demonstrating ability to successfully complete the work. Include contact name, title, and telephone number for any references listed. Provide a statement of your Firm's background and related experience in performing similar services for other governmental organizations.

Assigned Personnel (Section E) - Provide the following information about the staff to be assigned to this project:

1. List all key personnel assigned to the project by level, name and location. Provide a resume or similar statement describing the background, qualifications and experience of the lead person and all persons assigned to the project. Substitution of project manager or lead personnel will not be permitted without prior written approval of SCAQMD.
2. Provide a spreadsheet of the labor hours proposed for each labor category at the task level.
3. Provide a statement indicating whether or not 90% of the work will be performed within the geographical boundaries of SCAQMD.
4. Provide a statement of education and training programs provided to, or required of, the staff identified for participation in the project, particularly with reference to management consulting, governmental practices and procedures, and technical matters.
5. Provide a summary of your Firm's general qualifications to meet required qualifications and fulfill statement of work, including additional Firm personnel and resources beyond those who may be assigned to the project.

Subcontractors (Section F) - This project may require expertise in multiple technical areas. List any subcontractors that will be used, identifying functions to be performed by them, their related qualifications and experience and the total number of hours or percentage of time they will spend on the project.

Conflict of Interest (Section G) - Address possible conflicts of interest with other clients affected by actions performed by the Firm on behalf of SCAQMD. SCAQMD recognizes that prospective Contractors may be performing similar projects for other clients. Include a complete list of such clients for the past three (3) years with the type of work performed and the total number of years performing such tasks for each client. Although the Proposer will not be automatically disqualified by reason of work performed for such clients, SCAQMD reserves the right to consider the nature and extent of such work in evaluating the proposal.

Additional Data (Section H) - Provide other essential data that may assist in the evaluation of this proposal.



## **VOLUME II - COST PROPOSAL**

Name and Address - The Cost Proposal must list the name and complete address of the Proposer in the upper left-hand corner.

Cost Proposal – SCAQMD anticipates awarding a fixed price contract. Cost information must be provided as listed below:

1. Detail must be provided by the following categories:
  - A. Labor – The Cost Proposal must list the fully-burdened hourly rates and the total number of hours estimated for each level of professional and administrative staff to be used to perform the tasks required by this RFP. Costs should be estimated for each of the components of the work plan.
  - B. Subcontractor Costs - List subcontractor costs and identify subcontractors by name. Itemize subcontractor charges per hour or per day.
  - C. Travel Costs - Indicate amount of travel cost and basis of estimate to include trip destination, purpose of trip, length of trip, airline fare or mileage expense, per diem costs, lodging and car rental.
  - D. Other Direct Costs -This category may include such items as postage and mailing expense, printing and reproduction costs, etc. Provide a basis of estimate for these costs.
2. It is the policy of the SCAQMD to receive at least as favorable pricing, warranties, conditions, benefits and terms as other customers or clients making similar purchases or receiving similar services. SCAQMD will give preference, where appropriate, to vendors who certify that they will provide “most favored customer” status to the SCAQMD. To receive preference points, Proposer shall certify that SCAQMD is receiving “most favored customer” pricing in the Business Status Certifications page of Volume III, Attachment B – Certifications and Representations.

## **VOLUME III - CERTIFICATIONS AND REPRESENTATIONS** (see Attachment B to this RFP)

### **SECTION VIII: PROPOSAL SUBMISSION**

All proposals must be submitted according to specifications set forth in the section above, and this section. Failure to adhere to these specifications may be cause for rejection of the proposal.

Signature - All proposals must be signed by an authorized representative of the Proposer.

Due Date - **All proposals are due no later than 1:00 p.m., April 5, 2018, and should be directed to:**

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



Submittal - Submit four (4) complete copies of the proposal in a sealed envelope, plainly marked in the upper left-hand corner with the name and address of the Proposer and the words "Request for Proposals P2018-09."

**Late bids/proposals will not be accepted under any circumstances.**

Grounds for Rejection - A proposal may be immediately rejected if:

- It is not prepared in the format described, or
- It is signed by an individual not authorized to represent the Firm.

Modification or Withdrawal - Once submitted, proposals cannot be altered without the prior written consent of SCAQMD. All proposals shall constitute firm offers and may not be withdrawn for a period of ninety (90) days following the last day to accept proposals.

## **SECTION IX: PROPOSAL EVALUATION/CONTRACTOR SELECTION CRITERIA**

- A. Proposals will be evaluated by a panel of three to five SCAQMD staff members familiar with the subject matter of the project. The panel shall be appointed by the Executive Officer or his designee. In addition, the evaluation panel may include such outside public sector or academic community expertise as deemed desirable by the Executive Officer. The panel will make a recommendation to the Executive Officer and/or the Governing Board of SCAQMD for final selection of a contractor and negotiation of a contract.
- B. Each member of the evaluation panel shall be accorded equal weight in his or her rating of proposals. The evaluation panel members shall evaluate the proposals according to the specified criteria and numerical weightings set forth below.

### **1. Proposal Evaluation Criteria**

#### R&D Projects Requiring Technical or Scientific Expertise, or Special Projects Requiring Unique Knowledge or Abilities

Understanding the Problem	10
Technical/Management Approach	15
Contractor Qualifications	15
Previous Experience on Similar Projects	30
Cost	<u>30</u>
<b>TOTAL</b>	<b>100</b>

#### Additional Points

Small Business or Small Business Joint Venture	10
DVBE or DVBE Joint Venture	10
Use of DVBE or Small Business Subcontractors	7



Low-Emission Vehicle Business	5
Local Business (Non-Federally Funded Projects Only)	5
Off-Peak Hours Delivery Business	2
Most Favored Customer	2

**The cumulative points awarded for small business, DVBE, use of small business or DVBE subcontractors, low-emission vehicle business, local business, and off-peak hours delivery business shall not exceed 15 points. Most Favored Customer status incentive points shall be added, as applicable for a total of 17 points.**

#### **Self-Certification for Additional Points**

**The award of these additional points shall be contingent upon Proposer completing the Self-Certification section of Attachment B – Certifications and Representations and/or inclusion of a statement in the proposal self-certifying that Proposer qualifies for additional points as detailed above.**

2. To receive additional points in the evaluation process for the categories of Small Business or Small Business Joint Venture, DVBE or DVBE Joint Venture or Local Business (for non-federally funded projects), the proposer must submit a self-certification or certification from the State of California Office of Small Business Certification and Resources at the time of proposal submission certifying that the proposer meets the requirements set forth in Section III. To receive points for the use of DVBE and/or Small Business subcontractors, at least 25 percent of the total contract value must be subcontracted to DVBEs and/or Small Businesses. To receive points as a Low-Emission Vehicle Business, the proposer must demonstrate to the Executive Officer, or designee, that supplies and materials delivered to SCAQMD are delivered in vehicles that operate on either clean-fuels or if powered by diesel fuel, that the vehicles have particulate traps installed. To receive points as a Local Business, the proposer must affirm that it has an ongoing business within the South Coast AQMD at the time of bid/proposal submittal and that 90% of the work related to the contract will be performed within the South Coast AQMD. Proposals for legislative representation, such as in Sacramento, California or Washington D.C. are not eligible for local business incentive points. Federally funded projects are not eligible for local business incentive points. To receive points as an Off-Peak Hours Delivery Business, the proposer must submit, at proposal submission, certification of its commitment to delivering supplies and materials to SCAQMD between the hours of 10:00 a.m. and 3:00 p.m. To receive points for Most Favored Customer status, the proposer must submit, at proposal submission, certification of its commitment to provide most favored customer status to the SCAQMD. The cumulative points awarded for small business, DVBE, use of Small Business or DVBE Subcontractors, Local Business, Low-Emission Vehicle Business and Off-Peak Hour Delivery Business shall not exceed 15 points.
3. For procurement of Research and Development (R & D) projects or projects requiring technical or scientific expertise or special projects requiring unique



knowledge and abilities, technical factors including past experience shall be weighted at 70 points and cost shall be weighted at 30 points. A proposal must receive at least 56 out of 70 points on R & D projects and projects requiring technical or scientific expertise or special projects requiring unique knowledge and abilities, in order to be deemed qualified for award.

4. The lowest cost proposal will be awarded the maximum cost points available and all other cost proposals will receive points on a prorated basis. For example if the lowest cost proposal is \$1,000 and the maximum points available are 30 points, this proposal would receive the full 30 points. If the next lowest cost proposal is \$1,100 it would receive 27 points reflecting the fact that it is 10% higher than the lowest cost (90% of 30 points = 27 points).
- C. During the selection process the evaluation panel may wish to interview some proposers for clarification purposes only. No new material will be permitted at this time. Additional information provided during the bid review process is limited to clarification by the Proposer of information presented in his/her proposal, upon request by SCAQMD.
  - D. The Executive Officer or Governing Board may award the contract to a Proposer other than the Proposer receiving the highest rating in the event the Governing Board determines that another Proposer from among those technically qualified would provide the best value to SCAQMD considering cost and technical factors. The determination shall be based solely on the Evaluation Criteria contained in the Request for Proposal (RFP), on evidence provided in the proposal and on any other evidence provided during the bid review process.
  - E. Selection will be made based on the above-described criteria and rating factors. The selection will be made by and is subject to Executive Officer or Governing Board approval. Proposers may be notified of the results by letter.
  - F. The Governing Board has approved a Bid Protest Procedure which provides a process for a Bidder or prospective Bidder to submit a written protest to SCAQMD Procurement Manager in recognition of two types of protests: Protest Regarding Solicitation and Protest Regarding Award of a Contract. Copies of the Bid Protest Policy can be secured through a request to SCAQMD Procurement Department.
  - G. The Executive Officer or Governing Board may award contracts to more than one proposer if in (his or their) sole judgment the purposes of the (contract or award) would best be served by selecting multiple proposers.
  - H. If additional funds become available, the Executive Officer or Governing Board may increase the amount awarded. The Executive Officer or Governing Board may also select additional proposers for a grant or contract if additional funds become available.
  - I. Disposition of Proposals – Pursuant to SCAQMD's Procurement Policy and Procedure, SCAQMD reserves the right to reject any or all proposals. All proposals become the property of SCAQMD, and are subject to the California Public Records Act. One copy of the proposal shall be retained for SCAQMD files. Additional copies and materials will be returned only if requested and at the proposer's expense.
  - J. **If proposal submittal is for a Public Works project as defined by State of California Labor Code Section 1720, Proposer is required to include Contractor Registration**



No. in Attachment B. Proposal submittal will be deemed as non-responsive and Bidder may be disqualified if Contractor Registration No. is not included in Attachment B. Proposer is alerted to changes to California Prevailing Wage compliance requirements as defined in Senate Bill 854 (Stat. 2014, Chapter 28), and California Labor Code Sections 1770, 1771 and 1725.

**SECTION X: FUNDING**

The total funding for the work contemplated by this RFP shall not exceed \$100,000, among which up to \$20,000 is allocated solely for Task (1)-(3). Up to \$80,000 is allocated solely for Tasks (4)-(6).

**SECTION XI: SAMPLE CONTRACT**

A sample contract to carry out the work described in this RFP is available on SCAQMD's website at <http://www.aqmd.gov/grants-bids> or upon request from the RFP Contact Person (Section II).



## **ATTACHMENT A**

### **PARTICIPATION IN THE PROCUREMENT PROCESS**

A. It is the policy of South Coast Air Quality Management District (SCAQMD) to ensure that all businesses including minority business enterprises, women business enterprises, disabled veteran business enterprises and small businesses have a fair and equitable opportunity to compete for and participate in SCAQMD contracts.

B. Definitions:

The definition of minority, women or disadvantaged business enterprises set forth below is included for purposes of determining compliance with the affirmative steps requirement described in Paragraph G below on procurements funded in whole or in part with federal grant funds which involve the use of subcontractors. The definition provided for disabled veteran business enterprise, local business, small business enterprise, low-emission vehicle business and off-peak hours delivery business are provided for purposes of determining eligibility for point or cost considerations in the evaluation process.

1. "Women business enterprise" (WBE) as used in this policy means a business enterprise that meets all of the following criteria:
  - a. a business that is at least 51 percent owned by one or more women, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more women.
  - b. a business whose management and daily business operations are controlled by one or more women.
  - c. a business which is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign-based business.
2. "Disabled veteran" as used in this policy is a United States military, naval, or air service veteran with at least 10 percent service-connected disability who is a resident of California.
3. "Disabled veteran business enterprise" (DVBE) as used in this policy means a business enterprise that meets all of the following criteria:
  - a. is a sole proprietorship or partnership of which at least 51 percent is owned by one or more disabled veterans or, in the case of a publicly owned business, at least 51 percent of its stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.



- b. the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
  - c. is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.
- 4. "Local business" as used in this policy means a company that has an ongoing business within geographical boundaries of SCAQMD at the time of bid or proposal submittal and performs 90% of the work related to the contract within the geographical boundaries of SCAQMD and satisfies the requirements of subparagraph H below. Proposals for legislative representation, such as in Sacramento, California or Washington D.C. are not eligible for local business incentive points.
- 5. "Small business" as used in this policy means a business that meets the following criteria:
  - a. 1) an independently owned and operated business; 2) not dominant in its field of operation; 3) together with affiliates is either:
    - A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or
    - A manufacturer with 100 or fewer employees.
  - b. Manufacturer means a business that is both of the following:
    - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.
    - 2) Classified between Codes 311000 and 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.
- 6. "Joint ventures" as defined in this policy pertaining to certification means that one party to the joint venture is a DVBE or small business and owns at least 51 percent of the joint venture.
- 7. "Low-Emission Vehicle Business" as used in this policy means a company or contractor that uses low-emission vehicles in conducting deliveries to SCAQMD. Low-emission vehicles include vehicles powered by electric, compressed natural gas (CNG), liquefied natural gas (LNG), liquefied petroleum gas (LPG), ethanol, methanol, hydrogen and diesel retrofitted with particulate matter (PM) traps.



8. "Off-Peak Hours Delivery Business" as used in this policy means a company or contractor that commits to conducting deliveries to SCAQMD during off-peak traffic hours defined as between 10:00 a.m. and 3:00 p.m.
9. "Benefits Incentive Business" as used in this policy means a company or contractor that provides janitorial, security guard or landscaping services to SCAQMD and commits to providing employee health benefits (as defined below in Section VIII.D.2.d) for full time workers with affordable deductible and co-payment terms.
10. "Minority Business Enterprise" as used in this policy means a business that is at least 51 percent owned by one or more minority person(s), or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more or minority persons.
  - a. a business whose management and daily business operations are controlled by one or more minority persons.
  - b. a business which is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign-based business.
  - c. "Minority person" for purposes of this policy, means a Black American, Hispanic American, Native-American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian (including a person whose origins are from India, Pakistan, and Bangladesh), Asian-Pacific-American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, and Taiwan).
11. "Most Favored Customer" as used in this policy means that the SCAQMD will receive at least as favorable pricing, warranties, conditions, benefits and terms as other customers or clients making similar purchases or receiving similar services.
12. "Disadvantaged Business Enterprise" as used in this policy means a business that is an entity owned and/or controlled by a socially and economically disadvantaged individual(s) as described by Title X of the Clean Air Act Amendments of 1990 (42 U.S.C. 7601 note) (10% statute), and Public Law 102-389 (42 U.S.C. 4370d)(8% statute), respectively;
  - a Small Business Enterprise (SBE);
  - a Small Business in a Rural Area (SBRA);
  - a Labor Surplus Area Firm (LSAF); or
  - a Historically Underutilized Business (HUB) Zone Small Business Concern, or a concern under a successor program.

- C. Under Request for Quotations (RFQ), DVBEs, DVBE business joint ventures, small businesses, and small business joint ventures shall be granted a preference in an amount equal to 5% of the lowest cost responsive bid. Low-Emission Vehicle Businesses shall be granted a preference in an amount equal to 5 percent of the lowest cost responsive bid. Off-Peak Hours Delivery Businesses shall be granted a preference in an amount equal to 2



percent of the lowest cost responsive bid. Local businesses (if the procurement is not funded in whole or in part by federal grant funds) shall be granted a preference in an amount equal to 2% of the lowest cost responsive bid. Businesses offering Most Favored Customer status shall be granted a preference in an amount equal to 2 percent of the lowest cost responsive bid.

- D. Under Request for Proposals, DVBEs, DVBE joint ventures, small businesses, and small business joint ventures shall be awarded ten (10) points in the evaluation process. A non-DVBE or large business shall receive seven (7) points for subcontracting at least twenty-five (25%) of the total contract value to a DVBE and/or small business. Low-Emission Vehicle Businesses shall be awarded five (5) points in the evaluation process. On procurements which are not funded in whole or in part by federal grant funds local businesses shall receive five (5) points. Off-Peak Hours Delivery Businesses shall be awarded two (2) points in the evaluation process. Businesses offering Most Favored Customer status shall be awarded two (2) points in the evaluation process.
- E. SCAQMD will ensure that discrimination in the award and performance of contracts does not occur on the basis of race, color, sex, national origin, marital status, sexual preference, creed, ancestry, medical condition, or retaliation for having filed a discrimination complaint in the performance of SCAQMD contractual obligations.
- F. SCAQMD requires Contractor to be in compliance with all state and federal laws and regulations with respect to its employees throughout the term of any awarded contract, including state minimum wage laws and OSHA requirements.
- G. When contracts are funded in whole or in part by federal funds, and if subcontracts are to be let, the Contractor must comply with the following, evidencing a good faith effort to solicit disadvantaged businesses. Contractor shall submit a certification signed by an authorized official affirming its status as a MBE or WBE, as applicable, at the time of contract execution. SCAQMD reserves the right to request documentation demonstrating compliance with the following good faith efforts prior to contract execution.
  - 1. Ensure Disadvantaged Business Enterprises (DBEs) are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and Local Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.
  - 2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
  - 3. Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and Local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
  - 4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.



5. Using the services and assistance of the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.
  6. If the prime contractor awards subcontracts, require the prime contractor to take the above steps.
- H. To the extent that any conflict exists between this policy and any requirements imposed by federal and state law relating to participation in a contract by a certified MBE/WBE/DVBE as a condition of receipt of federal or state funds, the federal or state requirements shall prevail.
- I. When contracts are not funded in whole or in part by federal grant funds, a local business preference will be awarded. For such contracts that involve the purchase of commercial off-the-shelf products, local business preference will be given to suppliers or distributors of commercial off-the-shelf products who maintain an ongoing business within the geographical boundaries of SCAQMD. However, if the subject matter of the RFP or RFQ calls for the fabrication or manufacture of custom products, only companies performing 90% of the manufacturing or fabrication effort within the geographical boundaries of SCAQMD shall be entitled to the local business preference. Proposals for legislative representation, such as in Sacramento, California or Washington D.C. are not eligible for local business incentive points.
- J. In compliance with federal fair share requirements set forth in 40 CFR Part 33, SCAQMD shall establish a fair share goal annually for expenditures with federal funds covered by its procurement policy.



## ATTACHMENT B



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

### **Business Information Request**

Dear SCAQMD Contractor/Supplier:

South Coast Air Quality Management District (SCAQMD) is committed to ensuring that our contractor/supplier records are current and accurate. If your firm is selected for award of a purchase order or contract, it is imperative that the information requested herein be supplied in a timely manner to facilitate payment of invoices. In order to process your payments, we need the enclosed information regarding your account. **Please review and complete the information identified on the following pages, remember to sign all documents for our files, and return them as soon as possible to the address below:**

**Attention: Accounts Payable, Accounting Department  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765-4178**

If you do not return this information, we will not be able to establish you as a vendor. This will delay any payments and would still necessitate your submittal of the enclosed information to our Accounting department before payment could be initiated. Completion of this document and enclosed forms would ensure that your payments are processed timely and accurately.

If you have any questions or need assistance in completing this information, please contact Accounting at (909) 396-3777. We appreciate your cooperation in completing this necessary information.

Sincerely,

Sujata Jain  
Deputy Executive Officer  
Finance

DH:tm

Enclosures: Business Information Request  
Disadvantaged Business Certification  
W-9  
Form 590 Withholding Exemption Certificate  
Federal Contract Debarment Certification  
Campaign Contributions Disclosure  
Direct Deposit Authorization





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178

(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

## BUSINESS INFORMATION REQUEST

Business Name	
Division of	
Subsidiary of	
Website Address	
Type of Business <i>Check One:</i>	<input type="checkbox"/> Individual <input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____ <input type="checkbox"/> Other _____

## REMITTING ADDRESS INFORMATION

Address			
City/Town			
State/Province		Zip	
Phone	(     )     -     Ext	Fax	(     )     -
Contact		Title	
E-mail Address			
Payment Name if Different			

All invoices must reference the corresponding Purchase Order Number(s)/Contract Number(s) if applicable and mailed to:

**Attention: Accounts Payable, Accounting Department  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765-4178**



## BUSINESS STATUS CERTIFICATIONS

Federal guidance for utilization of disadvantaged business enterprises allows a vendor to be deemed a small business enterprise (SBE), minority business enterprise (MBE) or women business enterprise (WBE) if it meets the criteria below.

- is certified by the Small Business Administration or
- is certified by a state or federal agency or
- is an independent MBE(s) or WBE(s) business concern which is at least 51 percent owned and controlled by minority group member(s) who are citizens of the United States.

### Statements of certification:

As a prime contractor to SCAQMD, (name of business) will engage in good faith efforts to achieve the fair share in accordance with 40 CFR Section 33.301, and will follow the six affirmative steps listed below **for contracts or purchase orders funded in whole or in part by federal grants and contracts.**

1. Place qualified SBEs, MBEs, and WBEs on solicitation lists.
2. Assure that SBEs, MBEs, and WBEs are solicited whenever possible.
3. When economically feasible, divide total requirements into small tasks or quantities to permit greater participation by SBEs, MBEs, and WBEs.
4. Establish delivery schedules, if possible, to encourage participation by SBEs, MBEs, and WBEs.
5. Use services of Small Business Administration, Minority Business Development Agency of the Department of Commerce, and/or any agency authorized as a clearinghouse for SBEs, MBEs, and WBEs.
6. If subcontracts are to be let, take the above affirmative steps.

### **Self-Certification Verification: Also for use in awarding additional points, as applicable, in accordance with SCAQMD Procurement Policy and Procedure:**

Check all that apply:

- |   |  |
|---|--|
| <input type="checkbox"/> Small Business Enterprise/Small Business Joint Venture | <input type="checkbox"/> Women-owned Business Enterprise                               |
| <input type="checkbox"/> Local business   | <input type="checkbox"/> Disabled Veteran-owned Business Enterprise/DVBE Joint Venture |
| <input type="checkbox"/> Minority-owned Business Enterprise                     | <input type="checkbox"/> Most Favored Customer Pricing Certification                   |

Percent of ownership: \_\_\_\_\_ %

Name of Qualifying Owner(s): \_\_\_\_\_

**State of California Public Works Contractor Registration No. \_\_\_\_\_ . MUST BE INCLUDED IF BID PROPOSAL IS FOR PUBLIC WORKS PROJECT.**

I, the undersigned, hereby declare that to the best of my knowledge the above information is accurate. Upon penalty of perjury, I certify information submitted is factual.

\_\_\_\_\_  
*NAME*

\_\_\_\_\_  
*TITLE*

\_\_\_\_\_  
*TELEPHONE NUMBER*

\_\_\_\_\_  
*DATE*



## **Definitions**

**Disabled Veteran-Owned Business Enterprise** means a business that meets all of the following criteria:

- is a sole proprietorship or partnership of which is at least 51 percent owned by one or more disabled veterans, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.
- the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
- is a sole proprietorship, corporation, partnership, or joint venture with its primary headquarters office located in the United States and which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.

**Joint Venture** means that one party to the joint venture is a DVBE and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that DVBE will receive at least 51 percent of the project dollars.

**Local Business** means a business that meets all of the following criteria:

- has an ongoing business within the boundary of SCAQMD at the time of bid application.
- performs 90 percent of the work within SCAQMD's jurisdiction.

**Minority-Owned Business Enterprise** means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more minority persons or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more minority persons.
- is a business whose management and daily business operations are controlled or owned by one or more minority person.
- is a business which is a sole proprietorship, corporation, partnership, joint venture, an association, or a cooperative with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

"Minority" person means a Black American, Hispanic American, Native American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian American (including a person whose origins are from India, Pakistan, or Bangladesh), Asian-Pacific American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, or Taiwan).

**Small Business Enterprise** means a business that meets the following criteria:

- a. 1) an independently owned and operated business; 2) not dominant in its field of operation; 3) together with affiliates is either:
  - **A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or**
  - A manufacturer with 100 or fewer employees.
- b. Manufacturer means a business that is both of the following:
  - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.
  - 2) Classified between Codes 311000 to 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.



**Small Business Joint Venture** means that one party to the joint venture is a Small Business and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that the Small Business will receive at least 51 percent of the project dollars.

**Women-Owned Business Enterprise** means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more women or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more women.
- is a business whose management and daily business operations are controlled or owned by one or more women.
- is a business which is a sole proprietorship, corporation, partnership, or a joint venture, with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

**Most Favored Customer** as used in this policy means that the SCAQMD will receive at least as favorable pricing, warranties, conditions, benefits and terms as other customers or clients making similar purchases or receiving similar services.



**Request for Taxpayer  
Identification Number and Certification**

► Go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9) for instructions and the latest information.

Give Form to the  
requester. Do not  
send to the IRS.

Print or type. See Specific Instructions on page 3.	<b>1</b> Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	<b>2</b> Business name/disregarded entity name, if different from above	
	<b>3</b> Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only <b>one</b> of the following seven boxes.  <input type="checkbox"/> Individual/sole proprietor or single-member LLC  <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► _____ <b>Note:</b> Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is <b>not</b> disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.  <input type="checkbox"/> Other (see instructions) ► _____	<b>4</b> Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):  Exempt payee code (if any) _____  Exemption from FATCA reporting code (if any) _____  <i>(Applies to accounts maintained outside the U.S.)</i>
	<b>5</b> Address (number, street, and apt. or suite no.) See instructions.	Requester's name and address (optional)
	<b>6</b> City, state, and ZIP code	
	<b>7</b> List account number(s) here (optional)	

**Part I Taxpayer Identification Number (TIN)**

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

**Note:** If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

<b>Social security number</b>										
					-					
or										
<b>Employer identification number</b>										
					-					

**Part II Certification**

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

<b>Sign Here</b>	<b>Signature of U.S. person ►</b>	<b>Date ►</b>

**General Instructions**

Section references are to the Internal Revenue Code unless otherwise noted.

**Future developments.** For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9).

**Purpose of Form**

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

*If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.*



By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

**Note:** If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

**Foreign person.** If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, *Withholding of Tax on Nonresident Aliens and Foreign Entities*).

**Nonresident alien who becomes a resident alien.** Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

**Example.** Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

## Backup Withholding

**What is backup withholding?** Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

**Payments you receive will be subject to backup withholding if:**

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the instructions for Part II for details),
3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships*, earlier.

## What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

## Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

## Penalties

**Failure to furnish TIN.** If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

**Civil penalty for false information with respect to withholding.** If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.



**Criminal penalty for falsifying information.** Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

**Misuse of TINs.** If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

## Specific Instructions

### Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

**Note: ITIN applicant:** Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

### Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

### Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

### Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

#### Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)

2—The United States or any of its agencies or instrumentalities

3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

4—A foreign government or any of its political subdivisions, agencies, or instrumentalities

5—A corporation

6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession

7—A futures commission merchant registered with the Commodity Futures Trading Commission

8—A real estate investment trust

9—An entity registered at all times during the tax year under the Investment Company Act of 1940

10—A common trust fund operated by a bank under section 584(a)

11—A financial institution

12—A middleman known in the investment community as a nominee or custodian

13—A trust exempt from tax under section 664 or described in section 4947



The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 <sup>1</sup>	Generally, exempt payees 1 through 5 <sup>2</sup>
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

<sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

<sup>2</sup> However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

**Exemption from FATCA reporting code.** The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

**Note:** You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

## Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

## Line 6

Enter your city, state, and ZIP code.

## Part I. Taxpayer Identification Number (TIN)

**Enter your TIN in the appropriate box.** If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

**Note:** See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

**How to get a TIN.** If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at [www.SSA.gov](http://www.SSA.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/Businesses](http://www.irs.gov/Businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. Go to [www.irs.gov/Forms](http://www.irs.gov/Forms) to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to [www.irs.gov/OrderForms](http://www.irs.gov/OrderForms) to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

**Note:** Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

**Caution:** A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

## Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

**Signature requirements.** Complete the certification as indicated in items 1 through 5 below.



**1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.** You must give your correct TIN, but you do not have to sign the certification.

**2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

**3. Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.

**4. Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

## What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account <sup>1</sup>
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
5. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee <sup>1</sup> The actual owner <sup>1</sup>
6. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor <sup>4</sup>
For this type of account:	Give name and EIN of:
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity <sup>4</sup>
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

<sup>1</sup> List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

<sup>2</sup> Circle the minor's name and furnish the minor's SSN.

<sup>3</sup> You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.

**\*Note:** The grantor also must provide a Form W-9 to trustee of trust.

**Note:** If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

## Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

**Protect yourself from suspicious emails or phishing schemes.** Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.



The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to [phishing@irs.gov](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at [spam@uce.gov](mailto:spam@uce.gov) or report them at [www.ftc.gov/complaint](http://www.ftc.gov/complaint). You can contact the FTC at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see [www.IdentityTheft.gov](http://www.IdentityTheft.gov) and Pub. 5027.

Visit [www.irs.gov/IdentityTheft](http://www.irs.gov/IdentityTheft) to learn more about identity theft and how to reduce your risk.

## Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.



**2018 Withholding Exemption Certificate****590**

The payee completes this form and submits it to the withholding agent. The withholding agent keeps this form with their records.

**Withholding Agent Information**

Name \_\_\_\_\_

**Payee Information**

Name \_\_\_\_\_

☐ SSN or ITIN ☐ FEIN ☐ CA Corp no. ☐ CA SOS file no.

Address (apt./sta., room, PO box, or PMB no.) \_\_\_\_\_

City (if you have a foreign address, see instructions.) \_\_\_\_\_

State \_\_\_\_\_

ZIP code \_\_\_\_\_

**Exemption Reason****Check only one box.**

By checking the appropriate box below, the payee certifies the reason for the exemption from the California income tax withholding requirements on payment(s) made to the entity or individual.

☐ **Individuals — Certification of Residency:**

I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

☐ **Corporations:**

The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

☐ **Partnerships or Limited Liability Companies (LLCs):**

The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.

☐ **Tax-Exempt Entities:**

The entity is exempt from tax under California Revenue and Taxation Code (R&amp;TC) Section 23701 \_\_\_\_\_ (insert letter) or Internal Revenue Code Section 501(c) \_\_\_\_\_ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.

☐ **Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit-Sharing Plans:**

The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.

☐ **California Trusts:**

At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.

☐ **Estates — Certification of Residency of Deceased Person:**

I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.

☐ **Nonmilitary Spouse of a Military Servicemember:**

I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

**CERTIFICATE OF PAYEE: Payee must complete and sign below.**To learn about your privacy rights, how we may use your information, and the consequences for not providing the requested information, go to [ftb.ca.gov/forms](http://ftb.ca.gov/forms) and search for 1131. To request this notice by mail, call 800.852.5711.

Under penalties of perjury, I declare that I have examined the information on this form, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. I further declare under penalties of perjury that if the facts upon which this form are based change, I will promptly notify the withholding agent.

Type or print payee's name and title \_\_\_\_\_ Telephone (\_\_\_\_) \_\_\_\_\_

Payee's signature ► \_\_\_\_\_ Date \_\_\_\_\_



# 2017 Instructions for Form 590

## Withholding Exemption Certificate

References in these instructions are to the California Revenue and Taxation Code (R&TC).

### General Information

**Registered Domestic Partners (RDP)** – For purposes of California income tax, references to a spouse, husband, or wife also refer to a Registered Domestic Partner (RDP) unless otherwise specified. For more information on RDPs, get FTB Pub. 737, Tax Information for Registered Domestic Partners.

### A Purpose

Use Form 590, Withholding Exemption Certificate, to certify an exemption from nonresident withholding.

Form 590 does not apply to payments of backup withholding. For more information, go to [ftb.ca.gov](http://ftb.ca.gov) and search for **backup withholding**.

Form 590 does not apply to payments for wages to employees. Wage withholding is administered by the California Employment Development Department (EDD). For more information, go to [edd.ca.gov](http://edd.ca.gov) or call 888.745.3886.

**Do not** use Form 590 to certify an exemption from withholding if you are a **Seller of California real estate**. Sellers of California real estate use Form 593-C, Real Estate Withholding Certificate, to claim an exemption from the real estate withholding requirement.

**The following are excluded from withholding and completing this form:**

- The United States and any of its agencies or instrumentalities.
- A state, a possession of the United States, the District of Columbia, or any of its political subdivisions or instrumentalities.
- A foreign government or any of its political subdivisions, agencies, or instrumentalities.

### B Income Subject to Withholding

California Revenue and Taxation Code (R&TC) Section 18662 requires withholding of income or franchise tax on payments of California source income made to nonresidents of California.

Withholding is required on the following, but is not limited to:

- Payments to nonresidents for services rendered in California.
- Distributions of California source income made to domestic nonresident partners, members, and S corporation shareholders and allocations of California source income made to foreign partners and members.
- Payments to nonresidents for rents if the payments are made in the course of the withholding agent's business.
- Payments to nonresidents for royalties from activities sourced to California.

- Distributions of California source income to nonresident beneficiaries from an estate or trust.
- Endorsement payments received for services performed in California.
- Prizes and winnings received by nonresidents for contests in California.

However, withholding is optional if the total payments of California source income are \$1,500 or less during the calendar year.

For more information on withholding get FTB Pub. 1017, Resident and Nonresident Withholding Guidelines. To get a withholding publication, see Additional Information.

### C Who Certifies this Form

Form 590 is certified by the payee. California residents or entities exempt from the withholding requirement should complete Form 590 and submit it to the withholding agent before payment is made. The withholding agent is then relieved of the withholding requirements if the agent relies in good faith on a completed and signed Form 590 unless notified by the Franchise Tax Board (FTB) that the form should not be relied upon.

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed exemption certificate, the withholding agent may accept a letter from the payee as a substitute explaining why they are not subject to withholding. The letter must contain all the information required on the certificate in similar language, including the under penalty of perjury statement and the payee's taxpayer identification number (TIN). The withholding agent must retain a copy of the certificate or substitute for at least five years after the last payment to which the certificate applies, and provide it upon request to the FTB.

If an entertainer (or the entertainer's business entity) is paid for a performance, the entertainer's information must be provided. **Do not** submit the entertainer's agent or promoter information.

The grantor of a grantor trust shall be treated as the payee for withholding purposes. Therefore, if the payee is a grantor trust and one or more of the grantors is a nonresident, withholding is required. If all of the grantors on the trust are residents, no withholding is required. Resident grantors can check the box on Form 590 labeled "Individuals — Certification of Residency."

### D Definitions

For California nonwage withholding purposes, **nonresident** includes all of the following:

- Individuals who are not residents of California.
- Corporations not qualified through the California Secretary of State (CA SOS) to do business in California or having no permanent place of business in California.
- Partnerships or limited liability companies (LLCs) with no permanent place of business in California.
- Any trust without a resident grantor, beneficiary, or trustee, or estates where the decedent was not a California resident.

Foreign refers to non-U.S.

For more information about determining resident status, get FTB Pub. 1031, Guidelines for Determining Resident Status. Military servicemembers have special rules for residency. For more information, get FTB Pub. 1032, Tax Information for Military Personnel.

#### Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or it has qualified through the CA SOS to transact intrastate business. A corporation that has not qualified to transact intrastate business (e.g., a corporation engaged exclusively in interstate commerce) will be considered as having a permanent place of business in California only if it maintains a permanent office in California that is permanently staffed by its employees.

### E Military Spouse Residency Relief Act (MSRRA)

Generally, for tax purposes you are considered to maintain your existing residence or domicile. If a military servicemember and nonmilitary spouse have the same state of domicile, the MSRRA provides:

- A spouse shall not be deemed to have lost a residence or domicile in any state solely by reason of being absent to be with the servicemember serving in compliance with military orders.
- A spouse shall not be deemed to have acquired a residence or domicile in any other state solely by reason of being there to be with the servicemember serving in compliance with military orders.

**Domicile** is defined as the one place:

- Where you maintain a true, fixed, and permanent home.
- To which you intend to return whenever you are absent.



A military servicemember's nonmilitary spouse is considered a nonresident for tax purposes if the servicemember and spouse have the same domicile outside of California and the spouse is in California solely to be with the servicemember who is serving in compliance with Permanent Change of Station orders.

California may require nonmilitary spouses of military servicemembers to provide proof that they meet the criteria for California personal income tax exemption as set forth in the MSRRRA.

Income of a military servicemember's nonmilitary spouse for services performed in California is not California source income subject to state tax if the spouse is in California to be with the servicemember serving in compliance with military orders, and the servicemember and spouse have the same domicile in a state other than California.

For additional information or assistance in determining whether the applicant meets the MSRRRA requirements, get FTB Pub. 1032.

## Specific Instructions

### Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the TIN and check the appropriate TIN box.

You must provide a valid TIN as requested on this form. The following are acceptable TINs: social security number (SSN); individual taxpayer identification number (ITIN); federal employer identification number (FEIN); California corporation number (CA Corp no.); or CA SOS file number.

**Private Mail Box (PMB)** – Include the PMB in the address field. Write "PMB" first, then the box number. Example: 111 Main Street PMB 123.

**Foreign Address** – Follow the country's practice for entering the city, county, province, state, country, and postal code, as applicable, in the appropriate boxes. **Do not** abbreviate the country name.

**Exemption Reason** – Check the box that reflects the reason why the payee is exempt from the California income tax withholding requirement.

### Withholding Agent Instructions

**Do not** send this form to the FTB. The withholding agent retains this form for a minimum of five years or until the payee's status changes, and must provide this form to the FTB upon request.

The payee must notify the withholding agent if any of the following situations occur:

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.

- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

If any of these situations occur, then withholding may be required. For more information, get Form 592, Resident and Nonresident Withholding Statement, Form 592-B, Resident and Nonresident Withholding Tax Statement, and Form 592-V, Payment Voucher for Resident and Nonresident Withholding.

## Additional Information

**Website:** For more information go to [ftb.ca.gov](http://ftb.ca.gov) and search for **nonwage**.

**MyFTB** offers secure online tax account information and services. For more information and to register, go to [ftb.ca.gov](http://ftb.ca.gov) and search for **myftb**.

**Telephone:** 888.792.4900 or 916.845.4900, Withholding Services and Compliance phone service

**Fax:** 916.845.9512

**Mail:** WITHHOLDING SERVICES AND COMPLIANCE MS F182  
FRANCHISE TAX BOARD  
PO BOX 942867  
SACRAMENTO CA 94267-0651

For questions unrelated to withholding, or to download, view, and print California tax forms and publications, or to access the TTY/TDD numbers, see the information below.

### Internet and Telephone Assistance

**Website:** [ftb.ca.gov](http://ftb.ca.gov)

**Telephone:** 800.852.5711 from within the United States  
916.845.6500 from outside the United States

**TTY/TDD:** 800.822.6268 for persons with hearing or speech impairments

### Asistencia Por Internet y Teléfono

**Sitio web:** [ftb.ca.gov](http://ftb.ca.gov)

**Teléfono:** 800.852.5711 dentro de los Estados Unidos  
916.845.6500 fuera de los Estados Unidos

**TTY/TDD:** 800.822.6268 para personas con discapacidades auditivas o de habla



## **Certification Regarding Debarment, Suspension, and Other Responsibility Matters**

The prospective participant certifies to the best of its knowledge and belief that it and the principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them or commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statute or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

---

Typed Name & Title of Authorized Representative

---

Signature of Authorized Representative Date

☐ I am unable to certify to the above statements. My explanation is attached.

---





## CAMPAIGN CONTRIBUTIONS DISCLOSURE

In accordance with California law, bidders and contracting parties are required to disclose, at the time the application is filed, information relating to any campaign contributions made to South Coast Air Quality Management District (SCAQMD) Board Members or members/alternates of the MSRC, including: the name of the party making the contribution (which includes any parent, subsidiary or otherwise related business entity, as defined below), the amount of the contribution, and the date the contribution was made. 2 C.C.R. §18438.8(b).

California law prohibits a party, or an agent, from making campaign contributions to SCAQMD Governing Board Members or members/alternates of the Mobile Source Air Pollution Reduction Review Committee (MSRC) of more than \$250 while their contract or permit is pending before SCAQMD; and further prohibits a campaign contribution from being made for three (3) months following the date of the final decision by the Governing Board or the MSRC on a donor's contract or permit. Gov't Code §84308(d). For purposes of reaching the \$250 limit, the campaign contributions of the bidder or contractor plus contributions by its parents, affiliates, and related companies of the contractor or bidder are added together. 2 C.C.R. §18438.5.

In addition, SCAQMD Board Members or members/alternates of the MSRC must abstain from voting on a contract or permit if they have received a campaign contribution from a party or participant to the proceeding, or agent, totaling more than \$250 in the 12-month period prior to the consideration of the item by the Governing Board or the MSRC. Gov't Code §84308(c).

The list of current SCAQMD Governing Board Members can be found at SCAQMD website ([www.aqmd.gov](http://www.aqmd.gov)). The list of current MSRC members/alternates can be found at the MSRC website (<http://www.cleantransportationfunding.org>).

### **SECTION I.**

**Contractor (Legal Name):** \_\_\_\_\_

DBA, Name \_\_\_\_\_, County Filed in \_\_\_\_\_

Corporation, ID No. \_\_\_\_\_

LLC/LLP, ID No. \_\_\_\_\_

**List any parent, subsidiaries, or otherwise affiliated business entities of Contractor:**  
(See definition below).

\_\_\_\_\_  
\_\_\_\_\_

### **SECTION II.**

Has Contractor and/or any parent, subsidiary, or affiliated company, or agent thereof, made a campaign contribution(s) totaling \$250 or more in the aggregate to a current member of the South Coast Air Quality Management Governing Board or member/alternate of the MSRC in the 12 months preceding the date of execution of this disclosure?

☐ Yes ☐ No

**If YES, complete Section II below and then sign and date the form.  
If NO, sign and date below. Include this form with your submittal.**



**Campaign Contributions Disclosure, *continued*:**

Name of Contributor \_\_\_\_\_

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

Name of Contributor \_\_\_\_\_

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

Name of Contributor \_\_\_\_\_

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

Name of Contributor \_\_\_\_\_

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

**I declare the foregoing disclosures to be true and correct.**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**DEFINITIONS**

Parent, Subsidiary, or Otherwise Related Business Entity (2 Cal. Code of Regs., §18703.1(d).)

- (1) Parent subsidiary. A parent subsidiary relationship exists when one corporation directly or indirectly owns shares possessing more than 50 percent of the voting power of another corporation.
- (2) Otherwise related business entity. Business entities, including corporations, partnerships, joint ventures and any other organizations and enterprises operated for profit, which do not have a parent subsidiary relationship are otherwise related if any one of the following three tests is met:
  - (A) One business entity has a controlling ownership interest in the other business entity.
  - (B) There is shared management and control between the entities. In determining whether there is shared management and control, consideration should be given to the following factors:
    - (i) The same person or substantially the same person owns and manages the two entities;
    - (ii) There are common or commingled funds or assets;
    - (iii) The business entities share the use of the same offices or employees, or otherwise share activities, resources or personnel on a regular basis;
    - (iv) There is otherwise a regular and close working relationship between the entities; or
  - (C) A controlling owner (50% or greater interest as a shareholder or as a general partner) in one entity also is a controlling owner in the other entity.





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

## Direct Deposit Authorization

### STEP 1: Please check all the appropriate boxes

- |  |  |
|--|--|
| <input type="checkbox"/> Individual (Employee, Governing Board Member) | <input type="checkbox"/> New Request           |
| <input type="checkbox"/> Vendor/Contractor                             | <input type="checkbox"/> Cancel Direct Deposit |
| <input type="checkbox"/> Changed Information                           |  |

### STEP 2: Payee Information

Last Name	First Name	Middle Initial	Title
Vendor/Contractor Business Name (if applicable)			
Address		Apartment or P.O. Box Number	
City	State	Zip	Country
Taxpayer ID Number	Telephone Number	Email Address	

### Authorization

- I authorize South Coast Air Quality Management District (SCAQMD) to direct deposit funds to my account in the financial institution as indicated below. I understand that the authorization may be rejected or discontinued by SCAQMD at any time. If any of the above information changes, I will promptly complete a new authorization agreement. If the direct deposit is not stopped before closing an account, funds payable to me will be returned to SCAQMD for distribution. This will delay my payment.
- This authorization remains in effect until SCAQMD receives written notification of changes or cancellation from you.
- I hereby release and hold harmless SCAQMD for any claims or liability to pay for any losses or costs related to insufficient fund transactions that result from failure within the Automated Clearing House network to correctly and timely deposit monies into my account.

### STEP 3:

You must verify that your bank is a member of an Automated Clearing House (ACH). Failure to do so could delay the processing of your payment. You must attach a voided check or have your bank complete the bank information and the account holder must sign below.

### To be Completed by your Bank

Staple Voided Check Here	Name of Bank/Institution		
	Account Holder Name(s)		
	<input type="checkbox"/> Saving <input type="checkbox"/> Checking	Account Number	Routing Number
	Bank Representative Printed Name	Bank Representative Signature	Date
	ACCOUNT HOLDER SIGNATURE:		Date

For SCAQMD Use  
Only

Input By \_\_\_\_\_

Date \_\_\_\_\_



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 5

**PROPOSAL:** Adopt Resolution Recognizing Funds and Accepting Terms and Conditions for FY 2017-18 Carl Moyer Program Award, Issue Program Announcements for Carl Moyer Program and SOON Provision, Transfer Funds for Voucher Incentive Program and Amend Contract

**SYNOPSIS:** These actions are to adopt a Resolution recognizing up to \$27 million in Carl Moyer Program grant awards from CARB under SB 1107 with its terms and conditions for FY 2017-18 and issue Program Announcements for the FY 2017-18 “Year 20” Carl Moyer Program and SOON Provision to provide incentive funding for low emitting on- and off-road vehicles and equipment. Funding for the Carl Moyer and SOON projects will be provided from the Carl Moyer Program SB 1107, AB 134 and AB 923 funds. This action is to also transfer \$2 million from the Carl Moyer Program AB 923 Special Revenue Fund (80) to the Voucher Incentive Program Fund (59) to continue funding truck replacement projects on a first-come, first-served basis. Finally, this action is to amend a contract, adding an additional \$105,677 from the Carl Moyer Program SB 1107 Fund (32).

**COMMITTEE:** Technology, February 16, 2018; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Adopt the attached Resolution recognizing upon receipt up to \$27 million from CARB into the Carl Moyer Program SB 1107 Fund (32), and authorize the Executive Officer to accept the terms and conditions of the FY 2017-18 Carl Moyer Program grant award;
2. Issue Program Announcement #PA2018-06 to solicit projects for the FY 2017-18 “Year 20” Carl Moyer Memorial Air Quality Standards Attainment Program;
3. Issue Program Announcement #PA2018-05 to solicit projects for the SOON Provision;
4. Approve the transfer of \$2 million from the Carl Moyer Program AB 923 Special Revenue Fund (80) to the Voucher Incentive Program Fund (59) to continue funding truck replacement projects on a first-come, first-served basis; and



5. Authorize the Chairman to amend a contract with Griffith Company, adding an additional \$105,677 to the \$668,460 previously awarded, for the replacement of ten off-road equipment from the Carl Moyer Program SB 1107 Fund (32).

Wayne Natri  
Executive Officer

MMM:FM

---

### **Background**

The Carl Moyer Memorial Air Quality Standards Attainment Program (CMP) and the Surplus Off-Road Opt-in for NO<sub>x</sub> (SOON) Provision provide funding on an incentive basis for the incremental cost of purchasing cleaner than required engines and equipment. Both programs are funded with Carl Moyer Program SB 1107 and AB 923 funds. This is the 20<sup>th</sup> year of the CMP and the 14<sup>th</sup> year of the SOON Program with funding from SB 1107 and AB 923. This year, additional funds will be available from AB 134, which was approved by the Governor on September 16, 2017, as an amendment to the Budget Act of 2017.

To date, about \$35 million in incentive funds have been awarded for the replacement of over 1,000 older trucks through the Voucher Incentive Program (VIP). Additional funds are needed to transfer to the VIP Fund (59) to continue the successful implementation of this program.

On November 3, 2017, the Board approved Carl Moyer Program SB 1107 awards including an award of \$668,460 to Griffith Company for the replacement of ten off-road equipment. Subsequently, staff realized the amount awarded was incorrect due to a mathematical error.

### **Proposal**

These actions are to adopt the attached Resolution recognizing upon receipt up to \$27 million from CARB into the Carl Moyer Program SB 1107 Fund (32) for implementation of the FY 2017-18 “Year 20” CMP and authorize the Executive Officer to accept the terms and conditions of the FY 2017-18 Carl Moyer Grant award. CARB has tentatively allocated \$26,332,517 to the SCAQMD. Of this amount, \$24,686,735 is designated for project funding and \$1,645,782 for administrative and outreach efforts. In addition, \$3,949,878 is required from the SCAQMD as the local match, which will be provided from AB 923 funds.

This action is to also issue Program Announcements #PA2018-06 and #PA2018-05 for the Carl Moyer Program and the SOON Provision, respectively. The approximate amounts of available funding from SB 1107 and AB 923 funds are \$25 million for the



Carl Moyer Program and \$4 million for the SOON Provision. Additional funds of up to approximately \$51 million from AB 134 funds may become available by the time of awards approval. A detailed account of available funds from the Carl Moyer Program Fund, including earned interest and the distribution of SB 1107, AB 923 and the AB 134 funds will be outlined at the time of awards recommendations.

The Carl Moyer PA solicits projects for on-road vehicles, off-road vehicles of small and medium-sized fleets, locomotives, marine and port applications and other vehicles and equipment. The SOON Provision PA solicits projects for off-road vehicles in large fleets. As in previous years, SCAQMD will only fund diesel-to-diesel applications when alternative fuel engines/vehicles are not commercially available or certified by CARB, except for emergency vehicles.

Based on the provisions of SB 513 approved by the Governor on October 8, 2015, the new Carl Moyer Program Guidelines approved by the CARB Board on April 27, 2017, will be utilized for evaluation of the projects. Applicants will be able to submit their applications for both the Carl Moyer Program and the SOON Provision online. Proposals for all categories will be due by 1:00 pm on Tuesday, June 5, 2018. Staff expects to finalize the review and evaluation of the proposals and recommend awards for Board consideration at the October 2018 Board meeting. The Carl Moyer Program and the SOON Provision PAs are attached.

This action is to also approve the transfer of \$2 million from the Carl Moyer Program AB 923 Special Revenue Fund (80) to the Voucher Incentive Program Fund (59) to continue funding truck replacement projects on a first-come, first-served basis.

Finally, this action is to authorize the Chairman to amend a contract with Griffith Company, adding an additional \$105,677 to the \$668,460 previously awarded for the replacement of ten off-road equipment from the Carl Moyer Program SB 1107 Fund (32). This is to correct a mathematical error.

### **Funding Distribution**

The CMP Guidelines includes the requirement that at least 50 percent of the program funds must be spent in disproportionately impacted areas. At least half the funding allocated under SB 1107 and collected under AB 923 will be awarded to projects located in disproportionately impacted areas. It has been the policy of the SCAQMD to allocate at least 50 percent of all funding available in the CMP and the SOON Provision, including roll-over funding from previous years and turn back funds, to disproportionately impacted areas.

For implementation of projects with AB 134 funds, specific outreach efforts and meetings are required to be conducted in disadvantaged and low-income communities, and at least 80 percent of the funds be spent in those areas and communities.



Staff will utilize the latest version CalEnviroScreen for identification of projects in disadvantaged communities and in areas within half a mile of a disadvantaged community and within a low-income community under the provisions of AB 1550. A detailed distribution list of the recommended projects and a description of SCAQMD's outreach efforts during the solicitation period will be provided to the Board at the time of the awards recommendations.

### **Outreach**

In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the PAs 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 South Coast Basin.

Additionally, potential bidders may be notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the PAs will be emailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at SCAQMD's website (<http://www.aqmd.gov>) where it can be viewed by making menu selection "Grants & Bids."

### **Program Guideline**

At its July 8, 2005 meeting, the Board approved a long-term Program Guideline for the implementation of the Carl Moyer Program in the South Coast Air Basin. The proposed funding distribution for different equipment categories in this Board letter is made according to the criteria outlined in that Guideline with emphasis on the following priorities in order to achieve the highest emission reductions:

- Goods Movement (40 percent allocation);
- Environmental Justice (50 percent allocation);
- Cost-Effectiveness;
- Low Emission Engine / Vehicle Preference;
- Early Commercialization of Advanced Technologies/Fuels;
- Fleet Rules; and
- School Buses.

### **Funding Distribution**

The CMP Guidelines includes the requirement that at least 50 percent of the program funds must be spent in disproportionately impacted areas. At least half the funding allocated under SB 1107 and collected under AB 923 will be awarded to projects located in disproportionately impacted areas. It has been the policy of the SCAQMD to allocate at least 50 percent of all funding available in the CMP and the SOON Provision, including roll-over funding from previous years and turn back funds, to disproportionately impacted areas. The SCAQMD consistently meets this goal and has



expended more than 50 percent of the CMP and SOON funds on projects in disproportionately impacted areas.

### **Benefits to SCAQMD**

The SCAQMD has supported a number of activities directed to the advancement of new technologies and commercialization of low emission alternative fuel technologies. The successful implementation of the Carl Moyer Program and the SOON Provision are direct results of these technology advancement activities. The vehicles and equipment funded under these Program Announcements will operate many years, providing long-term emission reductions.

### **Resource Impacts**

CARB has tentatively allocated \$26,332,517 to the SCAQMD under SB 1107 for implementation of the FY 2017-18 “Year 20” CMP. Of this amount, \$24,686,735 is designated for project funding and \$1,645,782 for administrative and outreach efforts. These funds will be recognized into the Carl Moyer Program SB 1107 Fund (32). In addition, \$3,949,878, which will be provided from AB 923 funds, is required as the local match from the SCAQMD.

The transfer from the Carl Moyer Program AB 923 Special Revenue Fund (80) to the Voucher Incentive Program Fund (59) will not exceed \$2 million, and funding for the contract amendment will not exceed \$105,677 from the Carl Moyer Program SB 1107 Fund (32).

### **Attachments**

1. Resolution
2. Carl Moyer Program Announcement #PA2018-06
3. SOON Provision Program Announcement #PA2018-05



**RESOLUTION NO. 18-\_\_\_\_\_**

**A Resolution of the South Coast Air Quality Management District Board  
Recognizing Funds and Accepting the Terms and Conditions of the  
FY 2017-18 Carl Moyer Grant Award**

WHEREAS, under Health & Safety Code §40400 et seq., the South Coast Air Quality Management District (SCAQMD) 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 SCAQMD is authorized by Health & Safety Code §§40402, 40440, and 40448.5 as well as the Carl Moyer Memorial Air Quality Standards Attainment Program (§44275, et seq.) to implement programs to reduce transportation emissions, including programs to encourage the use of alternative fuels 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 the School Bus Incentive Program and the Carl Moyer Program; and

WHEREAS, the SCAQMD is designated as an extreme non-attainment area for ozone and as such is required to utilize all feasible means to meet national ambient air quality standards.

THEREFORE, BE IT RESOLVED that the Governing Board, in regular session assembled on March 2, 2018, does hereby accept the terms and conditions of the FY 2017-18 (Year 20) Carl Moyer Program grant award and recognizes up to \$27 million in SB 1107 funds.

BE IT FURTHER RESOLVED that the Executive Officer is authorized and directed to take all steps necessary to carry out this Resolution.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Denise Garzaro, Clerk of the Boards





**2018  
CARL MOYER MEMORIAL  
AIR QUALITY STANDARDS ATTAINMENT PROGRAM  
PROGRAM ANNOUNCEMENT  
“Year 20”**

**SCAQMD PROGRAM ANNOUNCEMENT  
#PA2018-06**

The South Coast Air Quality Management District (SCAQMD) is pleased to announce the availability of funds from the Carl Moyer Memorial Air Quality Standards Attainment Program (hereafter “CMP”). The CMP has played a significant role in incentivizing equipment owners to purchase cleaner-than-required engines, vehicles and equipment. This year marks the 20<sup>th</sup> year of implementation of the CMP by the SCAQMD.

The CMP is intended to obtain “surplus” emission reductions of Nitrogen Oxides (NO<sub>x</sub>), Particulate Matter (PM<sub>10</sub>) and Reactive Organic Gases (ROG) from heavy-duty vehicles and other equipment operating in California as early and as cost-effectively as possible. The CMP provides financial incentives to equipment owners to repower, retrofit or replace in-use heavy-duty vehicles and equipment with cleaner-than-required engine and equipment technologies that will achieve emission reductions that are real, surplus, quantifiable and enforceable.

**SECTION I – OVERVIEW**

**PURPOSE**

The purpose of this Program Announcement (PA) is to solicit project applications for the 2018 Carl Moyer Memorial Air Quality Standards Attainment Program (CMP). **The budget for this PA will be approximately \$25 million from the CMP Fund. Additional funds through AB 134 are anticipated to be available for this Program Announcement.**

All applications will be evaluated based on the criteria set forth in this PA, the CMP Guidelines, and all subsequent updates and modifications/advisories to the Guidelines. This PA was prepared based on the latest version of the CMP Guidelines approved by the California Air Resources Board (CARB) on April 27, 2017, which are available online at:

<http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>.

This PA will identify the equipment categories, project options and key eligibility criteria to qualify for this year’s CMP. The detailed requirements for projects can be found in the CMP Guidelines. Applicants are encouraged to review the CMP Guidelines to confirm eligibility and understand the funding “caps” that may apply to certain types of projects.

In the preparation of this PA, the words “Applicant,” “Contractor,” and “Consultant” are used interchangeably.



## WHAT'S NEW?

In September 2017, the Governor approved AB 134 as an amendment to the Budget Act of 2017. Under Section 3 of this bill, \$250 million will be distributed by CARB to air districts for implementation of projects pursuant to the Carl Moyer Program. SCAQMD's allocation of these funds is \$107.5 million. Based on a successful solicitation last year, the SCAQMD's Governing Board approved about \$51 million in eligible projects for AB 134. This leaves a balance of approximately \$50 million in AB 134 funds. The SCAQMD anticipates the availability of AB 134 funds for eligible projects under this solicitation.

AB 1274 (O'Donnell) was signed by the Governor in October 2017 and will result in the postponement of smog checks on new vehicles from Year 6 to Year 8. A fee of \$25 per year for each year the vehicle is exempted from smog check will be charged by DMV, and the revenues from the fee will be directed to the Carl Moyer Program. AB 1274 is expected to increase the current funding level for the Carl Moyer Program by more than double starting in January 2019.

## FUNDING CATEGORIES

Below are the specific project categories identified for funding under this PA:

- On-Road Heavy-Duty Vehicles, including Emergency Vehicles (Fire Apparatus)
- Off-Road Equipment, including:
  - Marine Engine Repower
  - Shore Power (if project is not subject to CARB's At-Berth Regulation)
  - Construction Equipment
  - Agricultural Mobile Equipment (loaders, tractors, water pulls, etc.)
  - Locomotives
  - Cargo Handling Equipment
- Infrastructure to fuel or power a covered source under the CMP, including but not limited to: on-road heavy-duty vehicles, off-road equipment, agricultural equipment and marine vessels.

### On-Road Heavy-Duty Vehicles

Below are the key requirements for on-road, heavy-duty vehicle projects:

- Fleets must be fully compliant with all applicable fleet regulations. Eligible project types include vehicle replacement and repower/conversion projects; on-road retrofit projects will be considered on a case-by-case basis.
- Eligible vehicle types include heavy-duty trucks and buses, transit buses, solid waste collection vehicles, public agency and utility fleet vehicles and emergency vehicles (however, emergency vehicles are only eligible under the replacement project type).
- In addition to the cost-effectiveness limit(s) prescribed by the CMP Guidelines, each vehicle/engine is also subject to a funding cap<sup>1</sup> based on various factors including weight class (i.e., GVWR), vehicle type, and the proposed technology. The maximum grant award will be based on the allowable cost effectiveness and the funding caps, whichever is less.
- Projects must include commercially available technologies that are certified or verified by CARB.

---

<sup>1</sup> Funding caps are provided in Tables 4-2 through 4-7 in the CMP Guidelines.



## **Off-Road Heavy-Duty Equipment/Engines**

Below are the key requirements for the off-road equipment category:

- Fleets must be fully compliant with all applicable fleet regulations. Eligible project types include equipment replacement, engine repower and retrofit devices.
- Eligible equipment types include, but are not limited to: construction equipment, marine engines, shore power, locomotives, agricultural tractors, zero emission rubber-tired gantry (RTG) cranes and other cargo handling equipment.
- Large fleets are eligible for funding once after January 1, 2017. After January 1, 2017, for those large fleets eligible for funding a second or subsequent time, only zero-emission projects are eligible.

## **Infrastructure**

The 2017 update to the CMP Guidelines allows funding for infrastructure projects that will enable the deployment of alternative, advanced, and cleaner technologies to support the State's air quality goals. Specifically, projects that install fueling or energy infrastructure that will be used to fuel or power a "covered source" are now eligible for CMP funding consideration. A "covered source" includes heavy-duty on-road vehicles, off-road non-recreational equipment and vehicles, locomotives, marine vessels, agricultural sources of air pollution, and other categories as determined by CARB and SCAQMD that are necessary for the state and air district to meet air quality goals.

Infrastructure projects will be selected on a competitive basis. Infrastructure projects are not subject to a cost-effectiveness limit. Applicants must provide a minimum of two bids from qualified installers for the infrastructure project as part of the application. In addition, applicants shall describe the process used or that will be used to solicit and select the final bid. Infrastructure projects may also require a case by case review by CARB. Applicants must demonstrate that they either own the land on which the project will be located, or control it through a long-term lease, easement or other legal arrangement, for the duration of the project life.

Eligible infrastructure projects include, but are not limited to:

- Battery charging stations: New, conversion of existing, and expansion to existing battery charging stations for heavy-duty vehicles and equipment
- Alternative Fuel Station: New, conversion of existing, or expansion of existing hydrogen or natural gas fueling station for heavy duty vehicles and equipment
- Stationary Agricultural Station: Pump electrification
- Shore Power: Shore-side electrification for projects not subject to CARB's shore power regulation. Only a port authority, terminal operator, or marine vessel owner is eligible for this type of infrastructure project.

A vehicle or equipment project is not required to be submitted as a condition of eligibility for infrastructure funding.

Purchase orders or other purchase commitments to design and install the proposed infrastructure shall not be placed until after the date of award approval by the SCAQMD Governing Board. Further, any purchase commitments placed after SCAQMD Governing Board approval but in advance of a fully executed contract are placed at the applicant's own risk.



## Regulatory Compliance

All applicants must be fully compliant with all applicable regulations in order to be eligible for consideration for CMP funding. Refer to CARB's fleet rule Web pages that provide detailed information on compliance with these regulations. These are listed below in Section VI.

## GENERAL PROGRAM INFORMATION

The CMP award amount shall not exceed the project's incremental cost, applicable funding caps and cost-effectiveness limit(s). The "Step 1" cost effectiveness limit, \$30,000 per weighted ton of emissions reduced, applies to projects that bring vehicles and equipment up to current standards. The "Step 2" cost effectiveness limit, \$100,000 per weighted ton of emissions reduced, applies to projects that are zero-emission or meet the cleanest certified optional standard applicable (by source category).

All projects must meet the criteria stated in this PA and the CMP Guidelines in effect at the time of contract execution. A project's cost-effectiveness is determined based on the annualized cost of the project and the amount of NO<sub>x</sub>, ROG and PM<sub>10</sub> emission reductions that will be achieved by the project. Project cost-effectiveness is currently calculated according to the following formula:

$$\frac{\text{Annualized Cost (\$/year)}}{[\text{NO}_x \text{ reduction} + 20 (\text{combustion PM}_{10} \text{ reduction}) + \text{ROG reduction}] (\text{Tons/year})}$$

For projects that involve advanced technologies, the cost effectiveness will be calculated using the CMP's two-step calculation approach.<sup>2</sup>

All projects must be operational within eighteen (18) months of contract execution or by May 22, 2020, whichever is earlier. Some projects may have earlier in-service operational date requirements, if they are subject to CARB regulations.

It is the applicant's responsibility to ensure that the most current information and requirements are reflected in a submitted project application. Applicants should check the CARB website for updates and advisories to the guidelines ([www.arb.ca.gov/msprog/moyer/moyer.htm](http://www.arb.ca.gov/msprog/moyer/moyer.htm)).

In cases of conflict between CARB guidelines and SCAQMD criteria, the more stringent criteria will prevail. SCAQMD will post any new information and requirements on its CMP Web page at [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer).

Projects subject to CARB regulations must submit a copy of the most recent CARB compliance report(s) or other documentation that provides SCAQMD with clear understanding of the applicant's compliance status.

---

<sup>2</sup> Detailed guidance for the new two-step calculation approach, as well as all CMP emissions reduction and cost-effectiveness calculations is available at:

[https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017\\_gl\\_appendix\\_c.pdf](https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_c.pdf)



**All emission reductions resulting from funded projects will be credited to the Carl Moyer Program.** A grant shall not be made that, net of taxes, provides the applicant with funds in excess of the incremental cost of the project.

A project may be leveraged with other funding sources, including but not limited to: federal funding programs that reduce greenhouse gas (GHG) emissions, funding provided by the Alternative and Renewable Fuel and Vehicle Technology Program, Air Quality Improvement Program, or CARB's Low Carbon Transportation Investment funds to reduce GHG emissions, provided the grantee pays at least 15 percent of the project cost from non-public sources.

The applicant must disclose all funding sources at the time of application and will be required to report all funding sources prior to invoice payment. The sum of all grants and other funds applied toward the project shall not exceed the total project cost. The emission reductions paid for by the CMP shall not be claimed by the other funding sources.

### **ELIGIBILITY INFORMATION**

Emission reductions obtained through CMP projects must be real, surplus, quantifiable and enforceable. The emission reductions must not be required by any federal, state or local regulation, memorandum of agreement/understanding, settlement agreement, mitigation requirement or other legal mandate.

Engines operating under a regulatory compliance extension granted by CARB, an air district or the United States Environmental Protection Agency (U.S. EPA) are not eligible for funding.

Key program requirements for on- and off-road equipment categories are highlighted below; however, applicants are responsible for consulting the CMP guidelines for additional program limitations/requirements.

### **ON-ROAD VEHICLES**

For purposes of the CMP, the following on-road vehicle classifications are used:

<b>Vehicle Classification</b>	<b>GVWR</b>
Light Heavy-Duty (LHD)	14,001 to 19,500 pounds
Medium Heavy-Duty (MHD)	19,501 to 33,000 pounds
Heavy Heavy-Duty (HHD)	Over 33,000 pounds

The proposed vehicle must be in the same weight class as the existing vehicle (LHD, MHD or HHD). The engine must be certified to the applicable heavy-duty intended service class as shown on the engine certification Executive Order. However, the following cases may be allowed: 1) MHD engines may be installed in HHD vehicles with GVWR up to 36,300 lbs. (10 percent higher than 33,000 lbs. GVWR) with written warranty verification by engine and chassis manufacturer, or 2) HHD engines may be installed in MHD vehicles if necessary for vocational purposes but only if the GVWR are within 10 percent of the HHD intended service class (i.e., GVWR of 29,701 lbs. or greater).





Executive Orders for on-road vehicles may be downloaded at:  
<http://www.arb.ca.gov/msprog/onroad/cert/cert.php>.

Project emission reductions will be based on the lower of two 12-month periods of California usage during the previous twenty-four months. Fleet averages cannot be used.

### **Replacement**

This project type involves the replacement of an older, in-use vehicle with a newer, cleaner vehicle. The replacement engine must be 2013 or newer engine model year certified by CARB at or below the optional low NOx standard of 0.10 g/bhp-hr and PM emission standard of 0.01 g/bhp-hr. In alignment with SCAQMD's 2016 AQMP, all on-road projects under the CMP must select the optional low-NOx or zero emission technologies for fleet sizes of greater than 10 vehicles. Fleet size is determined based on the number of vehicles with a GVWR of 14,001 lbs or greater.

The SCAQMD requires that all on-road projects be operated within the SCAQMD jurisdiction for at least 75% of the time. Applicants must clearly demonstrate their compliance status with the applicable CARB regulation (i.e., Statewide Truck & Bus Regulation, Drayage Truck Regulation, Fleet Rule for Public Agencies & Utilities, Transit Bus Regulation, TRU ATCM, etc.) at the time of application submittal.

Please note that if you are an owner of a fleet with 10 or fewer vehicles (greater than 14,000 lbs. GVWR), you may be eligible for funding through the On-Road Voucher Incentive Program (VIP). Please refer to the SCAQMD's VIP Web page to explore funding opportunities for replacement at: [www.aqmd.gov/vip](http://www.aqmd.gov/vip).

In addition, the following on-road projects will be considered on a case-by-case basis:

- On-road vehicles with a GVWR between 8,501 and 14,000 pounds,
- Retrofits that reduce NOx by at least 15 percent; for engines that are certified above 0.01 g/bhp-hr PM, the retrofit must also reduce PM emissions by 85 percent,
- Zero-emission transport refrigeration units (TRUs).

### **Emergency Vehicles**

Authorized emergency vehicles, as described in California Vehicle Code 165, including but not limited to fire apparatus, pumpers, ladder trucks, water tenders, and prisoner transport buses, are exempt from CARB regulations and therefore eligible for CMP funding. Eligible emergency vehicle projects are those in which an older, more polluting emergency vehicle is replaced with a new or used replacement vehicle with an engine meeting the current model year California emission standards. The older, replaced vehicle must be destroyed. Emergency vehicles are eligible for up to 80 percent of the eligible costs as outlined in the program guidelines.

A fire truck reuse option is also available on a case-by-case basis. The fire truck reuse option allows fire departments to give away the existing old vehicle and destroy another older vehicle in its place.

### **Repowers**

This project type involves the repower of an existing, in-use engine with a new, cleaner engine. The replacement engine must be CARB-certified at or below the optional low-NOx emissions level of 0.10



g/bhp-hr NO<sub>x</sub> and 0.01 g/bhp-hr PM<sub>10</sub>. Repowers may be funded in various applications. However, due to technological constraints presented with the limited feasibility of newer engines with advanced emissions control equipment fitting into older chassis and maintaining durability, repowers with diesel engines are rare project types for trucks. Repowers with alternative fuel engines may not have the same technological constraints and may become more prevalent.

To ensure durability, certain repower projects may require prototype testing. If the project has been previously completed by the manufacturer, prototype testing is not required. The prototype testing must comply with the engine manufacturer quality assurance process that is equivalent to an Original Equipment Manufacturer (OEM) package. In these cases, a prototype vehicle (or vehicles) is thoroughly reviewed and tested to ensure that the installation meets OEM requirements, and the successful prototype installation is then replicated in other vehicles with the same chassis and engine combination. Per the CMP guidelines, air districts may approve repower projects that meet the OEM quality assurance process described above, subject to the following:

- Moyer Program funding may not be used for any costs associated with the prototype vehicle or vehicles.
- Repower contracts may not be executed until the prototype testing specified by the engine manufacturer is successfully completed.
- Written documentation from the engine manufacturer confirming that the prototype was successful must be maintained in the project file.
- If the proposed repower has been done previously by the manufacturer on the same chassis/engine configuration, prototype testing is not required. The manufacturer must provide written confirmation that the previous work was performed successfully and met OEM requirements.

### **Conversions**

Conversions involve the replacement or modification of the original engine or vehicle to include either a cleaner engine or other system that provides motive power and change of the fuel type used. Hybrid conversion systems using internal combustion engines must be certified according to “California Certification and Installation Procedures for Medium-and Heavy-Duty Vehicle Hybrid Conversion Systems.” The baseline engine model year for hybrid conversions must be 2010 or newer. The conversion system manufacturer must provide written confirmation that the funded vehicle would not exceed the certified allowable limit. All-electric conversion systems must receive an exemption Executive Order per Vehicle Code section 27156.

### **OFF-ROAD COMPRESSION-IGNITION EQUIPMENT**

This category includes off-road, mobile compression ignition equipment with engines greater than 25 horsepower. Off-road heavy-duty equipment/engines include, but are not limited to: construction equipment, agricultural tractors, marine engines, shore power and locomotive equipment. Portable equipment is not eligible for CMP funding. The following off-road equipment projects may be eligible for funding:

- Repower: The replacement of an existing engine with a newer emission-certified engine, or zero-emission system, instead of rebuilding the existing engine to its original specifications.
- Retrofit: The installation of a CARB-verified emission control system on an existing engine. Examples include but are not limited to: particulate filters and diesel oxidation catalysts.



- Equipment Replacement: The purchase of new or used equipment with an engine certified to the current emission standard (Tier 4 Final) or zero emission technology to replace an older, fully functional piece of equipment that is to be scrapped.

For off-road replacement and repower projects, the CMP guidelines specify that the horsepower rating of the new (or replacement) engine must not be greater than 125 percent of the original manufacturer rated horsepower of the old (or existing) engine. If the new engine is greater than 125 percent, then the eligible funding amount will be based on the cost of an engine or equipment whose horsepower is no higher than 125 percent of the existing engine horsepower. The applicant must pay the additional costs associated with the higher horsepower engine and obtain a price quote for an engine or equipment that is within the 125 percent range for the funding determination. In addition, verifiable records on the existing engine must be provided with the application to accurately identify the engine manufacture year and horsepower (e.g., photographs of engine labels, statement from engine manufacturers, etc.).

### **Construction Equipment**

Fleets must be in compliance with CARB's In-Use Off-Road Diesel Vehicle Regulation (Off-Road Regulation) in order to be eligible for funding. Large fleets are eligible for funding once after January 1, 2017. After January 1, 2017, for those large fleets eligible for funding a second or subsequent time, only zero-emission projects are eligible.

Applicants must submit information regarding fleet size and compliance status. **This must include the Diesel Off-Road On-line Reporting System (DOORS) ID of the fleet, the DOORS Compliance Snapshot, the DOORS equipment list, and the DOORS Equipment Identification Number (EIN) of the funded equipment.** All documentation submitted must be signed and dated by the applicant and include language certifying that the fleet list provided is accurate and complete.

Off-road projects fall into three distinct categories: 1) repower existing equipment with an emission-certified engine, 2) retrofit with a verified-diesel emission control strategy (VDECS), and 3) replacement of an older, fully functional piece of equipment (that is to be scrapped) by a vehicle with an engine certified as meeting the current off-road emission standards, or cleaner.

### **Marine Vessel Projects**

Marine vessel project types include engine repower and shore power.

#### Marine Engine Repower

Vessels not subject to the in-use compliance requirements of CARB's Commercial Harbor Craft Regulation such as fishing vessels, pilot boats and work boats are eligible. Since the repower must be completed at least three (3) years prior to the vessel's regulatory in-use compliance date, limited CMP funding opportunities remain for vessel engines subject to the in-use compliance requirements of CARB's Commercial Harbor Craft (CHC) regulation (i.e., barge, crew/supply, dredge, excursion, ferry, towboat and tugboats). Based on the vessel's operation, the newer engine's emissions must be surplus to the currently required U.S. EPA marine engine emission standard (i.e., Tier 3, Tier 4, etc.). Remanufacture kits, which are comprised of engine component parts that, when installed, reduce the engine's emissions, are subject to the same requirements as engine repower projects. For all marine engine repower projects, the replacement engine must provide at least a 15 percent NO<sub>x</sub> reduction relative to the baseline engine.



### Shore Power Projects

Limited CMP funding opportunities remain for shore power projects due to the applicability of CARB's At-Berth Regulation. Applicants must submit their CARB-approved Initial Terminal Plan to document compliance with CARB's Shore Power regulation. The proposed projects must provide emission reductions that are surplus to regulatory requirements. Projects not subject to CARB's regulation are eligible.

### **Locomotives**

All new locomotives and replacement engines must be certified to Tier 4 standards to be eligible for CMP funding. There are very limited CMP funding opportunities for Class 1 freight railroads. Such a project will be subject to a case-by-case approval by CARB. Class 3 freight railroads and passenger railroads are not subject to any CARB fleet regulations and are therefore eligible for CMP funding.

The following project types are eligible for CMP funding:

1. Locomotive replacement (the reuse and/or recycling of the baseline chassis is allowed if the baseline engine is destroyed)
2. U.S. EPA-certified engine remanufacture kit or repower
3. Head-end power (HEP) unit (apply as an off-road engine project).

### **DEFINITIONS**

#### Alternative Fuel

Alternative fuels include compressed natural gas (CNG), liquefied natural gas (LNG), hydrogen (H<sub>2</sub>), methanol, ethanol, propane (LPG) and electric technologies. Experimental technologies and fuels will be referred to CARB for evaluation and possible eligibility in the Program.

#### Equipment Replacement

Equipment replacement means the replacement of an older vehicle or piece of equipment that still has remaining useful life with a newer, cleaner vehicle or piece of equipment. For this project type, applicant must have owned and operated the old equipment in California for the previous two years.

#### Repower

Vehicle repower means the replacement of an in-use engine with another, cleaner engine (more than 15 percent cleaner).

#### Retrofit

An emission control system employed exclusively with an in-use engine, vehicle or piece of equipment. CARB guidance requires the applicant to select the highest level technology certified for that engine that provides the most emission reductions. For many projects, this includes a diesel emission control device that reduces both PM and NO<sub>x</sub> emissions. In order to be eligible for CMP funding, the retrofit device must be verified for the specific engine family found on the equipment and achieve the highest level emission reductions when compared to other verified retrofit devices. If a specific device reduces both NO<sub>x</sub> and PM, but the PM reduction from a retrofit is required by a regulation, only the NO<sub>x</sub> reduction may be eligible for funding.





### SCAQMD Jurisdiction

The SCAQMD is the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties. This area of 10,743 square miles is home to approximately 17 million people—about half the population of the whole state of California. It is the second most populated urban area in the United States and one of the smoggiest. Visit <http://www.aqmd.gov/nav/about/jurisdiction> for more information.

### **IMPORTANT PROGRAM INFORMATION**

- Applicants **must** provide vendor quotes with their application to document the cost of the low- or zero-emission vehicle/equipment project. Applicants may be awarded up to the designated percentage of total cost for the specified type of project (new purchase, repower replacement and/or retrofit), subject to funding caps and program cost-effectiveness limits. Eligible costs include installation labor and sales tax. **All quotes must have been obtained within 90 days prior to the closing date of the Program Announcement.**
- A number of the CARB fleet rules and air quality regulations impact CMP eligibility. Compliance with existing CARB regulations is a pre-requisite for CMP funding. Only emission reductions in excess of regulatory requirements can be considered for CMP funding. If applicants are applying for CMP funds to reduce emissions before the required compliance date (i.e., early reductions), the equipment must demonstrate sufficient years of operation before the regulatory compliance deadline. Applicants are responsible for ensuring that they are in full compliance with all applicable regulations and that vehicles/equipment requests under the CMP provide surplus emissions reductions. As noted earlier, applicants must provide documentation of their regulatory compliance status.
- Any tax obligation associated with the award is the responsibility of the grantee.
- All projects must be operational within eighteen (18) months of contract execution or May 22, 2020, whichever is earlier.
- All project invoices must be submitted for payment no later than May 22, 2020. Projects which have not invoiced by the applicable date may forfeit their funding.
- No third-party contracts will be executed.
- Pre- and post-inspection of all vehicles/engines/equipment approved for funding will be conducted, as required. Applicants must make all equipment available **locally (i.e., within the SCAQMD boundaries)** for inspections unless specified during contract preparation. Documentation of compliance with existing regulatory requirements is required at the time of pre-inspection.
- **Local** destruction of the engine and/or equipment being replaced is required for repower or replacement projects.



- The project's cost effectiveness level will be based on the historical usage of the existing equipment for the previous two years. The usage for off-road equipment projects will be based on hours (except for locomotive projects, which require annual fuel consumption), and the usage for on-road vehicle projects will be based on mileage. The applicant must provide the historical usage records for the equipment as part of the application. If historical usage documentation is not available, the proposed annual usage provided by the applicant will be used to determine the project's cost-effectiveness and specified as a requirement in the contract.

## PROGRAM ADMINISTRATION

The CMP will be administered locally by the SCAQMD through its Technology Advancement Office. The SCAQMD reserves the right to allocate the CMP funds among the program categories in accordance with SCAQMD priorities. Additionally, the SCAQMD reserves the right to partially fund a project.

All qualified applications submitted in response to this PA will first be evaluated for completeness. SCAQMD staff will notify each applicant of an incomplete application and request the additional information within thirty (30) business days of the application submittal due date. SCAQMD will send letters to applicants regarding missing information. Applicants will have seven (7) days to provide any missing information requested in the letter. It will be the applicant's responsibility to submit the missing or incomplete information within the time specified by SCAQMD staff. Only completed applications can move forward in the evaluation process.

Each project will be evaluated for its status as a Disadvantaged Community (DAC) or low-income community, as discussed in Section IV below. Each project will also be evaluated for cost effectiveness and ranked accordingly, except for infrastructure projects. Infrastructure projects are not subject to a cost effectiveness limit, but instead will be evaluated on a competitive basis using metrics that include, but are not limited to: fleet usage commitments, public access, project type (i.e., public, private, solar, wind), expected vehicle usage/throughput and cost share. Funding category allocations will be determined based on the evaluation and selection criteria in Section IV and approval by the SCAQMD Governing Board.

Applications for fuel and engine technologies that are not certified, verified or approved by CARB, or falling outside the categories specifically discussed in this PA, may be referred to CARB for determination of CMP eligibility on a case-by-case basis. Please discuss these projects with SCAQMD staff prior to application submittal.

## SCHEDULE OF EVENTS

Issue #PA2018-06	March 2, 2018
Workshops	April – May 2018
All Applications Due by 1:00 pm	<b>Tuesday, June 5, 2018</b>
Awards Consideration by the Board	October 2018
Contract Execution	January 2019





**ALL APPLICATIONS MUST BE RECEIVED ELECTRONICALLY OR ON PAPER AT THE  
SCAQMD HEADQUARTERS  
NO LATER THAN 1:00 P.M. ON TUESDAY, JUNE 5, 2018**

Electronic submission using SCAQMD's new CMP Online Application Program (OAP) is preferred and is available at: [www.aqmd.gov/mover](http://www.aqmd.gov/mover).

If a paper copy application is being submitted, postmarks will not be accepted as compliant with the deadline; the paper copy application must be received at the SCAQMD Headquarters reception desk by the above deadline. Fax or email applications will not be accepted. Applicants may hand deliver applications to the SCAQMD by submitting the application to the SCAQMD reception desk. The application will be date and time-stamped and the person delivering the application will be given a receipt.

**OFF-ROAD/CONSTRUCTION/AGRICULTURAL EQUIPMENT/ENGINES WORKSHOP**

- **Wednesday, April 25, 2018 – 10 a.m. to 1 p.m.**  
Coachella Valley Mosquito & Vector Control District, Board Room  
43420 Trader Place  
Indio, CA 92201

**MARINE VESSEL/SHORE POWER /CHE ELECTRIFICATION WORKSHOP**

- **Wednesday, May 2, 2018 – 10 a.m. to Noon**  
Port of Los Angeles Board Room  
425 South Palos Verdes Street  
San Pedro, CA 90731

**SCHEDULE OF CMP GENERAL WORKSHOPS:**

- **Wednesday, May 9, 2018 - 9 a.m. to Noon**  
SCAQMD Headquarters, Conference Room CC6  
21865 Copley Drive  
Diamond Bar, CA 91765
- **Thursday, May 17, 2018 - 9 a.m. to Noon**  
SCAQMD Headquarters, Conference Room CC6  
21865 Copley Drive  
Diamond Bar, CA 91765
- **Wednesday, May 23, 2018 – 9 a.m. to Noon**  
SCAQMD Headquarters, Conference Room CC6  
21865 Copley Drive  
Diamond Bar, CA 91765

**Training for the new online application system will be included in these workshops.**





## **STATEMENT OF COMPLIANCE**

Government Code Section 12990 and California Administrative Code, Title II, Division 4, Chapter 5, require employers to agree not to unlawfully discriminate against any employee or applicant because of race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, sex, or age. A statement of compliance with this clause is included in all SCAQMD contracts.

## **CONTACT FOR ADDITIONAL INFORMATION**

Questions regarding the content or intent of this PA, procedural matters or locations of workshops should be addressed to:

Walter Shen  
Science and Technology Advancement  
South Coast Air Quality Management District  
21865 Copley Drive, Diamond Bar, CA 91765  
Phone (909) 396-2487/FAX (909) 396-3252  
wshen@aqmd.gov

## **SECTION II - WORK STATEMENT/SCHEDULE OF DELIVERABLES**

Applicants must sign the Application form indicating their understanding of the requirements for submittal of additional project information to finalize a contract and that all vehicles, engines or equipment must be in operation within eighteen (18) months of contract execution or by May 22, 2020, whichever is earlier. **Unsigned applications may be deemed ineligible and may NOT be considered for funding.**

### **WORK STATEMENT**

The scope of work involves a series of tasks and deliverables that demonstrate compliance with the requirements of the CMP as administered by CARB and the SCAQMD. The project applicant is responsible for developing detailed project plans and ordering equipment that complies with the program criteria and guideline requirements. In addition, alternative fuel project applicants must discuss their plan for refueling the proposed vehicles/equipment, and if appropriate, should provide a letter of agreement from their fuel provider (see Application forms).

At a minimum, any contract for funding the proposed project must meet the following criteria:

- Provide emission reductions that are real, surplus, quantifiable and enforceable in accordance with CMP guideline requirements.
- Meet the cost-effectiveness limit, as described in this PA and the CMP Guidelines, and subsequent CMP Advisories.
- For repower and replacement projects, the replacement engine must achieve an annual NOx emissions benefit of at least 15 percent to receive any funding for NOx reductions.
- Commit that project engines or equipment operate in-service for the full project life, a minimum of three years, and at least 75 percent of annual operation must occur within the SCAQMD. Project life is the number of years used to determine the cost-effectiveness and is equal to the contract term.
- Commit that all vehicles/engines/equipment are in operation within 18 months of contract execution or by May 22, 2020, whichever is earlier.



- Provide for appropriate recordkeeping during the project life (i.e., annual mileage, fuel consumption and/or hours of operation).
- Ensure that the project complies with all applicable rules and regulations, and the resulting emission reductions from the project are not required as a mitigation measure to reduce adverse environmental impacts that are identified in an environmental document prepared in accordance with the California Environmental Quality Act or the National Environmental Policy Act.
- If requested, contractor must provide a financial statement and bank reference, or other evidence of financial ability to fulfill contract requirements.
- If requested, contractor must make all equipment and records available to the SCAQMD or CARB for audit and inspections.

### **DELIVERABLES**

The contract will describe how the project will be monitored and what type of information must be submitted as part of the reporting requirements. At a minimum, the SCAQMD expects to receive an annual report for each year during the full contract term, or project life, which provides the annual miles or hours of operation, where the vehicle or equipment was operated, annual fuel consumption, and operational and maintenance issues encountered and how they were resolved. SCAQMD reserves the right to verify the information provided.

Reporting forms are available online at: [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer).

### **SECTION III - APPLICATION SUBMITTAL REQUIREMENTS**

Applicants are encouraged to apply for CMP funding using the SCAQMD's new CMP Online Application Program at: [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer). Applicants may also complete and submit a paper copy application with the appropriate application forms, which are listed in Appendix A. In addition, all Business Information Forms<sup>3</sup>, including Conflict of Interest and Project Cost information, as described below, must also be submitted with the application. It is the responsibility of the applicant to ensure that all information submitted is accurate and complete.

#### **CONFLICT OF INTEREST**

Applicant must address any potential conflicts of interest with other clients affected by actions performed by the firm on behalf of the SCAQMD. Although the applicant will not be automatically disqualified by reason of work performed for such firms, the SCAQMD reserves the right to consider the nature and extent of such work in evaluating the application. Conflicts of interest will be screened on a case-by-case basis by the SCAQMD General Counsel's Office. Conflict of interest provisions of the state law, including the Political Reform Act, may apply to work performed pursuant to this contract. Please discuss potential conflicts of interest on the Application Statement Form in Appendix A.

#### **PROJECT COST**

Applicants must provide cost information that specifies the amount of funding requested and the basis for that request by attaching vendor quotes to the application. The vendor quotes must be dated within

---

<sup>3</sup> [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer)



90 days of the application submittal date. Applicants need to inform vendors of the time frame of the award process so that they can estimate prices based on the future/projected order/purchase date.

**Purchase orders or other purchase commitments shall not be placed until after the date of award approval by the SCAQMD Governing Board. Purchase orders may be placed after SCAQMD Governing Board approval and in advance of a fully executed contract, but these orders/commitments are placed at the applicant's own risk<sup>4</sup>.**

The CMP will fund only a percentage of the cost of the low emission or zero emission technology based on the type of project. The proposed low-emission or zero-emission technology must be certified, verified or approved by CARB in most cases<sup>5</sup>. No administrative or operational costs will be funded.

All project costs must be clearly indicated in the application. In addition, applicants must disclose all sources of co-funding, including the name of the funding source and amount of funding in the application. **Applicants are cautioned that the project life period used in calculating emissions reductions will be used to determine the length of their annual reporting obligation.** In other words, a project applicant using a ten-year life for the emissions reduction calculations will be required to operate, track and report activity for the project vehicle for the full ten years. The contract term will also be ten years.

Applicants are not required to calculate a project's cost-effectiveness, although it is helpful to understand your project's cost-effectiveness in order to anticipate the maximum possible grant award that might be recommended. Methodologies for calculating cost-effectiveness are provided in the CARB Moyer Guidelines at:

[https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017\\_gl\\_appendix\\_c.pdf](https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_c.pdf).

## **APPLICATION SUBMISSION**

All applications must be submitted according to specifications set forth herein. Failure to adhere to these specifications may be cause for rejection of the application without evaluation.

**Staff Contact Information:** SCAQMD staff contacts for each category are listed in Table 2 below. Applicants are strongly encouraged to contact SCAQMD staff to discuss their project prior to submitting an application to ensure program eligibility.

**For Paper Copy Applications - Application Forms:** *(This section does not pertain to applicants using the SCAQMD's CMP Online Application System.)* The application forms are identified in Appendix A. These must be completed and submitted with other required documents (i.e., Business Information Forms, activity documentation, project quotes, etc.) discussed in the application and below.

---

<sup>4</sup> Any purchase order/purchase commitment placed prior to the SCAQMD Governing Board approval of the project are prohibited by the CMP. However, orders/commitments placed after SCAQMD Governing Board approval but in advance of a fully executed contract are at the purchaser's own risk.

<sup>5</sup> Note that an experimental permit from CARB may be considered, but the project will require special CARB approval.





A separate Form A-1 is required for each category (i.e., marine, off-road, locomotive, etc.). For example, if an applicant is requesting funding for marine engine repowers and off-road construction equipment, then two (2) separate Form A-1's must be submitted – one for each category. In addition to each Form A-1, the applicable category Form is required for each piece of equipment for which grant funding is requested (i.e., B-1, C-1, etc.). For example:

#### Example Application Package:

Applicant X plans to submit a request for CMP funding to repower three marine vessels and two locomotive projects. The forms required are:

- Form A-1 for the **marine vessel** projects, which includes:
  - Application Checklist
  - Application Statement
  - Business Information Forms
  - Form D-1 for the first marine vessel repower
  - Form D-1 for the second marine vessel repower
  - Form D-1 for the third marine vessel repower
- Form A-1 for the **locomotive** projects, which includes:
  - Application Checklist
  - Application Statement
  - Business Information Forms
  - Form E-1 for the first locomotive project
  - Form E-1 for the second locomotive project

**Business Information Forms:** Consists of business information forms that **must** be completed and submitted with the Application. Please note, if recommended for an award, you will be required to submit an updated Campaign Contribution Disclosure form at a later date.

#### **Methods for Delivery:**

1. **Electronic Submittal:** The preferred method of delivery for this solicitation is through SCAQMD's CMP Online Application Program (OAP), available at: [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer). This online system allows applicants to submit their application electronically to the SCAQMD prior to the date and time specified below. SCAQMD "Business Information Forms" requiring signatures must be scanned and uploaded to the electronic application in PDF format. The system will not allow applications to be submitted after the due date and time.

First-time users must register as a new user to access the system. Applicants will receive a confirmation email after all required documents have been successfully uploaded. A tutorial of the system will be provided at the pre-application workshops and you may contact the Project Officer listed in Table 2 if you would like additional assistance.

2. **Paper Copy Submittals** – Although not preferred, an applicant may deliver the application in person or via a courier service or U.S. Mail. Applicants **shall submit three (3) complete**





**signed copies of the application, as well as an electronic copy of the application and its supporting documents on a CD or flash drive**, in a sealed envelope, plainly marked in the upper left-hand corner with the name and address of the applicant and the words "**Program Announcement #PA2018-06**". All paper copy applications shall be submitted in an environmentally friendly format: stapled, not bound, black and white print; no three-ring, spiral or plastic binders, and no card stock or colored paper. All application forms may be accessed from the SCAQMD's Carl Moyer Program homepage at [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer).

**Due Date** - All applications must be received, either electronically or on paper, no later than **1:00 p.m., on Tuesday, June 5, 2018**. Postmarks are not accepted as proof of deadline compliance. **Faxed or emailed applications will not be accepted.** Applications must be directed to:

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

**Any correction or resubmission done by the applicant will not extend the submittal due date.**

**Grounds for Rejection** - An application may be immediately rejected if:

- It is not prepared in the format described
- It is not signed by an individual authorized to represent the firm
- Does not include current cost quotes, Contractor Statement Forms and other forms required in this PA.

**Missing Information** – Within thirty (30) business days of the application submittal due date, SCAQMD will send letters to applicants regarding the missing or incomplete information. Applicants will have seven (7) days to provide any missing information requested in the letter. It will be the applicant's responsibility to submit the missing or incomplete information within the time specified by SCAQMD staff. Only complete applications can move forward in the evaluation process.

**Disposition of Applications** - The SCAQMD reserves the right to reject any or all applications. All responses become the property of the SCAQMD. One copy of each application not selected for funding shall be retained for one year. Additional copies and materials will be returned only if requested and at the applicant's expense.

#### **SECTION IV - APPLICATION EVALUATION/CONTRACTOR SELECTION CRITERIA**

SCAQMD staff will evaluate all qualified applications and make recommendations to the Governing Board for final selection of project(s) to be funded. Each project will be evaluated based on the cost-effectiveness of NO<sub>x</sub>, PM<sub>10</sub> and ROG reduced, as well as the project's status with respect to the disadvantaged community and low-income criteria prescribed by CARB.

Note: Infrastructure projects are not subject to a cost effectiveness limit but instead will be evaluated on a competitive basis using metrics that include, but are not limited to: fleet usage commitments,





public access, project type (i.e., public, private, solar, wind), expected vehicle usage/throughput and cost share.

Be aware that there is a possibility that due to program priorities, cost-effectiveness or funding limitations, project applicants may be offered only partial funding, and not all applications that meet the cost-effectiveness criteria may be funded.

At least 50 percent of SCAQMD's CMP funds are targeted for projects that meet the criteria of a disadvantaged or low-income community. The Office of Environmental Health Hazard Assessment (OEHHHA) in the California Environmental Protection Agency (CalEPA) has developed the California Communities Environmental Health Screening Tool: CalEnviroScreen Version 3.0 (CalEnviroScreen 3.0). The CalEnviroScreen 3.0 tool will be used by SCAQMD to identify projects that qualify as a DAC, which is defined as scoring in the top 25th percentile, and will strive to maximize the benefits to these communities from this PA. All applications will be assessed with the CalEnviroScreen tool to identify and verify if the project will benefit a DAC. This tool is available at:

<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>

## **SECTION V - PAYMENT TERMS**

For all projects, except shore power projects, full payment will be made upon installation and commencement of operation of the funded equipment. For shore power projects, a progress payment schedule may be established that allows payment upon completion of key milestones, as delineated in the contract.

## **SECTION VI: SCAQMD STAFF CONTACTS AND ADDITIONAL RESOURCES**

The SCAQMD staff contacts are listed in Table 2 by project category. Copies of the Program Announcement, Application Forms and a sample SCAQMD CMP contract may be accessed at: [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer).

**Table 2: CMP Staff Contacts**

<b>Project Category</b>	<b>Staff Contact</b>	<b>Phone Number</b>	<b>Email</b>
On-Road Heavy-Duty Vehicles	Krystle Martinez Mei Wang	(909) 396-3021 (909) 396-3257	<a href="mailto:kmartinez@aqmd.gov">kmartinez@aqmd.gov</a> <a href="mailto:mwang@aqmd.gov">mwang@aqmd.gov</a>
Off-Road Equipment	Greg Ushijima Walter Shen	(909) 396-3301 (909) 396-2487	<a href="mailto:gushijima@aqmd.gov">gushijima@aqmd.gov</a> <a href="mailto:wshen@aqmd.gov">wshen@aqmd.gov</a>
Cargo Handling Equipment Electrification	Greg Ushijima	(909) 396-3301	<a href="mailto:gushijima@aqmd.gov">gushijima@aqmd.gov</a>
Marine Vessels	Mark Coleman	(909) 396-3074	<a href="mailto:mcoleman@aqmd.gov">mcoleman@aqmd.gov</a>
Shore Power	Greg Ushijima	(909) 396-3301	<a href="mailto:gushijima@aqmd.gov">gushijima@aqmd.gov</a>
Locomotives	Walter Shen	(909) 396-2487	<a href="mailto:wshen@aqmd.gov">wshen@aqmd.gov</a>
Infrastructure	George Wu Mei Wang	(909) 396-2533 (909) 396-3257	<a href="mailto:gwu@aqmd.gov">gwu@aqmd.gov</a> <a href="mailto:mwang@aqmd.gov">mwang@aqmd.gov</a>



## **WEBSITE LINKS TO CARB RULES THAT AFFECT CMP ELIGIBILITY**

On-Road Private (truck and bus) @ <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>

Drayage Truck Regulatory @ <https://www.arb.ca.gov/msprog/onroad/porttruck/porttruck.htm>

Public/Utility Fleets @ <http://www.arb.ca.gov/msprog/publicfleets/publicfleets.htm>

In-Use Off-Road @ <http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm>

Harbor Craft @ <http://www.arb.ca.gov/ports/marinevess/harborcraft.htm>

Cargo Handling Equipment @ <http://www.arb.ca.gov/ports/cargo/cargo.htm>

Shore Power @ <http://www.arb.ca.gov/ports/shorepower/shorepower.htm>



## APPENDIX A

### Table of Contents

**SCAQMD encourages applicants to utilize the CMP Online Application Program to submit applications to the Year 20 CMP. The CMP Online Application Program is available at the SCAQMD Carl Moyer Program homepage at [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer). If you choose to submit a paper application, please utilize the application forms and other documents identified below. Each document listed below is available on SCAQMD's CMP homepage for download.**

1. Application Checklist – one per applicant.
2. Form A-1: General Application (includes Checklist and Application Statement). Provide a complete set of Form A-1 documents for each equipment category (i.e., locomotive, marine, off-road, etc.).
3. Category Application Form specific to your project category (one per unit, or use excel templates referenced in the form for multiple unit projects)
  - a) Form B-1: On-Road Heavy-Duty Vehicles, Replacement
  - b) Form B-2: On-Road Heavy-Duty Vehicles, Repower
  - c) Form B-3: Emergency Vehicles (Fire Apparatus)
  - d) Form C-1: Off-Road Equipment Replacement
  - e) Form C-2: Off-Road Equipment (Repower, Repower with Retrofit)
  - f) Form C-3: Off-Road Equipment Retrofit
  - g) Form C-4: Cargo Handling Equipment (CHE) Electrification
  - h) Form D-1: Marine Vessels, Repower
  - i) Form D-2: Marine Vessels, Shore Power
  - j) Form E-1 through E-3: Locomotives
    1. Form E-1: Locomotive Replacement
    2. Form E-2: US Engine Remanufacture Kit or Repower/Refurbishment
    3. Form E-3: Head-end power (HEP) Unit
  - k) Form F-1: Infrastructure
4. Business Information Forms – complete, sign and submit all of these forms with your application.



## APPLICATION CHECKLIST

**Applicants are encouraged to submit their application using SCAQMD's online system. If you are applying in person, use this checklist to organize your paper copy application. Each of the following application sections is required to be submitted if you submit a paper application:**

- ☐ A cover letter stating your grant request, how many pieces of equipment and/or engines included in the proposed project, and the funding amount being requested (per engine and for the total project). For applications covering more than one category, organize this information into project category (i.e., marine, locomotive, on-road, etc.)
- ☐ This Application Checklist (signed below).
- ☐ General Application Form A-1. Provide a separate Form A-1 for each category (i.e., marine, locomotive, etc.) for which grant funding is requested. Form A-1 also includes the Application Statement (signed and initialed, as applicable)
- ☐ Completed and **signed** Business Information Forms<sup>6</sup>
- ☐ Category Application Form specific to your project category (i.e., locomotive, off-road, marine, etc.), along with the following attachments/enclosures:
  - ☐ Optional Excel Worksheet associated with applicable application form/category (you may use this form for multiple unit projects, if desired)
  - ☐ Vendor quotes dated no earlier than 90 days prior to the closing date of the Program Announcement
  - ☐ CARB Executive Orders for each engine. Download at:  
On-road: <http://www.arb.ca.gov/msprog/onroad/cert/cert.php>  
Off-road: <http://www.arb.ca.gov/diesel/cv.htm>
  - ☐ Previous two years of historical records documenting equipment usage, retroactive to the date of application.

Once completed, please submit one electronic and four paper copies of the assembled package, in accordance with the Application Submittal Instructions.

I understand that all documents, as listed above, are required in order to have a complete application package in order to be considered for funding under the Carl Moyer Program.

---

Signature

---

Date

---

<sup>6</sup> These forms may be downloaded at: [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer).





Carl Moyer and SOON Application  
Form A-1  
General Application Form (page 1 of 3)

The SCAQMD is accepting applications for projects throughout its jurisdiction. All proposals will be evaluated based on their cost-effectiveness and their disproportionate impact score as discussed in Section IV "Proposal Evaluation/Contract Selection Criteria" contained in Program Announcement. For additional information about SCAQMD's policies and application information, visit: [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer). In general, this program will follow CARB Carl Moyer Program guidelines, which are available at: <http://www.arb.ca.gov/msprog/moyer/moyer.htm>.

The submittal of an application does not guarantee approval for funding, but will be used to determine the potential emission reductions and eligible grant funding amount for the proposed project. Any equipment purchased prior to project approval by the SCAQMD Governing Board will not be eligible for funding. Applicant may, at their own risk, issue a purchase order for approved equipment prior to contract execution. Other than a purchase order, **no other work shall proceed** until a fully executed contract, i.e. signed by the applicant and SCAQMD Board Chairman and a pre-inspection, is completed.

**Organization Information**

Legal Name of Organization \*

The legal organization name must be that of the legal equipment owner.

**Organization Address**

Mailing Address \*

Street Address/P.O. Box

City \*

State \*

Zip \*

County \*

**Primary Contact Name and Information**

First Name

Last Name

Email Address   
(A valid Email address is required. Eg. john@gmail.com)

Phone Number

Fax Number

**Person Authorized to Sign Application and Execute Grant Agreement**

First Name

Last Name

Email Address   
(A valid Email address is required. Eg. john@gmail.com)

Phone Number

Fax Number

**Third Party Information**

Name of Person Who Completed the Application

What is Your Position?

How much are you being paid to complete this application for the owner or to assist in the proposed project?

What is the source of funds being used to pay you?

Signature of Third Party Person Who Completed the Application:

Date:





## Carl Moyer and SOON Application Form A-1 General Application Form (page 2 of 3)

All information provided in this application will be used by SCAQMD staff to evaluate the eligibility of this application to receive program funds. SCAQMD staff reserves the right to request additional information and can deny the application if such requested information is not provided by the requested deadline. Incomplete or illegible applications will be returned to applicant or vendor, without evaluation. An incomplete application is an application that is missing information critical to the evaluation of the project.

Please read and check each item below to indicate understanding and agreement:

I understand that this application is for evaluation purposes only and does not guarantee project funding. Only a fully executed Grant Agreement between the equipment owner and the District constitutes an obligation to fund a project. ☐

I certify to the best of my knowledge and under penalty of perjury that the information contained in this application is true and accurate. ☐

I understand that all vehicles/equipment, both existing and new, must be made available within the SCAQMD boundaries for inspection, unless otherwise approved by SCAQMD's Project Officer. ☐

The vehicle/engine will be used within the SCAQMD boundaries (with the emission reduction system operating) for at least the projected usage shown in this application, and no less than 75 percent of the time. ☐

I understand that it is my responsibility to ensure that all technologies are either verified or certified by the California Air Resources Board (CARB) to reduce NOx and/or PM pollutants. CARB Verification Letters and/or Executive Orders are attached, as applicable. ☐

I understand that for repower projects, I am required to install the highest level available verified diesel emission control device (VDECS), and that the costs of this device and associated installation are a CMP eligible expense. These costs may be included in the project grant request up to the maximum cost-effectiveness limit. ☐

I understand that there may be conditions placed upon receiving a grant and agree to refund the grant (or pro-rated portion thereof) if it is found that at any time I do not meet those conditions and if directed by the SCAQMD in accordance with the contract agreement. ☐

I understand that, for this equipment, I am required to disclose if I have applied for or received incentive funding from another entity or program. Failure to do so will disqualify me from Carl Moyer Program Funding. ☐

In the event that the vehicle(s)/equipment do not complete the minimum term of any agreement eventually reached from this application, I agree to ensure the equivalent project emissions reductions, or to return grant funds to the SCAQMD as required by the contract. ☐

I understand that all on-road engines in my fleet that are eligible for a low-NOx software upgrade (reflash) must be reflashed within 60 days of receipt of contract execution. I may self-certify that the reflash has been performed by submitting a receipt of the completed reflash or a picture of the "Low NOx Reflash Label" from the reflashed engine to SCAQMD. ☐

I understand that third party contracts are not permitted. A third party may, however complete an application on an owner's behalf. Third parties are required to list how much compensation, if any, they are receiving to prepare the application(s), and to certify that no Carl Moyer Program funds are being used for this compensation. ☐

I understand that off-road equipment applicants subject to CARB's In-Use Off-Road Diesel Vehicle Regulation (Off-Road Regulation must submit information regarding fleet size and compliance status. This must include the Diesel Off-Road On-line Reporting System (DOORS) ID of the fleet and the DOORS Equipment Identification Number (EIN) of the funded equipment. All documentation submitted must be signed and dated by the applicant and include language certifying that the fleet list provided is accurate and complete. ☐

I understand that additional project information may be requested during project review and must be submitted prior to contract award. ☐

I understand that all vehicles, engines or equipment funded by this program must be operational within eighteen (18) months of contract execution, or by the vehicle in service date as specified in the Statement of Work, whichever is earlier. ☐

All project applicants must submit documentation that supports the activity claimed in the application (i.e., fuel receipts, mileage logs and/or hour-meter readings covering the last two years). This documentation is attached. ☐

The grant contract language cannot be modified without the written consent of all parties. I have reviewed and accepted the sample contact language. ☐

I understand that an IRS Form 1099 may be issued to me for incentive funds received under the Moyer Program. I understand that it is my ☐





Carl Moyer and SOON Application  
Form A-1  
General Application Form (page 3 of 3)

responsibility to determine the tax liability associated with participating in the Moyer Program.

I understand that an SCAQMD-funded Global Positioning System (GPS) unit will be installed on vehicles/equipment not operating within SCAQMD boundaries full time. I will submit data as requested and otherwise cooperate with all data reporting requirements. I also understand that the additional cost of the GPS unit will be added to the project cost when calculating cost-effectiveness, though the SCAQMD will pay for this system directly. ☐

I understand that the SCAQMD has the right to conduct unannounced inspections for the full project life to ensure the project equipment is fully operational at the activity level committed to by the contract. ☐

I understand that all emission reductions resulting from Carl Moyer funded projects will be retired and the Carl Moyer Program claims all emission reductions from its funded projects. I also understand that there is no double counting or splitting of emission reductions if I receive additional incentive funding. ☐

I understand that a tamper proof, non-resettable digital hour meter/odometer must be installed on all vehicles/equipment and that the digital hour meter/odometer will record the hours/miles accumulated within the SCAQMD boundaries. This cost is my responsibility. ☐

I understand that any tax credits claimed must be deducted from the CMP request. ☐

**Please check one:**

☐ I do not plan to claim a tax credit or deduction for costs funded by the CMP.

☐ I do plan to claim a tax credit or deduction for costs funded by the CMP.

If so please indicate amount here: \$

☐ I plan to claim a tax credit or deduction only for the portion of incremental costs not funded by the CMP.

If so please indicate amount here: \$

**I have checked this box to indicate that there are no potential conflicts of interest with other clients affected by actions performed by the firm on behalf of SCAQMD. If I have not checked this box, I have attached a description to this application of the potential conflict of interest, which will be screened on a case-by-case basis by the SCAQMD District Counsel's Office.** ☐

**I understand and certify that I am currently in compliance with all federal, state and local air quality rules and regulations at the time of application submittal, and I am not aware of any outstanding or pending enforcement actions.** ☐

**By signing below, I certify under penalty of perjury that the information provided in this application is accurate and true.**

Please print the name of the signing authority (first and last name)

Signature of signing authority:

Please enter the proposal submission date:



## APPLICATION CHECKLIST

**Applicants are encouraged to submit their application using SCAQMD's online system. If you are applying in person, use this checklist to organize your paper copy application. Each of the following application sections is required to be submitted if you submit a paper application:**

- ☐ A cover letter stating your grant request, how many pieces of equipment and/or engines included in the proposed project, and the funding amount being requested (per engine and for the total project). For applications covering more than one category, organize this information into project category (i.e., marine, locomotive, on-road, etc.)
- ☐ This Application Checklist (signed below).
- ☐ General Application Form A-1. Provide a separate Form A-1 for each category (i.e., marine, locomotive, etc.) for which grant funding is requested. Form A-1 also includes the following documents:
  - ☐ Application Statement (signed and initialed as applicable)
  - ☐ Completed and **signed** Business Information Forms<sup>1</sup>
- ☐ Category Application Form specific to your project category (i.e., locomotive, off-road, marine, etc.), along with the following attachments/enclosures:
  - ☐ Optional Excel Worksheet associated with applicable application form/category (you may use this form for multiple unit projects, if desired)
  - ☐ Vendor quotes dated no earlier than 90 days prior to the closing date of the Program Announcement
  - ☐ CARB Executive Orders for each engine. Download at:
    - On-road: <http://www.arb.ca.gov/msprog/onroad/cert/cert.php>
    - Off-road: <http://www.arb.ca.gov/diesel/cv.htm>
  - ☐ Previous two years of historical records documenting equipment usage, retroactive to the date of application.

Once completed, please submit one electronic and four paper copies of the assembled package, in accordance with the Application Submittal Instructions.

I understand that all documents, as listed above, are required in order to have a complete application package in order to be considered for funding under the Carl Moyer Program.

---

Signature

---

Date

<sup>1</sup> These forms may be downloaded at: [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer)





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

## **Business Information Request**

Dear SCAQMD Contractor/Supplier:

South Coast Air Quality Management District (SCAQMD) is committed to ensuring that our contractor/supplier records are current and accurate. If your firm is selected for award of a purchase order or contract, it is imperative that the information requested herein be supplied in a timely manner to facilitate payment of invoices. In order to process your payments, we need the enclosed information regarding your account. **Please review and complete the information identified on the following pages, remember to sign all documents for our files, and return them as soon as possible to the address below:**

**Attention: Accounts Payable, Accounting Department  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765-4178**

If you do not return this information, we will not be able to establish you as a vendor. This will delay any payments and would still necessitate your submittal of the enclosed information to our Accounting department before payment could be initiated. Completion of this document and enclosed forms would ensure that your payments are processed timely and accurately.

If you have any questions or need assistance in completing this information, please contact Accounting at (909) 396-3777. We appreciate your cooperation in completing this necessary information.

Sincerely,

Sujata Jain  
Deputy Executive Officer  
Finance

DH:tm

Enclosures: Business Information Request  
Disadvantaged Business Certification  
W-9  
Form 590 Withholding Exemption Certificate  
Federal Contract Debarment Certification  
Campaign Contributions Disclosure  
Direct Deposit Authorization





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178

(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

## BUSINESS INFORMATION REQUEST

Business Name	
Division of	
Subsidiary of	
Website Address	
Type of Business <i>Check One:</i>	<input type="checkbox"/> Individual <input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____ <input type="checkbox"/> Other _____

## REMITTING ADDRESS INFORMATION

Address			
City/Town			
State/Province		Zip	
Phone	(     )     -     Ext	Fax	(     )     -
Contact		Title	
E-mail Address			
Payment Name if Different			

All invoices must reference the corresponding Purchase Order Number(s)/Contract Number(s) if applicable and mailed to:

**Attention: Accounts Payable, Accounting Department  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765-4178**



## BUSINESS STATUS CERTIFICATIONS

Federal guidance for utilization of disadvantaged business enterprises allows a vendor to be deemed a small business enterprise (SBE), minority business enterprise (MBE) or women business enterprise (WBE) if it meets the criteria below.

- is certified by the Small Business Administration or
- is certified by a state or federal agency or
- is an independent MBE(s) or WBE(s) business concern which is at least 51 percent owned and controlled by minority group member(s) who are citizens of the United States.

### Statements of certification:

As a prime contractor to SCAQMD, (name of business) will engage in good faith efforts to achieve the fair share in accordance with 40 CFR Section 33.301, and will follow the six affirmative steps listed below **for contracts or purchase orders funded in whole or in part by federal grants and contracts.**

1. Place qualified SBEs, MBEs, and WBEs on solicitation lists.
2. Assure that SBEs, MBEs, and WBEs are solicited whenever possible.
3. When economically feasible, divide total requirements into small tasks or quantities to permit greater participation by SBEs, MBEs, and WBEs.
4. Establish delivery schedules, if possible, to encourage participation by SBEs, MBEs, and WBEs.
5. Use services of Small Business Administration, Minority Business Development Agency of the Department of Commerce, and/or any agency authorized as a clearinghouse for SBEs, MBEs, and WBEs.
6. If subcontracts are to be let, take the above affirmative steps.

### **Self-Certification Verification: Also for use in awarding additional points, as applicable, in accordance with SCAQMD Procurement Policy and Procedure:**

Check all that apply:

- |   |  |
|---|--|
| <input type="checkbox"/> Small Business Enterprise/Small Business Joint Venture | <input type="checkbox"/> Women-owned Business Enterprise                               |
| <input type="checkbox"/> Local business   | <input type="checkbox"/> Disabled Veteran-owned Business Enterprise/DVBE Joint Venture |
| <input type="checkbox"/> Minority-owned Business Enterprise                     | <input type="checkbox"/> Most Favored Customer Pricing Certification                   |

Percent of ownership: \_\_\_\_\_ %

Name of Qualifying Owner(s): \_\_\_\_\_

**State of California Public Works Contractor Registration No. \_\_\_\_\_ MUST BE INCLUDED IF BID PROPOSAL IS FOR PUBLIC WORKS PROJECT.**

I, the undersigned, hereby declare that to the best of my knowledge the above information is accurate. Upon penalty of perjury, I certify information submitted is factual.

\_\_\_\_\_  
*NAME*

\_\_\_\_\_  
*TITLE*

\_\_\_\_\_  
*TELEPHONE NUMBER*

\_\_\_\_\_  
*DATE*



## **Definitions**

**Disabled Veteran-Owned Business Enterprise** means a business that meets all of the following criteria:

- is a sole proprietorship or partnership of which is at least 51 percent owned by one or more disabled veterans, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.
- the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
- is a sole proprietorship, corporation, partnership, or joint venture with its primary headquarters office located in the United States and which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.

**Joint Venture** means that one party to the joint venture is a DVBE and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that DVBE will receive at least 51 percent of the project dollars.

**Local Business** means a business that meets all of the following criteria:

- has an ongoing business within the boundary of SCAQMD at the time of bid application.
- performs 90 percent of the work within SCAQMD's jurisdiction.

**Minority-Owned Business Enterprise** means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more minority persons or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more minority persons.
- is a business whose management and daily business operations are controlled or owned by one or more minority person.
- is a business which is a sole proprietorship, corporation, partnership, joint venture, an association, or a cooperative with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

“Minority” person means a Black American, Hispanic American, Native American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian American (including a person whose origins are from India, Pakistan, or Bangladesh), Asian-Pacific American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, or Taiwan).

**Small Business Enterprise** means a business that meets the following criteria:

- a. 1) an independently owned and operated business; 2) not dominant in its field of operation; 3) together with affiliates is either:
  - **A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or**
  - A manufacturer with 100 or fewer employees.
- b. Manufacturer means a business that is both of the following:
  - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.
  - 2) Classified between Codes 311000 to 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.



**Small Business Joint Venture** means that one party to the joint venture is a Small Business and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that the Small Business will receive at least 51 percent of the project dollars.

**Women-Owned Business Enterprise** means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more women or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more women.
- is a business whose management and daily business operations are controlled or owned by one or more women.
- is a business which is a sole proprietorship, corporation, partnership, or a joint venture, with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

**Most Favored Customer** as used in this policy means that the SCAQMD will receive at least as favorable pricing, warranties, conditions, benefits and terms as other customers or clients making similar purchases or receiving similar services.



## Request for Taxpayer Identification Number and Certification

► Go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9) for instructions and the latest information.

Give Form to the  
requester. Do not  
send to the IRS.

Print or type. See Specific Instructions on page 3.	<b>1</b> Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	<b>2</b> Business name/disregarded entity name, if different from above	
	<b>3</b> Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only <b>one</b> of the following seven boxes.  <input type="checkbox"/> Individual/sole proprietor or single-member LLC  <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► _____ <b>Note:</b> Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is <b>not</b> disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.  <input type="checkbox"/> Other (see instructions) ► _____	<b>4</b> Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):  Exempt payee code (if any) _____  Exemption from FATCA reporting code (if any) _____  <i>(Applies to accounts maintained outside the U.S.)</i>
	<b>5</b> Address (number, street, and apt. or suite no.) See instructions.	Requester's name and address (optional)
	<b>6</b> City, state, and ZIP code	
	<b>7</b> List account number(s) here (optional)	

### Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

**Note:** If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

<b>Social security number</b>									
				-			-		
<b>or</b>									
<b>Employer identification number</b>									
				-					

### Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

<b>Sign Here</b>	<b>Signature of U.S. person ►</b>	<b>Date ►</b>

## General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

**Future developments.** For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9).

## Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

*If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.*



By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

**Note:** If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

**Foreign person.** If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, *Withholding of Tax on Nonresident Aliens and Foreign Entities*).

**Nonresident alien who becomes a resident alien.** Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

**Example.** Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

## Backup Withholding

**What is backup withholding?** Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

**Payments you receive will be subject to backup withholding if:**

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the instructions for Part II for details),
3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships*, earlier.

## What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

## Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

## Penalties

**Failure to furnish TIN.** If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

**Civil penalty for false information with respect to withholding.** If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.



**Criminal penalty for falsifying information.** Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

**Misuse of TINs.** If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

## Specific Instructions

### Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

**Note: ITIN applicant:** Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

### Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

### Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

### Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

#### Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)

2—The United States or any of its agencies or instrumentalities

3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

4—A foreign government or any of its political subdivisions, agencies, or instrumentalities

5—A corporation

6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession

7—A futures commission merchant registered with the Commodity Futures Trading Commission

8—A real estate investment trust

9—An entity registered at all times during the tax year under the Investment Company Act of 1940

10—A common trust fund operated by a bank under section 584(a)

11—A financial institution

12—A middleman known in the investment community as a nominee or custodian

13—A trust exempt from tax under section 664 or described in section 4947



The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 <sup>1</sup>	Generally, exempt payees 1 through 5 <sup>2</sup>
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

<sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

<sup>2</sup> However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

**Exemption from FATCA reporting code.** The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

**Note:** You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

## Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

## Line 6

Enter your city, state, and ZIP code.

## Part I. Taxpayer Identification Number (TIN)

**Enter your TIN in the appropriate box.** If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

**Note:** See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

**How to get a TIN.** If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at [www.SSA.gov](http://www.SSA.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/Businesses](http://www.irs.gov/Businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. Go to [www.irs.gov/Forms](http://www.irs.gov/Forms) to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to [www.irs.gov/OrderForms](http://www.irs.gov/OrderForms) to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

**Note:** Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

**Caution:** A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

## Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

**Signature requirements.** Complete the certification as indicated in items 1 through 5 below.



**1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.** You must give your correct TIN, but you do not have to sign the certification.

**2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

**3. Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.

**4. Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

## What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account <sup>1</sup>
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
5. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee <sup>1</sup> The actual owner <sup>1</sup>
6. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor <sup>4</sup>
For this type of account:	Give name and EIN of:
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity <sup>4</sup>
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

<sup>1</sup> List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

<sup>2</sup> Circle the minor's name and furnish the minor's SSN.

<sup>3</sup> You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.

**\*Note:** The grantor also must provide a Form W-9 to trustee of trust.

**Note:** If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

## Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

**Protect yourself from suspicious emails or phishing schemes.** Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.



The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to [phishing@irs.gov](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at [spam@uce.gov](mailto:spam@uce.gov) or report them at [www.ftc.gov/complaint](http://www.ftc.gov/complaint). You can contact the FTC at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see [www.IdentityTheft.gov](http://www.IdentityTheft.gov) and Pub. 5027.

Visit [www.irs.gov/IdentityTheft](http://www.irs.gov/IdentityTheft) to learn more about identity theft and how to reduce your risk.

## Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.



**2018 Withholding Exemption Certificate****590**

The payee completes this form and submits it to the withholding agent. The withholding agent keeps this form with their records.

**Withholding Agent Information**

Name \_\_\_\_\_

**Payee Information**

Name \_\_\_\_\_

☐ SSN or ITIN ☐ FEIN ☐ CA Corp no. ☐ CA SOS file no.

Address (apt./sta., room, PO box, or PMB no.) \_\_\_\_\_

City (if you have a foreign address, see instructions.) \_\_\_\_\_

State \_\_\_\_\_

ZIP code \_\_\_\_\_

**Exemption Reason****Check only one box.**

By checking the appropriate box below, the payee certifies the reason for the exemption from the California income tax withholding requirements on payment(s) made to the entity or individual.

☐ **Individuals — Certification of Residency:**

I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

☐ **Corporations:**

The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

☐ **Partnerships or Limited Liability Companies (LLCs):**

The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.

☐ **Tax-Exempt Entities:**

The entity is exempt from tax under California Revenue and Taxation Code (R&amp;TC) Section 23701 \_\_\_\_\_ (insert letter) or Internal Revenue Code Section 501(c) \_\_\_\_\_ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.

☐ **Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit-Sharing Plans:**

The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.

☐ **California Trusts:**

At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.

☐ **Estates — Certification of Residency of Deceased Person:**

I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.

☐ **Nonmilitary Spouse of a Military Servicemember:**

I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

**CERTIFICATE OF PAYEE: Payee must complete and sign below.**To learn about your privacy rights, how we may use your information, and the consequences for not providing the requested information, go to [ftb.ca.gov/forms](http://ftb.ca.gov/forms) and search for 1131. To request this notice by mail, call 800.852.5711.

Under penalties of perjury, I declare that I have examined the information on this form, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. I further declare under penalties of perjury that if the facts upon which this form are based change, I will promptly notify the withholding agent.

Type or print payee's name and title \_\_\_\_\_ Telephone (\_\_\_\_) \_\_\_\_\_

Payee's signature ► \_\_\_\_\_ Date \_\_\_\_\_



# 2017 Instructions for Form 590

## Withholding Exemption Certificate

References in these instructions are to the California Revenue and Taxation Code (R&TC).

### General Information

**Registered Domestic Partners (RDP)** – For purposes of California income tax, references to a spouse, husband, or wife also refer to a Registered Domestic Partner (RDP) unless otherwise specified. For more information on RDPs, get FTB Pub. 737, Tax Information for Registered Domestic Partners.

### A Purpose

Use Form 590, Withholding Exemption Certificate, to certify an exemption from nonresident withholding.

Form 590 does not apply to payments of backup withholding. For more information, go to [ftb.ca.gov](http://ftb.ca.gov) and search for **backup withholding**.

Form 590 does not apply to payments for wages to employees. Wage withholding is administered by the California Employment Development Department (EDD). For more information, go to [edd.ca.gov](http://edd.ca.gov) or call 888.745.3886.

**Do not** use Form 590 to certify an exemption from withholding if you are a **Seller of California real estate**. Sellers of California real estate use Form 593-C, Real Estate Withholding Certificate, to claim an exemption from the real estate withholding requirement.

**The following are excluded from withholding and completing this form:**

- The United States and any of its agencies or instrumentalities.
- A state, a possession of the United States, the District of Columbia, or any of its political subdivisions or instrumentalities.
- A foreign government or any of its political subdivisions, agencies, or instrumentalities.

### B Income Subject to Withholding

California Revenue and Taxation Code (R&TC) Section 18662 requires withholding of income or franchise tax on payments of California source income made to nonresidents of California.

Withholding is required on the following, but is not limited to:

- Payments to nonresidents for services rendered in California.
- Distributions of California source income made to domestic nonresident partners, members, and S corporation shareholders and allocations of California source income made to foreign partners and members.
- Payments to nonresidents for rents if the payments are made in the course of the withholding agent's business.
- Payments to nonresidents for royalties from activities sourced to California.

- Distributions of California source income to nonresident beneficiaries from an estate or trust.
- Endorsement payments received for services performed in California.
- Prizes and winnings received by nonresidents for contests in California.

However, withholding is optional if the total payments of California source income are \$1,500 or less during the calendar year.

For more information on withholding get FTB Pub. 1017, Resident and Nonresident Withholding Guidelines. To get a withholding publication, see Additional Information.

### C Who Certifies this Form

Form 590 is certified by the payee. California residents or entities exempt from the withholding requirement should complete Form 590 and submit it to the withholding agent before payment is made. The withholding agent is then relieved of the withholding requirements if the agent relies in good faith on a completed and signed Form 590 unless notified by the Franchise Tax Board (FTB) that the form should not be relied upon.

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed exemption certificate, the withholding agent may accept a letter from the payee as a substitute explaining why they are not subject to withholding. The letter must contain all the information required on the certificate in similar language, including the under penalty of perjury statement and the payee's taxpayer identification number (TIN). The withholding agent must retain a copy of the certificate or substitute for at least five years after the last payment to which the certificate applies, and provide it upon request to the FTB.

If an entertainer (or the entertainer's business entity) is paid for a performance, the entertainer's information must be provided. **Do not** submit the entertainer's agent or promoter information.

The grantor of a grantor trust shall be treated as the payee for withholding purposes. Therefore, if the payee is a grantor trust and one or more of the grantors is a nonresident, withholding is required. If all of the grantors on the trust are residents, no withholding is required. Resident grantors can check the box on Form 590 labeled "Individuals — Certification of Residency."

### D Definitions

For California nonwage withholding purposes, **nonresident** includes all of the following:

- Individuals who are not residents of California.
- Corporations not qualified through the California Secretary of State (CA SOS) to do business in California or having no permanent place of business in California.
- Partnerships or limited liability companies (LLCs) with no permanent place of business in California.
- Any trust without a resident grantor, beneficiary, or trustee, or estates where the decedent was not a California resident.

Foreign refers to non-U.S.

For more information about determining resident status, get FTB Pub. 1031, Guidelines for Determining Resident Status. Military servicemembers have special rules for residency. For more information, get FTB Pub. 1032, Tax Information for Military Personnel.

### Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or it has qualified through the CA SOS to transact intrastate business. A corporation that has not qualified to transact intrastate business (e.g., a corporation engaged exclusively in interstate commerce) will be considered as having a permanent place of business in California only if it maintains a permanent office in California that is permanently staffed by its employees.

### E Military Spouse Residency Relief Act (MSRRA)

Generally, for tax purposes you are considered to maintain your existing residence or domicile. If a military servicemember and nonmilitary spouse have the same state of domicile, the MSRRA provides:

- A spouse shall not be deemed to have lost a residence or domicile in any state solely by reason of being absent to be with the servicemember serving in compliance with military orders.
- A spouse shall not be deemed to have acquired a residence or domicile in any other state solely by reason of being there to be with the servicemember serving in compliance with military orders.

**Domicile** is defined as the one place:

- Where you maintain a true, fixed, and permanent home.
- To which you intend to return whenever you are absent.



A military servicemember's nonmilitary spouse is considered a nonresident for tax purposes if the servicemember and spouse have the same domicile outside of California and the spouse is in California solely to be with the servicemember who is serving in compliance with Permanent Change of Station orders.

California may require nonmilitary spouses of military servicemembers to provide proof that they meet the criteria for California personal income tax exemption as set forth in the MSRRA.

Income of a military servicemember's nonmilitary spouse for services performed in California is not California source income subject to state tax if the spouse is in California to be with the servicemember serving in compliance with military orders, and the servicemember and spouse have the same domicile in a state other than California.

For additional information or assistance in determining whether the applicant meets the MSRRA requirements, get FTB Pub. 1032.

## Specific Instructions

### Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the TIN and check the appropriate TIN box.

You must provide a valid TIN as requested on this form. The following are acceptable TINs: social security number (SSN); individual taxpayer identification number (ITIN); federal employer identification number (FEIN); California corporation number (CA Corp no.); or CA SOS file number.

**Private Mail Box (PMB)** – Include the PMB in the address field. Write "PMB" first, then the box number. Example: 111 Main Street PMB 123.

**Foreign Address** – Follow the country's practice for entering the city, county, province, state, country, and postal code, as applicable, in the appropriate boxes. **Do not** abbreviate the country name.

**Exemption Reason** – Check the box that reflects the reason why the payee is exempt from the California income tax withholding requirement.

### Withholding Agent Instructions

**Do not** send this form to the FTB. The withholding agent retains this form for a minimum of five years or until the payee's status changes, and must provide this form to the FTB upon request.

The payee must notify the withholding agent if any of the following situations occur:

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.

- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

If any of these situations occur, then withholding may be required. For more information, get Form 592, Resident and Nonresident Withholding Statement, Form 592-B, Resident and Nonresident Withholding Tax Statement, and Form 592-V, Payment Voucher for Resident and Nonresident Withholding.

## Additional Information

**Website:** For more information go to [ftb.ca.gov](http://ftb.ca.gov) and search for **nonwage**.

**MyFTB** offers secure online tax account information and services. For more information and to register, go to [ftb.ca.gov](http://ftb.ca.gov) and search for **myftb**.

**Telephone:** 888.792.4900 or 916.845.4900, Withholding Services and Compliance phone service

**Fax:** 916.845.9512

**Mail:** WITHHOLDING SERVICES AND COMPLIANCE MS F182  
FRANCHISE TAX BOARD  
PO BOX 942867  
SACRAMENTO CA 94267-0651

For questions unrelated to withholding, or to download, view, and print California tax forms and publications, or to access the TTY/TDD numbers, see the information below.

### Internet and Telephone Assistance

**Website:** [ftb.ca.gov](http://ftb.ca.gov)

**Telephone:** 800.852.5711 from within the United States  
916.845.6500 from outside the United States

**TTY/TDD:** 800.822.6268 for persons with hearing or speech impairments

### Asistencia Por Internet y Teléfono

**Sitio web:** [ftb.ca.gov](http://ftb.ca.gov)

**Teléfono:** 800.852.5711 dentro de los Estados Unidos  
916.845.6500 fuera de los Estados Unidos

**TTY/TDD:** 800.822.6268 para personas con discapacidades auditivas o de habla



## **Certification Regarding Debarment, Suspension, and Other Responsibility Matters**

The prospective participant certifies to the best of its knowledge and belief that it and the principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them or commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statute or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

---

Typed Name & Title of Authorized Representative

---

Signature of Authorized Representative Date

☐ I am unable to certify to the above statements. My explanation is attached.

---





## CAMPAIGN CONTRIBUTIONS DISCLOSURE

In accordance with California law, bidders and contracting parties are required to disclose, at the time the application is filed, information relating to any campaign contributions made to South Coast Air Quality Management District (SCAQMD) Board Members or members/alternates of the MSRC, including: the name of the party making the contribution (which includes any parent, subsidiary or otherwise related business entity, as defined below), the amount of the contribution, and the date the contribution was made. 2 C.C.R. §18438.8(b).

California law prohibits a party, or an agent, from making campaign contributions to SCAQMD Governing Board Members or members/alternates of the Mobile Source Air Pollution Reduction Review Committee (MSRC) of more than \$250 while their contract or permit is pending before SCAQMD; and further prohibits a campaign contribution from being made for three (3) months following the date of the final decision by the Governing Board or the MSRC on a donor's contract or permit. Gov't Code §84308(d). For purposes of reaching the \$250 limit, the campaign contributions of the bidder or contractor plus contributions by its parents, affiliates, and related companies of the contractor or bidder are added together. 2 C.C.R. §18438.5.

In addition, SCAQMD Board Members or members/alternates of the MSRC must abstain from voting on a contract or permit if they have received a campaign contribution from a party or participant to the proceeding, or agent, totaling more than \$250 in the 12-month period prior to the consideration of the item by the Governing Board or the MSRC. Gov't Code §84308(c).

The list of current SCAQMD Governing Board Members can be found at SCAQMD website ([www.aqmd.gov](http://www.aqmd.gov)). The list of current MSRC members/alternates can be found at the MSRC website (<http://www.cleantransportationfunding.org>).

### **SECTION I.**

**Contractor (Legal Name):** \_\_\_\_\_

DBA, Name \_\_\_\_\_, County Filed in \_\_\_\_\_

Corporation, ID No. \_\_\_\_\_

LLC/LLP, ID No. \_\_\_\_\_

**List any parent, subsidiaries, or otherwise affiliated business entities of Contractor:**  
(See definition below).

---

---

### **SECTION II.**

Has Contractor and/or any parent, subsidiary, or affiliated company, or agent thereof, made a campaign contribution(s) totaling \$250 or more in the aggregate to a current member of the South Coast Air Quality Management Governing Board or member/alternate of the MSRC in the 12 months preceding the date of execution of this disclosure?

☐

Yes

☐

No

**If YES, complete Section II below and then sign and date the form.**

**If NO, sign and date below. Include this form with your submittal.**

**Campaign Contributions Disclosure, continued:**



Name of Contributor \_\_\_\_\_

_____	_____	_____
Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution

Name of Contributor \_\_\_\_\_

_____	_____	_____
Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution

Name of Contributor \_\_\_\_\_

_____	_____	_____
Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution

Name of Contributor \_\_\_\_\_

_____	_____	_____
Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution

**I declare the foregoing disclosures to be true and correct.**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

#### DEFINITIONS

Parent, Subsidiary, or Otherwise Related Business Entity (2 Cal. Code of Regs., §18703.1(d).)

- (1) Parent subsidiary. A parent subsidiary relationship exists when one corporation directly or indirectly owns shares possessing more than 50 percent of the voting power of another corporation.
- (2) Otherwise related business entity. Business entities, including corporations, partnerships, joint ventures and any other organizations and enterprises operated for profit, which do not have a parent subsidiary relationship are otherwise related if any one of the following three tests is met:
  - (A) One business entity has a controlling ownership interest in the other business entity.
  - (B) There is shared management and control between the entities. In determining whether there is shared management and control, consideration should be given to the following factors:
    - (i) The same person or substantially the same person owns and manages the two entities;
    - (ii) There are common or commingled funds or assets;
    - (iii) The business entities share the use of the same offices or employees, or otherwise share activities, resources or personnel on a regular basis;
    - (iv) There is otherwise a regular and close working relationship between the entities; or
  - (C) A controlling owner (50% or greater interest as a shareholder or as a general partner) in one entity also is a controlling owner in the other entity.





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178

(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

## Direct Deposit Authorization

### STEP 1: Please check all the appropriate boxes

- |  |  |
|--|--|
| <input type="checkbox"/> Individual (Employee, Governing Board Member) | <input type="checkbox"/> New Request           |
| <input type="checkbox"/> Vendor/Contractor                             | <input type="checkbox"/> Cancel Direct Deposit |
| <input type="checkbox"/> Changed Information                           |  |

### STEP 2: Payee Information

Last Name		First Name		Middle Initial	Title
Vendor/Contractor Business Name (if applicable)					
Address				Apartment or P.O. Box Number	
City		State	Zip	Country	
Taxpayer ID Number		Telephone Number		Email Address	

### Authorization

1. I authorize South Coast Air Quality Management District (SCAQMD) to direct deposit funds to my account in the financial institution as indicated below. I understand that the authorization may be rejected or discontinued by SCAQMD at any time. If any of the above information changes, I will promptly complete a new authorization agreement. If the direct deposit is not stopped before closing an account, funds payable to me will be returned to SCAQMD for distribution. This will delay my payment.
2. This authorization remains in effect until SCAQMD receives written notification of changes or cancellation from you.
3. I hereby release and hold harmless SCAQMD for any claims or liability to pay for any losses or costs related to insufficient fund transactions that result from failure within the Automated Clearing House network to correctly and timely deposit monies into my account.

### STEP 3:

You must verify that your bank is a member of an Automated Clearing House (ACH). Failure to do so could delay the processing of your payment. You must attach a voided check or have your bank complete the bank information and the account holder must sign below.

### To be Completed by your Bank

Staple Voided Check Here	Name of Bank/Institution		
	Account Holder Name(s)		
	<input type="checkbox"/> Saving <input type="checkbox"/> Checking	Account Number	Routing Number
	Bank Representative Printed Name	Bank Representative Signature	Date
	ACCOUNT HOLDER SIGNATURE:		Date

For SCAQMD Use Only

Input By \_\_\_\_\_

Date \_\_\_\_\_





# Carl Moyer and SOON Application Form B-1 On-Road Heavy-Duty Vehicle Replacement Existing Vehicle Information

If you have any questions regarding this program or the application process, please contact Mei Wang by phone at (909) 396-3257 or by email at: [mwang@aqmd.gov](mailto:mwang@aqmd.gov)

## Existing Vehicle Information

Registered Owner

Has this equipment received Carl Moyer Program funds in the past? ☐ Yes ☐ No

Is the vehicle location address the same as the applicant address? If not, please complete below. ☐ Yes ☐ No

Street Address (if no address, provide intersection)  City

County  State

Zip  Vehicle Type

If other, please describe:

Vehicle Identification Number (VIN)  Vehicle Make

Vehicle Model  Vehicle Model Year

Gross Vehicle Weight Rating (GVWR)  California Highway Patrol CA Number

Unit Number  License Plate #

## Existing Engine Information

Engine Fuel Type  Engine Model

Engine Make  Engine Serial Number

Engine Model Year  ARB Engine Family Number

ARB Certification Executive Order (EO) Number (if zero-emission, attach ARB Approval Letter)





# Carl Moyer and SOON Application Form B-1 On-Road Heavy-Duty Vehicle Replacement Project Details

ARB Fleet Regulation this vehicle is subject to

What is the GVWR for the existing vehicle?

Amount requested from SCAQMD for the project (includes all vehicles in proposal)

What is your current fleet size? (Should reflect all diesel fuel vehicles with a GVWR greater than 14,000 lbs.)

If applicable did you register your fleet through ARB's TRUCRS Database by January 31, 2018? ☐ Yes ☐ No

Please provide a copy of the Compliance Certificate on the Attachments page.

Total Funding Requested

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE)

Applicant Co-Funding Amount

## Operation Information

Percent operation in California (%)

Percent Operation in District (%)  
SCAQMD District Boundaries <http://www.aqmd.gov/home/about/jurisdiction>

Proposed Project Life (this is the number of years that the equipment must operate as specified in your SCAQMD contract)

## Maximum Project Life for On-Road Projects

Replacements	7 years
Transit Bus Replacements	12 years
Repowers	7 Years
School Bus Replacements	10 years
Electric Conversions	5 years
Emergency Vehicles	14 years
Other On-Road Projects	3 years





Carl Moyer and SOON Application  
Form B-1  
On-Road Heavy-Duty Vehicle Replacement  
Replacement Vehicle Information

Replacement Vehicle and Vendor Information

Replacement Vehicle Cost (Including Tax)	<input type="text"/>	Replacement Vehicle Identification Number (VIN)	<input type="text"/>
California Highway Patrol CA Number	<input type="text"/>	Replacement Unit Number	<input type="text"/>
Is this a public fleet vehicle?		<input type="radio"/> Yes <input type="radio"/> No	
Replacement Vehicle Make	<input type="text"/>	Replacement Vehicle Model	<input type="text"/>
Replacement Vehicle Model Year	<input type="text"/>	Replacement Vehicle GVWR	<input type="text"/>
Vendor	<input type="text"/>	Vendor Contact Name	<input type="text"/>
Vendor Phone Number	<input type="text"/>	Vendor Address	<input type="text"/>
Vendor City	<input type="text"/>	Vendor State	<input type="text"/>
Vendor Zip	<input type="text"/>		

Replacement Engine Information

Engine Fuel Type	<input type="text"/>		
Engine Make	<input type="text"/>	Engine Model	<input type="text"/>
Engine Model Year	<input type="text"/>		

ARB Engine Family Number	<input type="text"/>	ARB Certification Executive Order (EO) Number (if zero-emission, attach ARB Approval Letter)	<input type="text"/>
-----------------------------	----------------------	---	----------------------

Download the EO at: <http://www.arb.ca.gov/msprog/onroad/cert/cert.php>

The proposed engine for the project must be consistent with the Intended Service Class per the EO (MHD Intended Service Class engines cannot be used for projects which have the HHD vehicle classifications). Applicant must ATTACH a copy of the referenced Executive Order with the application. Download the EO at: <http://www.arb.ca.gov/msprog/onroad/cert/cert.php>





Carl Moyer and SOON Application  
Form B-1  
On-Road Heavy-Duty Vehicle Replacement  
Engine Activity Information

Please provide projected annual usage for the new equipment over the proposed life of the project. This projection should be based on actual usage data for the baseline, or existing, equipment. Applicants requesting evaluation based on fuel consumption MUST provide both mileage and fuel records from the past 24 months. Supporting documentation may be in the form of maintenance records, fuel receipts, logs, or other paperwork for each piece of baseline equipment covering at least the past 24 months. No such documentation is required for project evaluations based solely on mileage.

Activity Information

Existing Engine - Annual operation details for the past 24-months

	Jan - Date of Application Submittal 2018	Jan - Dec 2017	Mar - Dec 2016
Miles	<input type="text"/>	<input type="text"/>	<input type="text"/>





Carl Moyer and SOON Application  
Form B-1  
On-Road Heavy-Duty Vehicle Replacement  
Attachments

**The following attachments may be submitted for this proposal:**

- Insurance Documentation
- Engine Executive Order(s) and Retrofit Device Executive Order(s)
- Quotes (must be within 90 days of application submittal)
- Equipment Usage Documentation (for past 24 – months)
- Other misc. attachments
- ARB Approval Letter (for Zero-Emission)
- Business Information Request Form
- Campaign Contribution Disclosure
- W-9 Form
- Direct Deposit Form
- Business Status Certification
- Certification of Debarment, Suspension and Other Responsibility Matters





Carl Moyer and SOON Application  
Form B-2  
On-Road Heavy-Duty Equipment  
Repower Only : Vehicle Information

If you have any questions regarding this program or the application process, please contact Mei Wang by phone at (909) 396-3257 or by email at: [mwang@aqmd.gov](mailto:mwang@aqmd.gov)

Existing Vehicle Information

Registered Owner

Has this equipment received Carl Moyer Program funds in the past? ☐ Yes ☐ No

Is the vehicle location address the same as the applicant address? If not, please complete below. ☐ Yes ☐ No

Street Address (if no address, please provide intersection)	<input type="text"/>	City	<input type="text"/>
County	<input type="text"/>	State	<input type="text"/>
Zip	<input type="text"/>	Vehicle Type	<input type="text"/>

If other, please describe:

Vehicle Identification Number (VIN)	<input type="text"/>	Vehicle Make	<input type="text"/>
Vehicle Model	<input type="text"/>	Vehicle Model Year	<input type="text"/>
Gross Vehicle Weight Rating (GVWR)	<input type="text"/>	California Highway Patrol CA Number	<input type="text"/>
Unit Number	<input type="text"/>	License Plate #	<input type="text"/>





# Carl Moyer and SOON Application Form B-2 On-Road Heavy-Duty Equipment Repower Only : Project Details

Name of California State Fleet Regulation this vehicle is subject to

Amount requested from SCAQMD for the project (includes all vehicles in proposal)

What is your current fleet size? (Should reflect all diesel fuel vehicles with a GVWR greater than 14,000 lbs.)

If applicable did you register your fleet through ARB's TRUCRS Database by January 31, 2016? ☐ Yes ☐ No

Total Funding Requested

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE)

Applicant Co-Funding Amount

## Operation Information

Percent operation in California (%)

Percent Operation in District (%)  
SCAQMD District Boundaries <http://www.aqmd.gov/home/about/jurisdiction>

Proposed Project Life (this is the number of years that the equipment must operate as specified in your SCAQMD contract)

## Maximum Project Life for On-Road Projects

Replacements	7 years
Transit Bus Replacements	12 years
Repowers	7 Years
School Bus Replacements	10 years
Electric Conversions	5 years
Emergency Vehicles	14 years
Other On-Road Projects	3 years





Carl Moyer and SOON Application  
Form B-2  
On-Road Heavy-Duty Equipment  
Repower Only : Engine Information

**Baseline Engine Information**

Engine Fuel Type	<input type="text"/>	Engine Model	<input type="text"/>
Engine Make	<input type="text"/>	Engine Serial Number	<input type="text"/>
Engine Model Year	<input type="text"/>	ARB Engine Family Number	<input type="text"/>

**New Engine Information**

New Engine Fuel Type	<input type="text"/>		
New Engine Make	<input type="text"/>	New Engine Model	<input type="text"/>
New Engine Model Year	<input type="text"/>	New Engine Serial Number	<input type="text"/>
New Engine ARB Engine Family Number	<input type="text"/>		

ARB Certification Executive Order (EO) Number  
(If zero-emission, attach ARB Approval Letter)

**Funding Information**

New Engine Cost (Including Tax)	<input type="text"/>	New Engine Installation Cost	<input type="text"/>
Grant Request Amount for this Repower	<input type="text"/>		
Vendor	<input type="text"/>	Vendor Contact Name	<input type="text"/>
Vendor Phone Number	<input type="text"/>	Vendor Address	<input type="text"/>
Vendor City	<input type="text"/>	Vendor State	<input type="text"/>
Vendor Zip	<input type="text"/>		

The proposed engine for the project must be consistent with the Intended Service Class per the EO (MHD Intended Service Class engines cannot be used for projects which have the HHD vehicle classifications). Applicant must ATTACH a copy of the referenced Executive Order with the application. Download the EO at: <http://www.arb.ca.gov/msprog/onroad/cert/cert.php>





Carl Moyer and SOON Application  
Form B-2  
On-Road Heavy-Duty Equipment  
Repower Only : Engine Activity Information

Please provide projected annual usage for the new equipment over the proposed life of the project. This projection should be based on actual usage data for the baseline, or existing, equipment. Applicants requesting evaluation based on fuel consumption MUST provide both mileage and fuel records from the past 24 months. Supporting documentation may be in the form of maintenance records, fuel receipts, logs, or other paperwork for each piece of baseline equipment covering at least the past 24 months. No such documentation is required for project evaluations based solely on mileage.

Activity Information

Baseline Engine - Annual operation details for the past 24-months

	Jan - Date of Application Submittal 2018	Jan - Dec 2017	Mar - Dec 2016	Estimated Annual Future Usage
Miles	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Fuel Use (gallons/year)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>





## Carl Moyer and SOON Application Form B-2

On-Road Heavy-Duty Equipment  
Repower Only : Attachments

### **The following attachments may be submitted for this proposal:**

- Insurance Documentation
- Engine Executive Order(s) and Retrofit Device Executive Order(s)
- Quotes (must be within 90 days of application submittal)
- Equipment Usage Documentation (for past 24 – months)
- Other misc. attachments
- ARB Approval Letter (for Zero-Emission)
- Business Information Request Form
- Campaign Contribution Disclosure
- W-9 Form
- Direct Deposit Form
- Business Status Certification
- Certification of Debarment, Suspension and Other Responsibility Matters





Carl Moyer and SOON Application  
Form B-3  
On-Road Emergency Equipment (Fire Apparatus)  
New Only : Equipment Information

If you have any questions regarding this program or the application process, please contact Mei Wang by phone at (909) 396-3257 or by email at: [mwang@aqmd.gov](mailto:mwang@aqmd.gov)

Existing Vehicle Information

Registered Owner

Has this equipment received Carl Moyer Program funds in the past? ☐ Yes ☐ No

Is the vehicle location address the same as the applicant address? If not, please complete below. ☐ Yes ☐ No

Street Address (if no address, please provide intersection)  City

County  State

Zip  Vehicle Type

If other, please describe:

Is the vehicle an Authorized Emergency Vehicle?  
(Authorized emergency vehicles as described in the California Vehicle Code, sections 27156.2 and 1657 including, but not limited to pumpers, ladder trucks, and water tenders) ☐ Yes ☐ No

Proposed Project Life (in years)  
This is the number of years that the equipment must operate as specified in your SCAQMD contract. (The maximum project life available for fire apparatus is 14 years and represents the average remaining useful life of the vehicle.)

Vehicle Identification Number (VIN)  Vehicle Make

Vehicle Model  Vehicle Model Year

Gross Vehicle Weight Rating (GVWR)

License Plate #  Unit Number

I have attached proof of California registration for the past 24-months and a copy of the Title, proving ownership (without lien holder) for each project vehicle. ☐ Yes ☐ No

Is 2 to 1 Replacement Applied? ☐ Yes ☐ No

Replacement Vehicle and Vendor Information

New Vehicle Make  New Vehicle Model

New Vehicle Model Year  New Vehicle Cost

New Vehicle GVWR

Vendor  Vendor Contact Name

Vendor Phone Number  Vendor Address

Vendor City  Vendor State





# Carl Moyer and SOON Application

## Form B-3

### On-Road Emergency Equipment (Fire Apparatus)

#### New Only : Project Details

Are the project vehicle(s) being submitted for funding under this category exempt from ARB Regulations?  
Authorized emergency vehicle(s) are described under California Vehicle Code Sections 27156.2 and 165.

☐ Yes ☐ No

Is this a public fleet vehicle?

☐ Yes ☐ No

Grant Request Amount

Total Funding Requested

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE)

Applicant Co-Funding Amount

#### Operation Information

Percent operation in California (%)

Percent Operation in District (%)





Carl Moyer and SOON Application  
Form B-3  
On-Road Emergency Equipment (Fire Apparatus)  
New Only : Engine Information

**Baseline Engine Information**

Engine Fuel Type	<input type="text"/>	Engine Model	<input type="text"/>
Engine Make	<input type="text"/>	Engine Serial Number	<input type="text"/>
Engine Model Year	<input type="text"/>	ARB Engine Family Number	<input type="text"/>

ARB Certification Executive Order (EO) Number  
(if zero-emission, attach ARB Approval Letter)

Download the EO at: <http://www.arb.ca.gov/msprog/onroad/cert/cert.php>

**New Engine Information**

Engine Fuel Type	<input type="text"/>	Engine Model	<input type="text"/>
Engine Make	<input type="text"/>		
Engine Model Year	<input type="text"/>		
ARB Engine Family Number	<input type="text"/>	ARB Certification Executive Order (EO) Number (if zero-emission, attach ARB Approval Letter)	<input type="text"/>

The proposed engine for the project must be consistent with the Intended Service Class per the EO (MHD Intended Service Class engines cannot be used for projects which have the HHD vehicle classifications). Applicant must ATTACH a copy of the referenced Executive Order with the application. Download the EO at: <http://www.arb.ca.gov/msprog/onroad/cert/cert.php>





Carl Moyer and SOON Application  
Form B-3  
On-Road Emergency Equipment (Fire Apparatus)  
New Only : Engine Activity Information

Please provide projected annual usage for the new equipment over the proposed life of the project. This projection should be based on actual usage data for the baseline, or existing, equipment. Applicants requesting evaluation based on fuel consumption MUST provide both mileage and fuel records from the past 24 months. Supporting documentation may be in the form of maintenance records, fuel receipts, logs, or other paperwork for each piece of baseline equipment covering at least the past 24 months. No such documentation is required for project evaluations based solely on mileage.

**Activity Information**

Baseline Engine - Annual operation details for the past 24-months. If fuel based evaluation you must also provide mileage.

	Jan - Date of Application Submittal 2018	Jan - Dec 2017	Mar - Dec 2016	Estimated Annual Future Usage
Miles	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Fuel Use (gallons/year)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>





## Carl Moyer and SOON Application Form B-3

On-Road Emergency Equipment (Fire Apparatus)  
New Only : Attachments

### **The following attachments may be submitted for this proposal:**

- Vehicle Registration
- ARB Approval Letter (for Zero-Emission)
- Fuel/Mileage Logs
- Engine Executive Order(s) and Retrofit Device Executive Order(s)
- Quotes (must be within 90 days of application submittal)
- Business Information Request Form
- Campaign Contribution Disclosure
- W-9 Form
- Direct Deposit Form
- Miscellaneous Documents
- Business Status Certification
- Certification of Debarment, Suspension and Other Responsibility Matters





# Carl Moyer and SOON Application Form C-1 Off-Road Equipment Replacement Equipment Information (page 1 of 2)

If you have any questions regarding this program or the application process, please contact Walter Shen by phone at (909) 396-2487 or by email at [wshen@aqmd.gov](mailto:wshen@aqmd.gov).

Large Off-Road Fleets have limited eligibility for Carl Moyer Program funding, but may apply for SOON Program funding using this application. For more information, please visit [www.aqmd.gov/SOON](http://www.aqmd.gov/SOON).

Please complete one Form for each piece of equipment.

## Existing Equipment Information

Are you applying under Carl Moyer Program or the Surplus Off-Road NOx Program?

Has this equipment received Carl Moyer Program funds in the past? ☐ Yes ☐ No

For Large Fleets Only - have you received Carl Moyer funding after January 1, 2017? ☐ Yes ☐ No

What is the primary function of this equipment?

Is the vehicle location address the same as the applicant address? If not, please complete below. ☐ Yes ☐ No

Street Address (if no address, provide intersection)  City

County  State

Zip  Vehicle Type

If other, please describe:

Equipment Category

Equipment Type

If other equipment type, please describe

Equipment Make  Equipment Model

Equipment Model Year  Equipment Serial Number or VIN

Unit Number or EIN# (for non-Ag Operations)

Is 2 to 1 Replacement Applied? ☐ Yes ☐ No

Number of Main Engines  Number of Auxiliary Engines

Is this equipment used in Agricultural operations? ☐ Yes ☐ No

What percentage of equipment operations are in Agriculture?





# Carl Moyer and SOON Application Form C-1

## Off-Road Equipment Replacement Equipment Information (page 2 of 2)

### New Equipment and Vendor Information

Unit Number	<input type="text"/>	Equipment Category	<input type="text"/>
Equipment Type	<input type="text"/>		
If other equipment type, please describe <input type="text"/>			
Equipment Make	<input type="text"/>	Equipment Model	<input type="text"/>
Equipment Model Year	<input type="text"/>		
Vendor	<input type="text"/>	Vendor Contact Name	<input type="text"/>
Vendor Phone Number	<input type="text"/>	Vendor Address	<input type="text"/>
Vendor City	<input type="text"/>	State	<input type="text"/>
Vendor Zip	<input type="text"/>		

All cost estimates must be based on quotes that have been obtained within 90 days prior to the closing date of the Program Announcement. Attach all quotes to the application.

Number of engines for this New Equipment Unit:

Main (Front) Engine(s)	<input type="text"/>	Auxiliary (Rear) Engine(s)	<input type="text"/>
New Replacement Unit Cost \$	<input type="text"/>	Tax \$	<input type="text"/>
Total Cost \$	<input type="text"/>	Applicant Co-Funding Amount (If Any) \$	<input type="text"/>
Applicant Grant Request (If Any) \$	<input type="text"/>		





# Carl Moyer and SOON Application

## Form C-1

### Off-Road Equipment Replacement

### Project Details

Is equipment currently subject to CARB's Off-Road Regulation?

☐ Yes ☐ No

What is the total horsepower of all vehicles in the fleet?

Enter DOORS Fleet Number

All Off-Road equipment applicants subject to CARB's In-Use Off-Road Diesel Vehicle Regulation must submit their DOORS fleet compliance snapshot and fleet vehicle list.

You may contact the DOORS hotline at (877) 593-6677 for assistance.

SOON applications must also submit the fleet average calculation. Please visit <https://arb.ca.gov/msprog/ordiesel/fac.htm> for more information.

Total Funding Requested

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE)

Applicant Co-Funding Amount

### Operation Information

Is existing equipment in operable condition?

☐ Yes ☐ No

How many years has the applicant owned the existing equipment?

Does this vehicle have a functioning, non-resettable hour meter?

☐ Yes ☐ No

Percent Operation in California

Percent Operation in District

Note: See <http://www.aqmd.gov/home/about/jurisdiction> for a jurisdiction map.

Proposed Project Life (this is the number of years that the equipment must operate as specified in your SCAQMD contract)





Carl Moyer and SOON Application  
Form C-1  
Off-Road Equipment Replacement  
Engine Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

**Existing/Baseline Engine Information**

Baseline Engine Type	<input type="radio"/> Main <input type="radio"/> Auxiliary		
Baseline Engine Fuel Type	<input type="text"/>		
Baseline Engine Make	<input type="text"/>	Baseline Engine Model	<input type="text"/>
Baseline Engine Model Year	<input type="text"/>	Baseline Engine Serial Number	<input type="text"/>
Baseline Engine Horsepower	<input type="text"/>	Baseline Engine Family Number	<input type="text"/>
Old Engine (Baseline) Emissions Tier	<input type="text"/>		

**New Engine Information**

New Engine Fuel Type	<input type="text"/>		
New Engine Make	<input type="text"/>	New Engine Model	<input type="text"/>
New Engine Model Year	<input type="text"/>	New Engine Serial Number	<input type="text"/>
New Engine Horsepower	<input type="text"/>	New Engine Family Number	<input type="text"/>
New Engine (Reduced) Emissions Tier	<input type="text"/>		





Carl Moyer and SOON Application  
Form C-1  
Off-Road Equipment Replacement  
Engine Activity Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

Project application must include documentation of existing equipment usage for the previous 24 months prior to the application date.

Baseline Engine - Annual operation details for the past 24-months

	Jan - Date of Application Submittal 2018	Jan - Dec 2017	Mar - Dec 2016	Estimated Annual Future Usage
Hours	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>





Carl Moyer and SOON Application  
Form C-1  
Off-Road Equipment Replacement  
Attachments

**The following attachments may be submitted for this proposal:**

- Insurance Documentation
- Engine Executive Order(s) and Retrofit Device Executive Order(s)
- Quotes (must be within 90 days of application submittal)
- Equipment Usage Documentation (for past 24 – months including, but not limited to, maintenance records, hour meter readings)
- Photo showing the baseline engine (old) engine model year, engine serial #, HP, engine family # (if available)
- Equipment Ownership (Bill of Sale)
- SOON Fleet Average Calculation (please go to <https://arb.ca.gov/msprog/ordiesel/fac.htm>)  
- only for applicants applying for SOON funding
- DOORS Fleet Compliance Snapshot including vehicle list
- Business Information Request Form
- Campaign Contribution Disclosure
- Business Status Cert
- W-9 Form
- Direct Deposit Form
- Certification of Debarment, Suspension and Other Responsibility Matters





# Carl Moyer and SOON Application Form C-2 Off-Road Equipment Repower Equipment Information

If you have any questions regarding this program or the application process, please contact Walter Shen by phone at (909) 396-2487 or by email at: [wshen@aqmd.gov](mailto:wshen@aqmd.gov)

Large Off-Road Fleets have limited eligibility for Carl Moyer Program funding, but may apply for SOON Program funding using this application. For more information, please visit [www.aqmd.gov/SOON](http://www.aqmd.gov/SOON).

Please complete ONE form for each piece of equipment.

## Existing Equipment Information

Are you applying under Carl Moyer Program or the Surplus Off-Road NOx Program?

Has this equipment received Carl Moyer Program funds in the past?

☐ Yes ☐ No

For Large Fleets Only - have you received Carl Moyer funding after January 1, 2017?

☐ Yes ☐ No

What is the primary  
function of this  
equipment?

Is the vehicle location address the same as the applicant address? If not, please complete below.

☐ Yes ☐ No

Street Address (if no address,  
provide intersection)

City

County

State

Zip

Vehicle Type

If other, please describe:

Equipment Category

Equipment Type

If other equipment type, please describe

Equipment Make

Equipment Model

Equipment Model Year

Equipment Serial  
Number or VIN

Unit Number or EIN# (for non-  
Ag Operations)

Is 2 to 1 Replacement Applied?

☐ Yes ☐ No

Number of Main  
Engines

Number of Auxiliary  
Engines

Is this equipment  
used in Agricultural operations?

☐ Yes ☐ No





# Carl Moyer and SOON Application Form C-2 Off-Road Equipment Repower Project Details

Is equipment currently subject to CARB's Off-Road Regulation?

☐ Yes ☐ No

What is the total horsepower of all vehicles in the fleet?

Enter DOORS Fleet Number

All Off-Road equipment applicants subject to CARB's In-Use Off-Road Diesel Vehicle Regulation must submit their DOORS fleet compliance snapshot and fleet vehicle list.

You may contact the DOORS hotline at (877) 593-6677 for assistance.

SOON applications must also submit the fleet average calculation. Please visit <https://arb.ca.gov/msprog/ordiesel/fac.htm> for more information.

Total Funding Requested (including Retrofit cost, if applicable)

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE - incl. Retrofit if applicable)

Applicant Co-Funding Amount

## Operation Information

Is existing equipment in operable condition?

☐ Yes ☐ No

How many years has the applicant owned the existing equipment?

Does this vehicle have a functioning, non-resettable hour meter?

☐ Yes ☐ No

Percent Operation in California

Percent Operation in District

Proposed Project Life (this is the number of years that the equipment must operate as specified in your SCAQMD contract)





Carl Moyer and SOON Application  
Form C-2  
Off-Road Equipment Repower  
Engine Information (page 1 of 2)

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

**Existing/Baseline Engine Information**

Baseline Engine Type	<input type="radio"/> Main <input type="radio"/> Auxiliary		
Baseline Engine Fuel Type	<input type="text"/>		
Baseline Engine Make	<input type="text"/>	Baseline Engine Model	<input type="text"/>
Baseline Engine Model Year	<input type="text"/>	Baseline Engine Serial Number	<input type="text"/>
Baseline Engine Horsepower	<input type="text"/>	Baseline Engine Family Number	<input type="text"/>
Old Engine (Baseline) Emissions Tier	<input type="text"/>		
Method proposed for rendering the baseline engine(s) inoperable			<input type="text"/>

**New Engine Information**

New Engine Fuel Type	<input type="text"/>		
New Engine Make	<input type="text"/>	New Engine Model	<input type="text"/>
New Engine Model Year	<input type="text"/>	New Engine Serial Number	<input type="text"/>
New Engine Horsepower	<input type="text"/>	New Engine Family Number	<input type="text"/>
New Engine (Reduced) Emissions Tier	<input type="text"/>		
Is the New Engine a Family Emissions Limit (FEL) engine?			<input type="radio"/> Yes <input type="radio"/> No

**New Engine Cost Information**

New Engine Unit Cost	<input type="text"/>	Cost of Installation/Labor	<input type="text"/>
Cost of New Engine Tax	<input type="text"/>	Total Cost of Repower	<input type="text"/>
Applicant Co-Funding Amount (if any)	<input type="text"/>	Grant Request Amount for this Repower	<input type="text"/>

All cost estimates must be based on quotes that have been obtained within 90 days prior to the closing date of the Program Announcement. Attach all quotes to the application.

**New Engine Vendor Information**

Vendor	<input type="text"/>	Vendor Contact Name	<input type="text"/>
Vendor Phone Number	<input type="text"/>	Vendor Address	<input type="text"/>
Vendor City	<input type="text"/>	Vendor State	<input type="text"/>
Vendor Zip	<input type="text"/>		





Carl Moyer and SOON Application  
Form C-2  
Off-Road Equipment Repower  
Engine Information (page 2 of 2)

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

**Engine Retrofit Information**

Will a retrofit device be added to this engine as part of this project?

☒ Yes ☐ No

Retrofit Device Make

Retrofit Device Model

% PM Reduction

% NOX Reduction

% ROG Reduction

Retrofit Device ARB Executive  
Order Number

Project Life

**Retrofit Cost Information**

Retrofit Device System Cost

Retrofit Device Installation  
Cost

Total Cost of Retrofit

Amount requested for this  
retrofit \$





Carl Moyer and SOON Application  
Form C-2  
Off-Road Equipment Repower  
Engine Activity Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

Project application must include documentation of existing equipment usage for the previous 24 months prior to the application date.

Baseline Engine - Annual operation details for the past 24-months

	Jan - Date of Application Submittal 2018	Jan - Dec 2017	Mar - Dec 2016	Estimated Annual Future Usage
Hours	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>





Carl Moyer and SOON Application  
Form C-2  
Off-Road Equipment Repower  
Attachment

**The following attachments may be submitted for this proposal:**

- Insurance Documentation
- Engine Executive Order(s) and Retrofit Device Executive Order(s)
- Quotes (must be within 90 day of application submittal)
- Equipment Usage Documentation (for past 24 – months including, but not limited to, maintenance records, hour meter readings)
- Photo showing the baseline (old) engine model year, engine serial #, horsepower, engine family # (if available)
- SOON Fleet Average Calculation (please go to <https://arb.ca.gov/msprog/ordiesel/fac.htm>)  
- only for applicants applying for SOON funding
- DOORS Fleet Compliance Snapshot - including vehicle list
- Business Information Request Form
- Campaign Contribution Disclosure
- W-9 Form
- Direct Deposit Form
- Business Status Certification
- Certification of Debarment, Suspension and Other Responsibility Matters





# Carl Moyer and SOON Application Form C-3 Off-Road Equipment Retrofit Equipment Information

If you have questions regarding this program or the application process, please contact Walter Shen by phone at (909) 396-2487 or by email at: [wshen@aqmd.gov](mailto:wshen@aqmd.gov).

## Existing Equipment Information

Are you applying under Carl Moyer Program or the Surplus Off-Road NOx Program?

Has this equipment received Carl Moyer Program funds in the past?

☐ Yes ☐ No

What is the primary  
function of this  
equipment?

Is the vehicle location address the same as the applicant address? If not, please complete below.

☐ Yes ☐ No

Street Address (if no  
address, provide intersection)

City

County

State

Zip

Vehicle Type

If other, please describe:

Equipment Category

Equipment Type

If other equipment type, please describe

Equipment Make

Equipment Model

Equipment Model Year

Equipment Serial  
Number or VIN

Unit Number

Is 2 to 1 Replacement Applied?

☐ Yes ☐ No

Number of Main  
Engines

Number of Auxiliary  
Engines

Is this equipment  
used in Agricultural operations?

☐ Yes ☐ No





# Carl Moyer and SOON Application Form C-3 Off-Road Equipment Retrofit Project Details

Is equipment currently subject to CARB's Off-Road Regulation?

☐ Yes ☐ No

What is the total horsepower of all vehicles in the fleet?

Enter DOORS Fleet Number

All Off-Road equipment applicants subject to CARB's In-Use Off-Road Diesel Vehicle Regulation must submit their DOORS fleet compliance snapshot and fleet vehicle list.

You may contact the DOORS hotline at (877) 593-6677 for assistance.

SOON applications must also submit the fleet average calculation. Please visit <https://arb.ca.gov/msprog/ordiesel/fac.htm> for more information.

Total Funding Requested

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE)

Applicant Co-Funding Amount

## Operation Information

Is existing equipment in operable condition?

☐ Yes ☐ No

How many years has the applicant owned the existing equipment?

Does this vehicle have a functioning, non-resettable hour meter?

☐ Yes ☐ No

Percent Operation in California

Percent Operation in District

See <http://www.aqmd.gov/home/about/jurisdiction> for a jurisdiction map.

Proposed Project Life (this is the number of years that the equipment must operate as specified in your SCAQMD contract)





Carl Moyer and SOON Application  
Form C-3  
Off-Road Equipment Retrofit  
Engine & Retrofit Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

**Existing/Baseline Engine Information**

Baseline Engine Type	<input type="radio"/> Main <input type="radio"/> Auxiliary		
Baseline Engine Fuel Type	<input type="text"/>		
Baseline Engine Make	<input type="text"/>	Baseline Engine Model	<input type="text"/>
Baseline Engine Model Year	<input type="text"/>	Baseline Engine Serial Number	<input type="text"/>
Baseline Engine Horsepower	<input type="text"/>	Baseline Engine Family Number	<input type="text"/>
Old Engine (Baseline) Emissions Tier	<input type="text"/>		

**Engine Retrofit Information**

Retrofit Device Make	<input type="text"/>	Retrofit Device Model	<input type="text"/>
Verification Level	<input type="text"/>	Project Life	<input type="text"/>
Verified % PM Reduction	<input type="text"/>	Verified % NOX Reduction	<input type="text"/>
Verified % ROG Reduction	<input type="text"/>	Retrofit Device ARB Executive Order Number	<input type="text"/>
Retrofit Device Serial Number	<input type="text"/>		

**Retrofit Cost Information**

Retrofit Device System Cost	<input type="text"/>	Retrofit Device Installation Cost	<input type="text"/>
Tax Amount for Retrofit	<input type="text"/>	Total Cost of Retrofit	<input type="text"/>
Maintenance Cost	<input type="text"/>	Amount requested for this retrofit	<input type="text"/>
Retrofit Dealer Vendor	<input type="text"/>		

All cost estimates must be based on quotes that have been obtained within 90 days prior to the closing date of the Program Announcement. Attach all quotes to the application. The data-logging cost of a retrofit project cannot be included in the eligible project cost.





Carl Moyer and SOON Application  
Form C-3  
Off-Road Equipment Retrofit  
Engine Activity Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

Project application must include documentation of existing equipment usage for the previous 24 months prior to the application date.

Baseline Engine - Annual operation details for past 24 months

	Jan - Date of Application Submittal 2018	Jan - Dec 2017	Mar - Dec 2016	Estimated Annual Future Usage
Hours	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>





## Carl Moyer and SOON Application Form C-3 Off-Road Equipment Retrofit Attachments

**The following attachments may be submitted for this proposal:**

- Insurance Documentation
- Engine Executive Order(s) and Retrofit Device Executive Order(s)
- Quotes (must be within 90 days of application submittal)
- Equipment Usage Documentation (for past 24 – months)
- Other misc. attachments
- DOORS Vehicle List
- SOON Fleet Average Calculation (please go to <https://arb.ca.gov/msprog/ordiesel/fac.htm>)
- DOORS Fleet Compliance Snapshot
- Business Information Request Form
- Campaign Contribution Disclosure
- W-9 Form
- Business Status Certification
- Direct Deposit Form
- Certification of Debarment, Suspension and Other Responsibility Matters





Carl Moyer and SOON Application  
Form C-4  
Off-Road Cargo Handling Equipment Electrification :  
Equipment Information

If you have any questions regarding this program or the application process, please contact Greg Ushijima by phone at (909) 396-3301 or by email at: gushijima@aqmd.gov.

Please complete ONE form for each piece of equipment.

Existing Equipment Information

Has this equipment received Carl Moyer Program funds in the past? ☐ Yes ☐ No

Is equipment currently subject to CARB's Cargo Handling Equipment regulation?

Note: If you are unable to document that project equipment is not subject to the CARB regulation, then the project is ineligible. ☐ Yes ☐ No

What is the primary function of this equipment?

Is the vehicle location address the same as the applicant address? If not, please complete below. ☐ Yes ☐ No

Street Address (if no address, provide intersection)  City

County  State

Zip  Vehicle Type

If other, please describe:

Project Type  Equipment Category

Equipment Type

If other equipment type, please describe

Equipment Make  Equipment Model

Equipment Model Year  Equipment Serial Number or VIN

Unit Number





## Carl Moyer and SOON Application Form C-4

### Off-Road Cargo Handling Equipment Electrification : Project Details

Total Funding Requested

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE)

Applicant Co-Funding Amount

#### Operation Information

Is existing equipment in operable condition?

☐ Yes ☐ No

How many years has the applicant owned the existing equipment (must be greater than 2 years)?

Does the existing equipment have a functioning, non-resettable hour meter?

☐ Yes ☐ No

Proposed Project Life (this is the number of years that the equipment must operate as specified in your SCAQMD contract)

Please provide a full description of the proposed project. Include specifications for the equipment electrification and associated infrastructure. *SEE ATTACHMENTS*





# Carl Moyer and SOON Application Form C-4

## Off-Road Cargo Handling Equipment Electrification : Engine & Retrofit Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

### Existing/Baseline Engine Information

Baseline Engine Type	<input type="radio"/> Main	<input type="radio"/> Auxiliary	
Baseline Engine Fuel Type	<input type="text"/>		
Baseline Engine Make	<input type="text"/>	Baseline Engine Model	<input type="text"/>
Baseline Engine Model Year	<input type="text"/>	Baseline Engine Serial Number	<input type="text"/>
Baseline Engine Horsepower	<input type="text"/>	Baseline Engine Family Number	<input type="text"/>
Old Engine (Baseline) Emissions Tier	<input type="text"/>		

Please provide a full description of the proposed project. Include specifications for the equipment electrification and associated infrastructure. *SEE ATTACHMENTS*

### Electrification Vendor /Contractor Information

Vendor	<input type="text"/>	Vendor Contact Name	<input type="text"/>
Vendor Phone Number	<input type="text"/>	Vendor Address	<input type="text"/>
Vendor City	<input type="text"/>	Vendor State	<input type="text"/>
Vendor Zip	<input type="text"/>		

### Retrofit Cost Information

Total Project Materials Cost	<input type="text"/>	Total Project Labor Cost	<input type="text"/>
Total Project Cost	<input type="text"/>		
Applicant Co-Funding Amount (If any)	<input type="text"/>	Grant Request Amount	<input type="text"/>

Funding/Cost Information for this Electrification Project - You MUST attach a written estimate from the equipment vendor/contractor documenting the cost of the device; this quote must be obtained within 90 days prior to the closing date of the Program Announcement. Quote must itemize material costs and labor costs separately and must provide explanatory details on each line item. *SEE ATTACHMENTS*





# Carl Moyer and SOON Application Form C-4

## Off-Road Cargo Handling Equipment Electrification : Engine Activity Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

Project application must include documentation of existing equipment usage for the previous 24 months prior to the application date.

Baseline Engine - Annual operation details for the past 24 months

	Jan - Date of Application Submittal 2018	Jan - Dec 2017	Mar - Dec 2016	Estimated Annual Future Usage*
Hours	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

\*Please note: Estimated annual usage is only necessary if actual usage is not known. Approved projects will require the applicant to meet the estimated annual usage for the duration of the contract.





## Carl Moyer and SOON Application Form C-4

Off-Road Cargo Handling Equipment Electrification :  
Attachments

**The following attachments may be submitted for this proposal:**

- CARB's Cargo Handling Equipment Regulation
- DOORS Vehicle List
- SOON Fleet Average Calculation (please go to <https://arb.ca.gov/msprog/ordiesel/fac.htm>)
- Project Description
- Written Estimate for Project
- Business Information Request Form
- Campaign Contribution Disclosure
- W-9 Form
- Direct Deposit Form
- Business Status Certification
- Certification of Debarment, Suspension and Other Responsibility Matters
- Photo of Equipment, Equipment Tag, Current Hour Meter and Engine Tag





Carl Moyer and SOON Application  
Form D-1  
Marine Vessels  
Repower : Equipment Information

If you have any questions regarding this program or the application process, please contact Mark Coleman at (909) 396-3074 or [mcoleman@aqmd.gov](mailto:mcoleman@aqmd.gov)

All Commercial Harbor Craft are currently subject to CARB's Commercial Harbor Craft regulation. Attach a copy of your most recent CARB Commercial Harbor Craft Initial Report, and all updates.

Existing Equipment Information

Has this equipment received Carl Moyer Program funds in the past?

☐ Yes ☐ No

Contract #	<input type="text"/>	Amount Received	<input type="text"/>
Vessel Name	<input type="text"/>	Port/Harbor	<input type="text"/>
Terminal	<input type="text"/>	Pier	<input type="text"/>

Physical Address of the Vessel (including City, State, Zip)

Vessel berth/slip number	<input type="text"/>	Primary Vessel Use	<input type="text"/>
--------------------------	----------------------	--------------------	----------------------

If other vessel type, please describe

Secondary Vessel Use

If other secondary vessel type, please describe

Primary Vessel Hours per Year	<input type="text"/>	Secondary Vessel Hours per Year	<input type="text"/>
Vessel Make	<input type="text"/>	Vessel Model	<input type="text"/>
Vessel Model Year	<input type="text"/>		
Total number of main engines on the vessel	<input type="text"/>	Total number of aux engines on the vessel	<input type="text"/>

U.S. Coast Guard Documentation Number (IMO Lloyd's Number if oceangoing vessel, or CF# AND CA Department of Fish & Game license for fishing vessels manufactured out of the United States or less than five net tons displacement)

Does the project vessel utilize a wet exhaust system?

☐ Yes ☐ No





Carl Moyer and SOON Application  
Form D-1  
Marine Vessels  
Repower : Project Details

Total Funding Requested

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE)

Applicant Co-Funding Amount

**Operation Information**

Percent Operation in California

Percent Operation in District

Note: For SCAQMD Marine Jurisdiction Map, please see next page.

Purchasing new transmission (if applicable) ☐ Yes ☐ No

Justification For Purchasing  New Transmission Cost

Electronic Monitoring Unit: I understand that a new Electronic Monitoring Unit (EMU) will be installed as part of this Project. (This is a program requirement.) ☐ Yes ☐ No

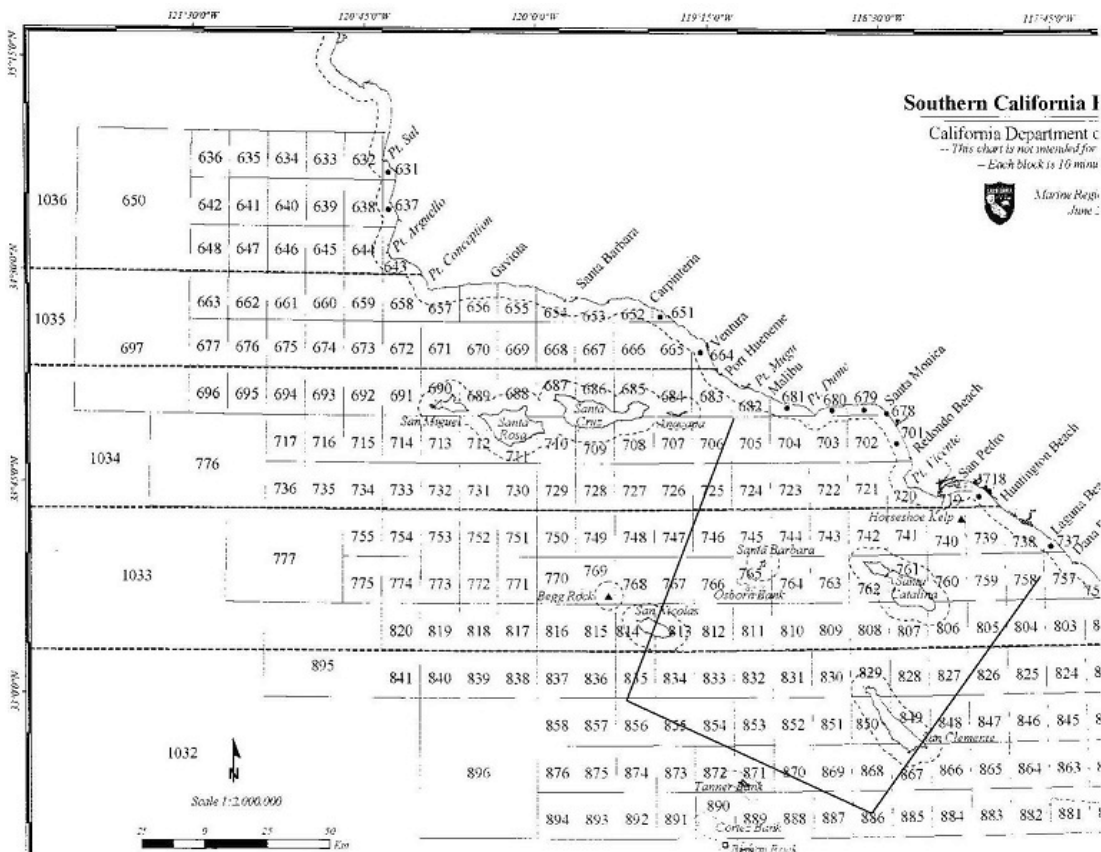
The vessel is required to have a functioning non-resettable hour meter for the full project life. Select YES to indicate understanding and compliance: ☐ Yes ☐ No

Proposed Project Life (this is the number of years that the vessel must operate as specified in your SCAQMD contract)





# Carl Moyer and SOON Application Form D-1 Marine Vessels Reporer : SCAQMD Boundary Lines







Carl Moyer and SOON Application  
Form D-1  
Marine Vessels  
Repower : Engine Information

If you have more than one engine for your marine vessel, please make copies of this page and use one form for each engine.

**Existing/Baseline Engine Information**

Engine Fuel Type	<input type="text"/>	Old Engine (Baseline) Emissions Tier	<input type="text"/>
Engine Make	<input type="text"/>	Engine Model	<input type="text"/>
Engine Model Year	<input type="text"/>	Engine Horsepower	<input type="text"/>
Engine Type	<input type="radio"/> Main <input type="radio"/> Auxiliary	Engine Serial Number	<input type="text"/>
EPA Engine Family Number	<input type="text"/>	Method proposed for rendering the replaced engine inoperable:	<input type="text"/>
Number of Cylinders	<input type="text"/>	Liters	<input type="text"/>
Does the existing engine have a functioning hour meter?		<input type="radio"/> Yes <input type="radio"/> No	

**New Reduced-Emission Engine Information**

Engine Fuel Type	<input type="text"/>		
Engine Make	<input type="text"/>	Engine Model	<input type="text"/>
Engine Model Year	<input type="text"/>	Engine Horsepower	<input type="text"/>
Engine Type	<input type="radio"/> Main <input type="radio"/> Auxiliary	Engine Serial Number	<input type="text"/>
EPA Engine Family Number	<input type="text"/>		
Emissions Tier Type	<input type="radio"/> Off Road <input type="radio"/> Marine		
New Engine (Reduced) Emissions Tier	<input type="text"/>		
Number of Cylinders	<input type="text"/>	Liters	<input type="text"/>
New Engine Cost (Including Tax)	<input type="text"/>	New Engine Installation/Labor Cost	<input type="text"/>

NOTE: You MUST attach a written estimate or quotation from the equipment vendor documenting the cost of the new equipment. This quote must be obtained within 90 days prior to the closing date of the Program Announcement. The quote must indicate the certification level of the new, replacement engine (i.e., Tier 3 or cleaner).

Vendor	<input type="text"/>	Vendor Contact Name	<input type="text"/>
Vendor Address	<input type="text"/>	Vendor City	<input type="text"/>
Vendor Zip	<input type="text"/>	Vendor State	<input type="text"/>
Vendor Phone Number	<input type="text"/>		





Carl Moyer and SOON Application  
Form D-1  
Marine Vessels  
Repower : Engine Activity Information

If you have more than one engine for your marine vessel, please make copies of this page and use one form for each engine.

Project application must include documentation of existing equipment usage for the previous 24 months prior to the application date.

**Activity Information**

Engine Specific Usage - Annual Operation Details for the Past 24-months

	Jan - Date of Application Submittal in 2018	Jan - Dec 2017	Mar - Dec 2016	Estimated Annual Future Usage
Hours	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>





## Carl Moyer and SOON Application Form D-1

Marine Vessels  
Repower : Attachments

### **The following attachments may be submitted for this proposal:**

- Insurance Documentation
- Harbor Craft Regulation Initial Report
- Quotes (must be within 90 days of application submittal)
- Equipment Usage Documentation (for past 24 – months) Other
- misc. attachments
- Business Information Request Form
- Campaign Contribution Disclosure
- W-9 Form
- Direct Deposit Form
- Business Status Cert
- Certification of Debarment, Suspension and Other  
Responsibility Matters





Carl Moyer and SOON Application  
Form D-2  
Marine Vessels  
Shore Power : Equipment Information

If you have any questions regarding this program or the application process, please contact Greg Ushijima by phone at (909) 396-3301 or by email at: [gushijima@aqmd.gov](mailto:gushijima@aqmd.gov). Please complete one form for each Shore Power project.

### Type of Project

Please note that if you are applying for the Purchase of Transformer and Associated Infrastructure ("Shore Side"), please use the Infrastructure application.

Vessel Retrofit to  
Accept Electrical  
Power  
("Ship-Side")

Type Of Applicant

### Existing Equipment Information

Complete one equipment section for each vessel to be retrofitted. For transformer only projects please provide a detailed description of the vessels that typically use this terminal.

If your vessel type is a refrigerated cargo ship, container-ship or passenger ship, please attach your Vessel Plan as required by the ARB shore power regulation: <http://www.arb.ca.gov/ports/shorepower/shorepower.htm>

Vessel Name

Port/Harbor

Terminal

Pier

Vessel berth/slip  
number

Primary Vessel  
Function

If other vessel type, please describe

Vessel Make

Vessel Model

Vessel Model Year

Total number of  
main engines on  
the vessel

Total number of  
aux engines on the  
vessel

Lloyds Register or  
IMO Ship ID

US Coast Guard  
Documentation  
Number

If you are leasing the terminal, what is the time left on the current lease?

Average berthing time (hours) of the vessel, per visit (include time needed to connect and disconnect the vessel to shore power)

Vessel power (kW) requirements while at berth Average Power Requirement

Vessel power (kW) requirements while at berth Maximum Power Requirement





Carl Moyer and SOON Application  
Form D-2  
Marine Vessels  
Shore Power : Project Details

Total Funding Requested	<input type="text"/>
Total number of vessels in the fleet	<input type="text"/>
Identify other funding sources to be used for this project	<input type="text"/>
Total Project Cost (From Quote: MUST EQUAL QUOTE)	<input type="text"/>
Applicant Co-Funding Amount	<input type="text"/>
Identify other potential project partners (ex. Port)	<input type="text"/>
Power supplier (ex. PG&E)	<input type="text"/>
Where does the electrical power infrastructure begin, and end? *	<input type="text"/>

Operation Information

Total number of annual vessel visits expected to use shore power	<input type="text"/>
Total number of annual visits to the terminal	<input type="text"/>
Total number of annual hours of usage for vessels expecting to use shorepower	<input type="text"/>

Project Funding Information

You **MUST** attach a written estimate from the equipment vendor documenting the cost of the device; this quote must be obtained within 90 days prior to the closing date of the Program Announcement. **See Attachments Section.**

Transformer Project Cost	<input type="text"/>	Associated Infrastructure Cost	<input type="text"/>
Retrofit Equip. Cost (incl. tax)	<input type="text"/>	Retrofit Equip. Installation Cost	<input type="text"/>
Total Project Costs	<input type="text"/>		

You **MUST** attach a detailed written estimate/quote from the equipment vendor for the cost of the equipment and labor.

**REQUEST: MAXIMUM ALLOWABLE**

- ☐ Shore Power Vessel Retrofit ("ship-side"): 100% of retrofit cost & 50% of transformer cost.

**REQUEST : OTHER**

☐

(You may request less than the maximum allowable funding amount to improve cost-effectiveness of your project.)

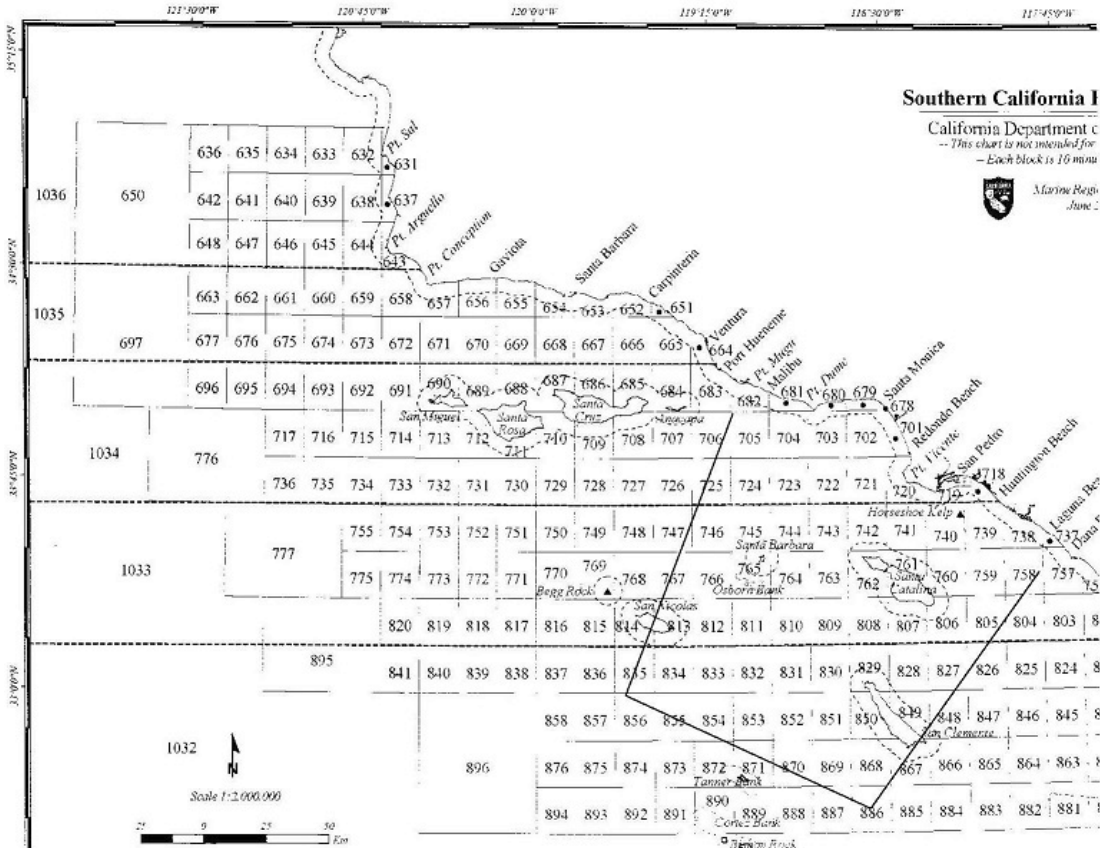
Anticipated Project Completion Date

Please attach a detailed project schedule. **SEE ATTACHMENTS PAGE**





Carl Moyer and SOON Application  
Form D-2  
Marine Vessels  
Shore Power : SCAQMD Boundary Lines



Boundary points for the Box:

Southern Coastal Boundary - San Diego - Orange County Border  
Northern Coastal Boundary - Ventura - Los Angeles County Border

Northern Tip: 33° N and 119° 30' W  
Southern Tip: 32° 30' N and 118° 30' W

Distance between northern coastal point and northern tip: 80 miles approx.  
Distance between southern coastal point and southern tip: 74 miles approx.





Carl Moyer and SOON Application  
Form D-2  
Marine Vessels  
Shore Power : Engine Information

**Existing/Baseline Engine Information**

Please attach a detailed description of the vessels that will be using the shore power equipment. This description should include:

- Vessel type
- Ship size (in 20-foot equivalent units (TEU) capacity)
- Number and type of engines
- Power demand (total auxiliary power (kW) – not hotelling load)
- The number of auxiliary engines typically operating while at berth per vessel
- Number of annual visits
- Average berthing time (hours) of the vessel, per visit (include time needed to connect and disconnect the vessel to shore power). Be sure to consider the maximum time the auxiliary engines are in use.





Carl Moyer and SOON Application  
Form D-2  
Marine Vessels  
Shore Power : Engine Activity Information

If you have more than one engine for your project, please make copies of this page and use one form for each engine.

Project application must include documentation of existing equipment usage for the previous 24 months prior to the application date.

**Activity Information**

Expected annual hours

Expected annual fuel use

"Current Berth Activity" Number of annual ship visits to the berth (attach the log of vessel visits for each of the specified years): For last 3 years

Last Year Vessel Visits

Prior Year Vessel Visits

2 Years Prior Year Vessel Visits

**Predicted (Future) Berth Activity:**

**Estimated annual ship visits using shore power:**

2017-2019

2020 and beyond

**Estimated monthly hours of operation:**

2017-2019

2020 and beyond

**Estimated monthly megawatt (MW) usage:**

2017-2019

2020 and beyond





Carl Moyer and SOON Application  
Form D-2  
Marine Vessels  
Shore Power : Attachments

**The following attachments may be submitted for this proposal:**

- Detailed Project Proposal
- Other misc. attachments
- ARB Shore Power Vessel Plan
- Vessel Logs
- Vessel Activity Information
- Written Estimate Or Quote
- Proposed Project Schedule
- Business Information Request Form
- Campaign Contribution Disclosure
- W-9 Form
- Direct Deposit Form
- Business Status Certification Form
- Certification of Debarment, Suspension and Other Responsibility Matters





# Carl Moyer and SOON Application Form E-1 Locomotive Replacement Equipment Information

For project criteria please refer to the locomotive chapter in the Carl Moyer Program Guidelines.

If you have any questions regarding this program or the application process, please contact Mei Wang by phone at (909) 396-3257 or by email at: [mwang@aqmd.gov](mailto:mwang@aqmd.gov).

If you have more than one equipment for your project, please make copies of this form and use one form for each equipment.

## Existing Locomotive Information

Has this locomotive received Carl Moyer Program funds in the past? ☐ Yes ☐ No

## Equipment Location Address

Is the equipment location address the same as the applicant address? If not, please complete section below ☐ Yes ☐ No

Street Address

If no address, provide intersection

City

County

State

Zip

Vehicle Type

If other, please describe:

Locomotive type

Locomotive Make

Locomotive Model

Locomotive Model Year

Locomotive Serial Number

Unit number or other identifier

## New Locomotive Information

Locomotive Make

Locomotive Model

Locomotive Model Year

Equipment Type

Locomotive Serial Number (If Available)

Will the locomotive have a functioning idle limit device (ILD) installed?

☐ Yes ☐ No

If other equipment type, please describe

# of Main Engines

# of Auxiliary Engines

New Locomotive Cost (\$)

Locomotive Vendor Name

All cost estimates must be based on quotes that have been obtained within 90 days prior to the closing date of the Program Announcement. Attach all quotes to the application.





# Carl Moyer and SOON Application Form E-1 Locomotive Replacement Project Details

Railroad Class

All cost estimates must be based on quotes that have been obtained within 90 days prior to the closing date of the Program Announcement. Attach all quotes to the application.

Total Funding Requested '20ca 'G75E A 8

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE)

Applicant Co-Funding Amount

## Operation Information

Future/Projected Locomotive Activity Annual Fuel Usage (gallons per year)

If fuel usage is not available, please provide the future/projected locomotive activity in Megawatt Hour (MWh) per year.

Percent Operation in California

Percent Operation in District

Proposed Project Life (this is the number of years that the equipment must operate as specified in your SCAQMD contract)





Carl Moyer and SOON Application  
Form E-1  
Locomotive Replacement  
Engine Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

**Existing/Baseline Engine Information**

Engine Fuel Type	<input type="text"/>		
Engine Make	<input type="text"/>	Engine Model	<input type="text"/>
Engine Model Year	<input type="text"/>	Engine Serial Number	<input type="text"/>
Engine Type	<input type="radio"/> Main <input type="radio"/> Auxiliary	Engine Horsepower	<input type="text"/>
Existing Engine (Baseline) Emissions Tier	<input type="text"/>		
Baseline Engine Family	<input type="text"/>	US EPA Certificate of Conformity No	<input type="text"/>
CARB Executive Order No	<input type="text"/>		

US EPA Certificate of Conformity MUST BE ATTACHED – SEE ATTACHMENTS SECTION

CARB Executive Order MUST BE ATTACHED – SEE ATTACHMENTS SECTION

**Reduced Emission Replacement Engine Information**

Engine Fuel Type	<input type="text"/>		
Engine Make	<input type="text"/>	Engine Model	<input type="text"/>
Engine Model Year	<input type="text"/>		
Engine Serial Number	<input type="text"/>	Engine Horsepower	<input type="text"/>
EPA Engine Family Name	<input type="text"/>	New Engine (Reduced) Emissions Tier	<input type="text"/>
Engine Cost	<input type="text"/>	Installation Cost	<input type="text"/>
Has this engine been certified by U.S. EPA?	<input type="radio"/> Yes <input type="radio"/> No	U.S. EPA certified locomotive NOx emission rate (g/bhp-hr)	<input type="text"/>
U.S. EPA certified locomotive HC emission rate (g/bhp-hr)	<input type="text"/>	U.S. EPA certified locomotive PM emission rate (g/bhp-hr)	<input type="text"/>





Carl Moyer and SOON Application  
Form E-1  
Locomotive Replacement  
Engine Activity Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

Project application must include documentation of existing equipment usage for the previous 24 months prior to the application date.

Please attach documentation to support the reported usage per year.

Annual Fuel Usage - Annual Operation Details for the Past 24-months

	Jan - Date of Application Submittal in 2018	Jan - Dec 2017	Mar - Dec 2016	Estimated Annual Future Usage
Fuel Use (gallons/year)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

If fuel usage is not available, please attach documentation of the megawatt hours used during the previous 24 months.





# Carl Moyer and SOON Application Form E-1 Locomotive Replacement Attachments

**The following attachments may be submitted for this proposal:**

- Insurance Documentation
- Emissions certification documentation
- Quotes (must be within 90 days of application submittal)
- Equipment Usage Documentation (for past 24 – months)
- Other misc. attachments
- Engine Executive Order(s) and Retrofit Device Executive Order(s)
- Fuel Documentation
- Business Information Request Form
- Campaign Contribution Disclosure
- W-9 Form
- Direct Deposit Form
- Business Status Cert
- Certification of Debarment, Suspension and Other Responsibility Matters





# Carl Moyer and SOON Application Form E-2 Locomotive Engine Repower Equipment Information

For project criteria please refer to the locomotive chapter in the Carl Moyer Program Guidelines.

If you have any questions regarding this program or the application process, please contact Mei Wang by phone at (909) 396-3257 or by email at: [mwang@aqmd.gov](mailto:mwang@aqmd.gov).

If you have more than one equipment for your project, please make copies of this form and use one form for each equipment.

## Existing Locomotive Information

Has this locomotive received Carl Moyer Program funds in the past? ☐ Yes ☐ No

## Equipment Location Address

Is the equipment location address the same as the applicant address? If not, complete below: ☐ Yes ☐ No

Street Address (if no address, provide intersection)

City

County

State

Zip

Vehicle Type

If other, please describe:

Locomotive type

If other locomotive type, please describe

Locomotive Make

Locomotive Model

Locomotive Model Year

Locomotive Serial  
Number

Unit number or  
other identifier





# Carl Moyer and SOON Application

## Form E-2

### Locomotive Engine Repower

### Project Details

Railroad Class

All cost estimates must be based on quotes that have been obtained within 90 days prior to the closing date of the Program Announcement. Attach all quotes to the application.

Total Funding Requested from SCAQMD

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE)

Applicant Co-Funding Amount

### Operation Information

Percent Operation in California

Percent Operation in District

Proposed Project Life (this is the number of years that the equipment must operate as specified in your SCAQMD contract):





Carl Moyer and SOON Application  
Form E-2  
Locomotive Engine Repower  
Engine Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

**Existing/Baseline Engine Information**

Engine Fuel Type	<input type="text"/>		
Engine Make	<input type="text"/>	Engine Model	<input type="text"/>
Engine Model Year	<input type="text"/>	Engine Serial Number	<input type="text"/>
Engine Type	<input type="radio"/> Main <input type="radio"/> Auxiliary	Engine Horsepower	<input type="text"/>
Existing Engine (Baseline) Emissions Tier	<input type="text"/>		
Baseline Engine Family	<input type="text"/>	US EPA Certificate of Conformity No	<input type="text"/>
CARB Executive Order No	<input type="text"/>		

US EPA Certificate of Conformity MUST BE ATTACHED – SEE ATTACHMENTS SECTION

CARB Executive Order MUST BE ATTACHED – SEE ATTACHMENTS SECTION

**New Engine Information**

Engine Fuel Type	<input type="text"/>		
Engine Make	<input type="text"/>	Engine Model	<input type="text"/>
Engine Model Year	<input type="text"/>		
Engine Serial Number	<input type="text"/>	Engine Horsepower	<input type="text"/>
EPA Engine Family Name	<input type="text"/>	U.S. EPA Certified Locomotive Emission Level	<input type="text"/>
Engine Cost	<input type="text"/>	Installation Cost	<input type="text"/>

All cost estimates must be based on quotes that have been obtained within 90 days prior to the closing date of the Program Announcement. Attach all quotes to the application.

**Vendor Information**

Vendor	<input type="text"/>	Vendor Contact Name	<input type="text"/>
Vendor Address	<input type="text"/>	Vendor City	<input type="text"/>
Vendor Zip	<input type="text"/>	Vendor State	<input type="text"/>
Vendor Phone Number	<input type="text"/>		





Carl Moyer and SOON Application  
Form E-2  
Locomotive Engine Repower  
Engine Activity Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

Project application must include documentation of existing equipment usage for the previous 24 months prior to the application date

Please attach documentation to support the reported gallons per year

Annual Fuel Usage - Annual Operational Details for the Past 24-months

	Jan - Date of Application Submittal in 2018	Jan - Dec 2017	Mar - Dec 2016	Estimated Annual Future Usage
Fuel Use (gallons/year)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>





Carl Moyer and SOON Application  
Form E-2  
Locomotive Engine Repower  
Attachments

**The following attachments may be submitted for this proposal:**

- Insurance Documentation
- Emissions certification documentation
- Quotes (must be within 90 days of application submittal)
- Equipment Usage Documentation (for past 24 – months)
- Other misc. attachments
- Engine Executive Order(s) and Retrofit Device Executive Order(s)
- Fuel Documentation
- Business Information Request Form
- Campaign Contribution Disclosure
- W-9 Form
- Business Status Cert
- Direct Deposit Form
- Certification of Debarment, Suspension and Other Responsibility Matters





# Carl Moyer and SOON Application Form E-3 Locomotive - Head End Power Unit Equipment Information

For project criteria please refer to the locomotive chapter in the Carl Moyer Program Guidelines.

If you have any questions regarding this program or the application process, please contact Mei Wang by phone at (909) 396-3257 or by email at: [mwang@aqmd.gov](mailto:mwang@aqmd.gov).

If you have more than one equipment for your project, please make copies of this form and use one form for each equipment.

## Existing Locomotive Information

Has this locomotive received Carl Moyer Program funds in the past? ☐ Yes ☐ No

## Equipment Location Address

Is the equipment location address the same as the applicant address? If not, please complete below. ☐ Yes ☐ No

Street Address (if no address, provide intersection)	<input type="text"/>	City	<input type="text"/>
County	<input type="text"/>	State	<input type="text"/>
Zip	<input type="text"/>	Vehicle Type	<input type="text"/>

If other, please describe:

Locomotive Make	<input type="text"/>	Locomotive Model	<input type="text"/>
Locomotive Model Year	<input type="text"/>	Locomotive Serial Number	<input type="text"/>
Unit number or other identifier	<input type="text"/>		





Carl Moyer and SOON Application  
Form E-3  
Locomotive - Head End Power Unit  
Project Details

Railroad Class

All cost estimates must be based on quotes that have been obtained within 90 days prior to the closing date of the Program Announcement. Attach all quotes to the application.

Total Funding Requested from the SCAQMD

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE)

Applicant Co-Funding Amount

**Operation Information**

Percent Operation in California

Percent Operation in District

Proposed Project Life (this is the number of years that the equipment must operate as specified in your SCAQMD contract)





Carl Moyer and SOON Application  
Form E-3  
Locomotive - Head End Power Unit  
Engine Activity Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

Project application must include documentation of existing equipment usage for the previous 24 months prior to the application date.

Please attach documentation to support the reported gallons per year.

Annual Fuel Usage

Contact the SCAQMD Staff Lead to discuss your project and appropriate assumptions for this projection:

	Jan - Date of Application Submittal in 2018	Jan - Dec 2017	Mar - Dec 2016	Annual Fuel Usage (gallons per year)
Fuel Use (gallons/year)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

If fuel usage is not available, please attach documentation of the megawatt hours used during the previous 24 months.

ADDITIONAL PROJECT INFORMATION: Please provide a full description of the proposed project. Include an explanation of any project elements that are not adequately covered in the Application. SEE ATTACHMENTS PAGE.





Carl Moyer and SOON Application  
Form E-3  
Locomotive - Head End Power Unit  
Engine Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

**Existing/Baseline Engine Information**

Engine Fuel Type	<input type="text"/>		
Engine Make	<input type="text"/>	Engine Model	<input type="text"/>
Engine Model Year	<input type="text"/>	Engine Serial Number	<input type="text"/>
Engine Type	<input type="radio"/> Main <input type="radio"/> Auxiliary	Engine Horsepower	<input type="text"/>
Existing Engine (Baseline) Emissions Tier	<input type="text"/>		
Baseline Engine Family	<input type="text"/>	US EPA Certificate of Conformity No	<input type="text"/>
CARB Executive Order No	<input type="text"/>		
Is the engine certified to off road or locomotive standards?		<input type="radio"/> Off Road <input type="radio"/> Locomotive	

CARB Executive Order MUST BE ATTACHED – SEE ATTACHMENTS SECTION

US EPA Certificate of Conformity MUST BE ATTACHED – SEE ATTACHMENTS SECTION

**Reduced Emission Replacement Engine Information**

Engine Fuel Type	<input type="text"/>	Engine Type	<input type="radio"/> Main <input type="radio"/> Auxiliary
Engine Make	<input type="text"/>	Engine Model	<input type="text"/>
Engine Model Year	<input type="text"/>		
Engine Serial Number	<input type="text"/>	Engine Horsepower	<input type="text"/>
EPA Engine Family Name	<input type="text"/>	New Engine (Reduced) Emissions Tier	<input type="text"/>
Engine Cost	<input type="text"/>		
Does this Engine Have a US EPA Certificate of Conformity (PLEASE ATTACH THE CERTIFICATE IN THE ATTACHMENTS SECTION)	<input type="radio"/> Yes <input type="radio"/> No	U.S. EPA certified locomotive NOx emission rate (g/bhp-hr)	<input type="text"/>
U. S. EPA certified locomotive HC emission rate (g/bhp-hr)	<input type="text"/>	U. S. EPA certified locomotive PM emission rate (g/bhp-hr)	<input type="text"/>
Does this engine have a CARB Executive Order?	<input type="radio"/> Yes <input type="radio"/> No	CARB Executive Order Number	<input type="text"/>

All cost estimates must be based on quotes that have been obtained within 90 days prior to the closing date of the Program Announcement. Attach all quotes to the application.





## Carl Moyer and SOON Application Form E-3

Locomotive - Head End Power Unit  
Attachments

**The following attachments may be submitted for this proposal:**

- Additional Project Information
- US EPA Certificate of Conformity
- Insurance Documentation
- Emissions certification documentation
- Quotes (must be within 90 of application submittal)
- Equipment Usage Documentation (for past 24 – months)
- Other misc. attachments
- Business Information Request Form
- Campaign Contribution Disclosure
- W-9 Form
- Business Status Cert
- Direct Deposit Form
- Certification Regarding Debarment, Suspension, and other Responsibility Matters





## Carl Moyer Program – Application for Infrastructure

If you have any questions regarding this program or the application process, please contact George Wu by phone at (909) 396-2533 or by email at: [gwu@aqmd.gov](mailto:gwu@aqmd.gov). Information on the eligible projects and cost for the program can be obtained from Carl Moyer Program Guidelines, Volume 1 Chapter 10<sup>1</sup>.

### Part 1: Applicant Information

Applicant Name:	Business Name:
Phone Number:	Email:
Address:	
City:	Zip Code:
Is the project location the same as the applicant address? <input type="checkbox"/> Yes <input type="checkbox"/> No (If not, please provide project location address below): Street Address: _____ City: _____ Zip Code: _____	

### Part 2: Infrastructure Project Information

Eligible infrastructure projects are those that provide fuel or power to Carl Moyer Program (CMP) eligible vehicles and equipment (i.e., no light-duty vehicle charging stations). Note that a vehicle or equipment application is not required in order to be considered for infrastructure funding. Eligible projects include, but are limited to, the following:

Eligible costs are limited to the purchase and installation of the equipment for power delivery or fueling directly related to the infrastructure project and must utilize commercially available technologies. Eligible project costs include:

- Cost of design and engineering (i.e., labor, site preparation, Americans with Disabilities Act accessibility, signage).
- Cost of equipment (e.g., charging/fueling units, parts for electrical upgrade, energy storage equipment, materials).
- Cost of insulation directly related to the construction of the station.
- Meter/data loggers.
- On-site power generation system that fuels or powers covered sources (i.e., solar and wind power generation equipment).

**Table 1. Maximum Percentage of Eligible Cost for Moyer Program Infrastructure Projects**

Maximum Percentage of Eligible Cost	Infrastructure Projects
50%	All Projects
60%	Publicly Accessible Projects
65%	Projects with Solar/Wind Power Systems <sup>2</sup>
75%	Publicly Accessible Projects with Solar/Wind Power Systems <sup>1</sup>
100%	Public School Buses- Battery Charging and Alternative Fueling

<sup>1</sup> [https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017\\_gl\\_chapter\\_10.pdf](https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_chapter_10.pdf)

<sup>2</sup> At least 50 percent of the energy provided to covered sources by the project must be generated from solar or wind.





**Project Type:**

- ☐ Battery Charging Station (e.g. airport, distribution centers, warehouses, ports),  
Number of charging units \_\_\_\_\_
  - ☐ New
  - ☐ Expansion of existing non-residential charging stations to add capacity
  - ☐ Other
- ☐ Alternative Fuel Station
  - ☐ Hydrogen / ☐ Natural Gas
  - ☐ New
  - ☐ Expansion of existing fueling stations
  - ☐ Other
- ☐ Stationary Agricultural Pump (Pump Electrification)
- ☐ Shore Power (Shore-Side Electrification)  
*Shore-side electrification for projects not subject to CARB's Shore Power Regulation. Only a port authority, terminal operator, or marine vessel owner may apply.*
- ☐ Infrastructure for Transport Refrigeration Unit
- ☐ Truck Stop Electrification

Please select the following if applicable:

Publicly Accessible Project    ☐ Yes    ☐ No

Solar/Wind Power System<sup>1</sup>?    ☐ Yes    ☐ No

- ☐ Public School Buses -Battery Charger or Alternative Fuel





## Project Description

*Please fully describe your project below including, but not limited to:*

- A. Annual usage projection such as expected usage- in kWhr per month, standard cubic feet natural gas per month, kg Hydrogen per month.*
- B. Technical specification, including a complete listing of all infrastructure equipment, hardware, and components, including (as applicable) component manufacturer and model number if known. In addition, the specification must provide minimum fuel storage capacities, compression and dispenser ratings, as well as number, make, and model of dispensers, hoses and card readers, etc. if known.*
- C. Chargers must be certified by a nationally recognized testing laboratory (i.e., Underwriter's Laboratories, Intertek) and provide design specifications including voltage, amperage, wattage, efficiency, compressor size, number of dispensers,, number of fuel nozzles or charge connections, dispensing rate, storage capacity, etc.*
- D. An estimate of the annual connections to the chargers and average connection time.*
- E. For stations expanding to accommodate new load, provide information on the base load and justify the need for and amount of the new load that is needed to accommodate the growth in vehicles or equipment using the infrastructure.*
- F. Fleet commitment information, including number of vehicles/equipment planning to fuel or power at the new infrastructure, including the engine model year and certification level of each vehicle.*
- G. A site plan depicting the infrastructure location, including at a minimum the adjacent streets, entrance and exit locations, locations of dispenser islands or chargers, canopies, fuel storage tanks, compressors, walls and/or spill containment areas as appropriate.*
- H. A description of other project elements, including site amenities such as private access/public access islands, card reader payment options, overhead canopies, signage, traffic circulation plan, landscaping, fencing, security lighting, etc.*

Project Description (Attach extra pages as necessary):





### **Part 3: Project Installer and Vendor Information**

In the section below, please provide information for each installer and vendor that will be involved with the infrastructure project:

Name of the Vendor:	Vendor Contact Name:
Phone Number:	Email:
Address:	City:
State:	Zip Code:
What is the scope of work for this installer/vendor?	
Is there another installer/vendor for your infrastructure project? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, please attach vendor information as an Attachment to this page.	

### **Part 4: Project Cost and Funding Request**

**All cost estimates must be based on quotes/bids. A minimum of two quotes/bids from licensed installers for the project is required.** In addition, the applicant should summarize their solicitation and selection process (i.e., how will the winning bidder be selected by the applicant) in an attachment.

Attach all quotes/bids to the application.

Design and Engineering Cost \$\_\_\_\_\_

Total Equipment Cost \$\_\_\_\_\_

Installation Cost \$\_\_\_\_\_

Other Cost \$\_\_\_\_\_

For other costs, please describe:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Total Cost \$\_\_\_\_\_

Applicant Grant Request (total grant funds requested for the project): \$\_\_\_\_\_

Proposed Project Life: \_\_\_\_\_

*This is the number of years that the equipment must operate as specified in your SCAQMD contract.(must be at least 3 years and no longer than 15 years, subject to CMP Guidelines)*





### **Part 5: Disclosure of Amounts of Other Funding**

Applicant must disclose all sources of funding (private, local, other State, Federal funding sources, etc.) for the project at the time of application.

<b>Name of Funding Entity:</b>	<b>Program Description:</b>	<b>Funding Amount:</b>	<b>Status (<i>Planned, Application Submitted or Application Granted</i>):</b>
<i>(Example: EPA)</i>	<i>(DERA)</i>	<i>(\$25,000)</i>	<i>(Application Submitted)</i>

#### **Supporting documentation:**

- Quotes/bids (At least two quotes/bids from licensed installers)
- Local Permits Obtained for the Project (if not yet obtained, please submit a plan)
- Land Ownership/Lease agreement (applicants must document that they either own the land on which the project will be located, or control it through a long-term lease for the duration of the project life)
- Documentation that sufficient power or fuel is being provided to the site (e.g. application, payment to the local utility company for power installation, or contract)
- Project Timeline/Schedule/Plan
- For Shorepower projects, provide the “Initial Terminal Plan”





## **Surplus Off-Road Opt-In for NO<sub>x</sub> (SOON)**

### **SCAQMD PROGRAM ANNOUNCEMENT #PA2018-05**

The South Coast Air Quality Management District (SCAQMD) is soliciting project proposals for the following purpose according to terms and conditions attached. In this Program Announcement (PA) the words "Proposer," "Applicant," "Contractor," and "Consultant" are used interchangeably.

#### **SECTION I – OVERVIEW**

##### **PURPOSE**

The SCAQMD is seeking proposals for the Surplus Off-Road Opt-In for NO<sub>x</sub> (SOON) Provision of the California Air Resources Board's (CARB's) In-Use Off-Road Diesel Vehicle Regulation. The primary purpose of this Program is to provide financial incentives to assist in the purchase of low-emission heavy-duty engine technologies to achieve near-term nitrogen oxides (NO<sub>x</sub>) emission reductions from in-use off-road equipment. Since funding for the SOON Program is from the Carl Moyer Program (CMP), all CMP requirements apply to this Program, except where specifically noted, or where the SCAQMD implements more stringent program criteria as described in the Rule 2449 SOON Implementation Guidelines.

##### **INTRODUCTION**

The SOON Program is designed to achieve additional NO<sub>x</sub> reductions above those that would be obtained from the State In-Use Off-Road Vehicle Regulation. These reductions are critical to meeting the PM<sub>2.5</sub> and ozone ambient air quality standards in the South Coast Air Basin.

Funding for Program Announcement #PA2018-05 is from state SB 1107 and AB 923 funds. Project awards are contingent upon receiving these funds from CARB. Additional sources of funding may become available and added to this Program.

Eligible projects must meet a maximum cost-effectiveness limit of \$30,000 per ton of emissions reduced and any additional SCAQMD criteria as stated in this PA (the cost-effectiveness limit may be changed depending on the demand for program funds). For advanced technology projects that are zero-emission, or alternatively meet the cleanest certified optional standard applicable, SCAQMD may apply a cost-effectiveness limit of up to \$100,000 per weighted ton, for the incremental emission reductions that go beyond current emission standards. Projects exceeding the cost-effectiveness limit may receive partial funding up to the cost effectiveness limit. Except where otherwise stated, projects must meet the requirements of the CMP program guidelines.

Applications submitted in response to this PA will be evaluated according to the approved 2017 CMP Guidelines. It is the applicant's responsibility to ensure that the most current information and requirements are reflected in a submitted application. Applicants should check the CARB website for updates and advisories to the guidelines ([www.arb.ca.gov/msprog/moyer/moyer.htm](http://www.arb.ca.gov/msprog/moyer/moyer.htm)).



SCAQMD SOON requirements may sometimes be more stringent than CARB guidelines. For example, SCAQMD may have a lower cost-effectiveness ceiling for a particular category. In case there are any conflicts between CARB guidelines and SCAQMD criteria, the more stringent criteria will prevail. SCAQMD will post any new information and requirements on its SOON Web page at [www.aqmd.gov/soon](http://www.aqmd.gov/soon). It is the responsibility of the applicant to ensure that the most current information and requirements are reflected in a submitted application.

## DEFINITIONS

1. Alternative Fuel  
Alternative fuels include compressed natural gas (CNG), liquefied natural gas (LNG), methanol, ethanol, propane (LPG) and electric technologies.
2. Base Rule  
Base rule is defined as CARB's In-Use Off-Road Diesel regulation without the SOON provisions. Compliance with the Base Rule is required and is demonstrated by the DOORS Compliance Snapshot.
3. Compliance Plan  
Compliance plan is the future forecast of fleet average emissions using current fleet information and planned future repower, replacement, retirement and retrofit projects. An Excel spreadsheet template is available on the SCAQMD SOON webpage.
4. Contract Term  
Contract term is the duration for which the contract is valid. It encompasses both the project completion and project implementation periods.
  - i. Project completion period is the first part of the Contract term starting from the date of Contract execution by both parties to the date the project post-inspection confirms that the project has become operational.
  - ii. Project implementation period is the second part of the Contract term and equals the project life.
5. Cost-Effectiveness Limit  
The cost-effectiveness limit determines the maximum funding that can be provided to an individual vehicle repower, replacement or retrofit project for each ton of emissions reduced.
6. Current NOx Standard  
For all engine horsepower categories, the current NOx standard in 2018 is Tier 4 Final.
7. Dual-Fuel Technology  
Dual-fuel technology includes electric hybrids and technologies that utilize a combination of either CNG and diesel fuel or LNG and diesel fuel, provided they are certified by CARB. Experimental technologies and fuels will be referred to CARB for evaluation and possible eligibility in the program.
8. Incremental Cost  
Incremental cost is the percent of actual cost that is eligible for SOON funding. For repower projects, it is 85%; for replacement projects, it is 80%; and for NOx retrofit



projects, it is 100%.

9. Project Life

Project life is the period of the contract term during which the repowered, replacement or retrofitted vehicle is operated and the contractor must report annual usage. It is used to calculate the cost effectiveness and funding amount for a particular project.

10. Replacement Project

Replacement project is the purchase of a new or used vehicle to replace an existing vehicle. Only new vehicles meeting Tier 4 Final emissions standards are eligible for funding.

11. Repower Project

Repower project is the replacement of an old engine of an existing vehicle with a newer engine certified to lower emission standards.

12. Retrofit Project

Retrofit project is a modification made to an engine exhaust and/or fuel system such that the specifications of the retrofitted engine are different from the original engine.

## **GENERAL PROGRAM INFORMATION**

The primary focus of the SOON Program is to achieve emission reductions from heavy-duty off-road vehicles and equipment operating in California as early and as cost-effectively as possible. The SOON Program is intended to achieve additional NOx reductions which are needed to meet the PM2.5 and ozone ambient air quality standards in the South Coast Air Basin. The emission reductions expected through the deployment of low emission engines or retrofit technologies under this Program must be real, surplus and quantifiable. Senate Bill 513 (Beall) removed the limitations of co-funding with other public funds except that public funds cannot exceed 85% of actual cost.

Replacement and repower projects are **limited to only** those involving a diesel baseline engine subject to the in-use off-road regulation, and a lower emission or zero emission technology that is certified, verified or approved by CARB. **All projects must meet the program's cost-effectiveness limits and be operational no later than May 22, 2020.** No administrative or vehicle operational costs are eligible.

It is expected that multiple awards will be granted under this PA, subject to the approval of the SCAQMD Governing Board.

All proposals will be evaluated based on criteria set forth in this PA. The SCAQMD will evaluate and/or verify information submitted by the applicant. At SCAQMD's discretion, consultants contracted by SCAQMD may conduct all or part of such evaluation and/or verification. Data verification during the evaluation and contracting process may cause initial cost-effectiveness rankings, and associated awards, to change. Furthermore, the SCAQMD reserves the right to make adjustments to awards based on the subsequent verification of information as well as changes in cost-effectiveness.



## IMPORTANT PROGRAM INFORMATION

- Fleets with a total statewide equipment horsepower over 20,000 hp and with 40 percent or more of their vehicles at Tier 0 and Tier 1 emission levels as of January 1, 2008, are subject to the SOON Program and are required to apply for funding. Fleets not meeting both of the above criteria on January 1, 2008, may voluntarily participate in this Program and apply for funding.
- For this program cycle, all projects will be eligible for a maximum seven-year operational requirement within the South Coast Air District. Shorter project life will be considered on a case-by-case basis and may be required by the CMP
- Guidelines for specific types of equipment. However, a shorter project life may affect the project's ranking relative to other project applicants and the amount of funding that can be provided.
- The annual hours used to calculate cost-effectiveness will be included in the contract. An extension of the contract or partial payback of funds may be required if the proposed annual hours are not achieved.
- For all repower projects, fleets are **not** required to but may install the highest level verified diesel emission control system (VDECS) at their own cost.
- Retrofit projects which can achieve NOx reductions may be funded on a case-by-case basis.
- Replacement, repower or NOx retrofit projects funded under SOON are ineligible for compliance with the base rule until the end of the contract period and the original engines must be retained in the DOORS equipment list until then.
- Applicants **must** provide vendor quotes with their application to document the cost of implementing the proposed technology. **All quotes must have been obtained within 90 days of application submittal. Applicants may be required to submit quotes from more than one technology provider.**
- Applicants must demonstrate that they are in full compliance with all CARB applicable regulations and that vehicle/equipment funding requests under this Program provide surplus emissions reductions. **Applicants are required to submit a compliance plan showing how they will comply with the targets of CARB's In-Use Off-Road Vehicle regulation throughout the contract term, as well as how the new projects under this PA will meet SOON NOx targets in 2020 and 2023.**
- Applicants must ensure that the vehicle/equipment to be purchased or installed is in compliance with all applicable federal, state and local air quality rules and regulations and that it will maintain compliance for the full contract term.
- Any associated tax obligation with the award is the responsibility of the grantee.
- No third-party contracts will be executed. The SCAQMD contract must be signed by the equipment owner.
- Pre- and post-inspection of all vehicles/engines/equipment approved for funding will be conducted by SCAQMD.
- Destruction of the engine/equipment being repowered or replaced is required.
- To avoid double dipping, applicants shall not apply for funding of the same equipment in any other air district.



## POTENTIAL PROJECTS

All eligible projects must use certified technology or technology that has been verified by CARB for real and quantifiable emission reductions that go beyond any regulatory requirement. The following projects are eligible for SOON funding:

### Repower Project

For a repower project, the new engine must be certified for sale in California to the current NOx emission standard (Tier 4 Final). If an engine meeting the current emission standard is not available or cannot be installed:

- A Tier 3 Replacement Engine rated at 175 hp or higher can be used for the repower project.
- A Tier 3 Replacement rated at 175 horsepower or less can be used for repower projects provided it complies with U.S. Environmental Protection Agency (EPA) requirements related to replacing in-use engines contained in the Code of Federal Regulations, Title 40, Section 1068.240.
- For off-road equipment with similar modes of operation to on-road vehicles, other possible options include the replacement of an older diesel off-road engine with a new on-road engine certified to an emission standard equal to or cleaner than the Tier 4 Final off-road emission standard or a newer emission certified alternative fuel engine.

### Retrofit Project

For a retrofit project, the retrofit technology **must provide a NOx benefit** and must be:

- Verified by CARB to reduce NOx or NOx plus PM for the specific engine for which funding is requested.
- In compliance with established durability and warranty requirements and cost-effectiveness criteria.

Diesel Particulate Filters (DPFs) and other devices that are not verified to reduce NOx are not eligible for SOON funding. The applicant will find more information on VDECS, including a list of currently verified DECS at <http://www.arb.ca.gov/diesel/verdev/verdev.htm>.

### Replacement Project

For replacement projects, the replacement vehicle/equipment must be powered by a Tier 4 Final engine. If a vehicle/equipment with a Tier 4 Final engine will not be available within 6 months of the application submittal, vehicle/equipment with an Interim Tier 4 or Tier 3 engine may be purchased.

## PROJECT CRITERIA

The SCAQMD retains the authority to impose more stringent additional requirements in order to address local concerns.

- Off-road CI equipment eligible for SOON Program funding includes equipment 25 hp (19 kilowatt) or greater. The complete definition can be found in CARB's In-Use Off-Road Diesel regulation at <http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm>.
- SOON Program grants can be no greater than a project's incremental cost (85% of quotation for repower projects, 80% of quotation for replacement projects). The incremental cost shall be reduced by the value of any current financial incentive that



reduces the project price, including but not limited to tax credits or deductions, grants or other public financial assistance.

- Applicants must ensure that the vehicle/equipment to be purchased or installed is in compliance with all applicable federal, state and local air quality rules and regulations and that it will maintain compliance for the full contract term.
- The certification emission standard and Tier designation for the engine must be determined from the CARB's Executive Order issued for that engine, not by the engine model year. Executive orders for off-road engines may be found at <http://www.arb.ca.gov/msprog/offroad/cert/cert.php>.
- Reduced emission engines or retrofits must be certified/verified for sale in California and must comply with durability and warranty requirements. These may include new CARB-certified engines and verified diesel emission control strategies.
- New vehicles equipped with Tier 4 family emission limits (FEL) engines certified to Tier 3 or Interim Tier 4 standards are eligible for SOON Program funding. **However, those engines will have their cost-effectiveness calculated as though they were Tier 3 engines.**
- New engines manufactured under the "Flexibility Provisions for Equipment Manufacturers", as detailed in Title 13, CCR, section 2423(d), are ineligible for SOON Program funding to repower equipment.
- For replacement projects, existing equipment with engines manufactured under the flexibility provision, detailed in CCR, title 13, section 2423 (d), the baseline emission rates shall be determined by using the previous applicable Tier emission standard for the existing engine model year and horsepower rating.
- Class 7 diesel forklifts are the only diesel forklifts eligible for SOON Program funding and are subject to all off-road project criteria. The SCAQMD must obtain and verify documentation of the classification of the forklift prior to funding.
- If repower with an engine meeting the current applicable standard is technically infeasible, unsafe or cost prohibitive, the replacement engine must meet the most current practicable previously applicable emission standard and cost-effectiveness criteria and, if rated at less than 175 hp, must comply with the requirements related to replacing in-use engines contained in Title 40, Code of Federal Regulations, Section 1068.240.
- Replacement of an uncontrolled diesel off-road engine with a new on-road engine certified to an emission standard equal to or lower than the Tier 4 Final off-road emission standard or a newer emission-certified alternative fuel engine may be eligible for funding as off-road equipment with similar modes of operation as on-road vehicles on a case-by-case basis. Other equipment may be eligible for funding on a case-by-case basis. These repowers must meet all other applicable project criteria.
- Applicants must provide their DOORS Fleet Compliance Snapshot.
- Applicants must provide the DOORS EIN for each vehicle for which funding is requested.
- Applicants must provide proof they have owned each vehicle for which funding is requested for a replacement vehicle for at least two years.



- Applicants must provide a current Compliance Plan using the SCAQMD fleet calculator or the DOORS calculator demonstrating compliance with the Off-Road regulation throughout the anticipated contract period.
- Applicants must provide at least the most recent two (2) years of hour-meter readings.

Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the air district suggests potential surplus, real, quantifiable and enforceable emission reduction benefits.

### **MAXIMUM ELIGIBLE FUNDING**

The maximum eligible funding amount and project life for each SOON project type is summarized below.

Project	Maximum Funding	Maximum Project Life
Replacement	80% of vehicle/equipment cost	Five years, except: <ul style="list-style-type: none"> <li>• Three years for excavators, skid steer loaders, and rough terrain forklifts</li> </ul>
Repower	85% of engine cost plus parts and labor necessary for installation	Seven years
Retrofit	100% of retrofit device cost plus parts and labor for installation, plus estimated cost for maintenance during project life.	Five years

### **COST-EFFECTIVENESS EVALUATION DISCUSSION**

The SOON Program is required to meet the requirements of the CMP by using the cost-effectiveness calculations methodology found in Appendix C of the CMP Guidelines (see <http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>).

### **REPORTING AND MONITORING**

All participants in the SOON Program are required to keep appropriate records during the full contract period. Project life is the number of years used to determine the cost-effectiveness and is equivalent to the contract implementation period. All equipment must operate in the SCAQMD for this full project life. The SCAQMD shall conduct periodic reviews of each project's operating records to ensure that the engine is operated as stated in the program application. Annual records must contain the following, at a minimum:

- Total Hours of Operation
- Total Hours of Operation in the South Coast Air District
- Annual Maintenance and Repair Information

Records must be retained and updated throughout the project life and made available for SCAQMD inspection. The SCAQMD may conduct periodic reviews of each



vehicle/equipment project's operating records to ensure that the vehicle is operated as required by the project requirements.

### **PROGRAM ADMINISTRATION**

The SOON Program will be administered locally by the SCAQMD through the Science and Technology Advancement Office.

### **FUNDING CATEGORIES**

Only equipment identified in the CARB In-Use Off-Road Diesel Vehicle regulation is eligible for this Program.

### **PROJECT EVALUATION/AWARDS**

SCAQMD staff will evaluate all submitted proposals and make recommendations to the SCAQMD Governing Board for final selection of project(s) to be funded. Proposals will be evaluated on the cost-effectiveness of emissions reduced on an equipment-by-equipment basis, as well as a project's disproportional impact evaluation. (This is discussed further in Section IV).

### **SCHEDULE OF EVENTS**

Release of #PA2018-05	March 2, 2018
*3 Workshops - 9 a.m. to Noon in Room CC6 SCAQMD HQs, 21865 Copley Drive Diamond Bar, CA 91765	Wednesday May 9, 2018 Thursday May 17, 2018 Wednesday May 23, 2018
*Training for the new online application system will be included in these workshops.	
All Applications due by 1:00 p.m.	Tuesday, June 5, 2018
Anticipated Award Consideration by SCAQMD Board	October 5, 2018

<p><b>ALL PROPOSALS MUST BE RECEIVED ELECTRONICALLY OR ON PAPER AT THE SCAQMD HEADQUARTERS NO LATER THAN 1:00 P.M. ON TUESDAY, JUNE 5, 2018</b></p>
---

Electronic submission using SCAQMD's new CMP Online Application Program (OAP) is preferred and is available at [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer).

Postmarks of paper copy applications will not be accepted. Faxed or email proposals will not be accepted. Proposers may hand-deliver proposals to the SCAQMD by submitting the proposal to the SCAQMD Public Information Center. The proposal will be date and time-stamped and the person delivering the proposal will be given a receipt.

SCAQMD may issue subsequent solicitations if insufficient applications are received in the initial solicitation.



## **STATEMENT OF COMPLIANCE**

Government Code Section 12990 and California Administrative Code, Title II, Division 4, Chapter 5, require employers to agree not to unlawfully discriminate against any employee or applicant because of race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, sex, or age. A statement of compliance with this clause is included in all SCAQMD contracts.

## **SECTION II: WORK STATEMENT/SCHEDULE OF DELIVERABLES**

All applicants that are selected for funding awards must complete the Work Statement and Schedule of Deliverables described below as part of the contracting process. Development of these materials for the initial application is NOT required; however, applicants must sign the application form indicating their understanding of the requirements for submittal of additional project information to finalize a contract and that all vehicles, engines or equipment must be in operation no later than **May 22, 2020**.

### **WORK STATEMENT**

The scope of work involves a series of tasks and deliverables that demonstrate compliance with the requirements of the SOON Program as administered by CARB and the SCAQMD. The project applicant is responsible for developing detailed project plans that address the program criteria. In addition, alternative fuel project applicants must discuss their plan for refueling the proposed vehicles/equipment, and if appropriate, should provide a letter of agreement from their fuel provider.

At a minimum, any proposed project must meet the following criteria:

- Emission reductions must be real, quantifiable, enforceable and surplus in accordance with CARB and SCAQMD guidelines.
- Cost-effectiveness of the project must meet the minimum requirement of the Carl Moyer guidelines.
- Project engines or equipment must operate in-service for the full project life.
- All vehicles/engines/equipment must be in operation no later than May 22, 2020.
- Appropriate annual usage records must be kept and reported to SCAQMD during the project life (i.e., annual hours of operation).
- A compliance plan that demonstrates compliance with the off-road regulation throughout the contract period must be provided.
- Ensure that the project complies with other local, state and federal programs, and resulting emission reductions from a specific project are not required as a mitigation measure to reduce adverse environmental impacts that are identified in an environmental document prepared in accordance with the California Environmental Quality Act or the National Environmental Policy Act.
- If requested, a contractor must provide a financial statement and bank reference, or other evidence of financial ability to fulfill contract requirements.



## **DELIVERABLES**

The contract will describe how the project will be monitored and what type of information will be included in project progress reports. At a minimum, the SCAQMD expects to receive the following:

- An annual report, throughout the project life, which provides the annual hours of operation, where the vehicle(s) or equipment(s) was operated, annual fuel consumption, and operational and maintenance issues encountered and how they were resolved. SCAQMD reserves the right to verify the information provided.

## **SECTION III: PROPOSAL SUBMITTAL REQUIREMENTS**

Proposers **must** complete the appropriate application forms committing that the information requested in Section II, Work Statement/Schedule of Deliverables, will be submitted if the Proposer's project is selected for funding.

In addition, Conflict of Interest and Project Cost information, as described below, must also be submitted with the application. It is the responsibility of the proposer to ensure that all information submitted is accurate and complete.

### **CONFLICT OF INTEREST**

Applicant must address any potential conflicts of interest with other clients affected by actions performed by the firm on behalf of the SCAQMD. Although the proposer will not be automatically disqualified by reason of work performed for such firms, the SCAQMD reserves the right to consider the nature and extent of such work in evaluating the proposal. Conflicts of interest will be screened on a case-by-case basis by the SCAQMD District Counsel's Office. Conflict of interest provisions of the state law, including the Political Reform Act, may apply to work performed pursuant to this contract. Please discuss potential conflicts of interest on the application form entitled "Campaign Contributions Disclosure."

### **PROJECT COST**

Applicants must provide cost information that specifies the amount of funding requested and the basis for that request by attaching vendor quotes to the application. Applicants need to inform vendors of the timeframe of the award process so that they can accurately quote costs based on the anticipated order/purchase date. **Note that no purchase orders may be placed or work performed for projects awarded under this PA until after the date of award approval by the SCAQMD Governing Board. Any orders placed or payments made in advance of an executed contract with the SCAQMD are done at the risk of the applicant. The SCAQMD has no obligation to fund the project until a contract is fully executed by both parties.**

**The SOON Program funds only the differential cost between existing technology and low-emission technology.** The proposed low-emission technology must be CARB-certified in most cases.<sup>1</sup> Proposals will be ranked by cost-effectiveness on a vehicle/equipment-by-vehicle/equipment basis. The cost-effectiveness limit has been established at \$30,000/ton of

<sup>1</sup> Note that non-CARB certified engines/devices requiring an experimental permit from CARB may be considered, but the project will require special CARB approval.



emissions reduced and \$100,000/ton of emissions reduced for advanced technology that are zero-emission or alternatively, meet the cleanest optional standard certified. The cost-effectiveness may be changed depending on the demand for program funds. No fueling infrastructure, administrative or operational costs will be funded.

All project costs must be clearly indicated in the application. In addition, applicants must include any sources of co-funding and the amount of each co-funding source in the application. **Applicants are cautioned that the project life period used in calculating emissions reductions will be used to determine the length of their data reporting obligation and the length of their contract. In other words, a project applicant using a seven year life for the emissions reduction calculations will be required to operate and track activity for the project vehicle for the full seven years.** A seven year life (shorter project life will be considered on a case-by-case basis and may be required for replacement projects) will be used for all projects subject to #PA2018-05.

## PROPOSAL SUBMISSION

All proposals must be submitted according to specifications set forth herein.

### Application Forms

Program application forms are provided after this document. These must be completed and submitted with other required documents (i.e., Certifications and Representations and vendor quotations) discussed in the application and below.

### Certifications and Representations

Contained in this PA are six business forms which must also be completed and submitted with the application.

### Compliance Plan

Projects funded by SOON monies must result in emission reductions that are surplus to those that would be realized by fleets complying with the base rule. Fleets are required to submit a compliance plan in electronic format to demonstrate how they comply with both the base rule as well as the SOON provision of the rule. Fleet owners, at a minimum, must provide the following information for each year, 2010 through 2023 inclusive:

- A vehicle list which includes, but is not limited to, vehicle type, manufacturer, model, model year, and whether the equipment is included in the base or SOON fleet for each piece of equipment in the fleet.
- Information including, but not limited to, calculations, fleet information, etc., showing compliance with the base rule fleet target levels or compliance with the BACT turnover and retrofit requirements. Either the CARB calculator (individual tabs for each future year) or the Excel SOON fleet calculator spreadsheet may be used.
- Information including, but not limited to, calculations, fleet information, etc., showing whether the vehicles funded by the SOON program are in compliance with the SOON NOx fleet average target levels.

SOON Compliance Plan documents and the Microsoft Excel SOON fleet calculator can be downloaded at the SCAQMD SOON website: [www.aqmd.gov/soon](http://www.aqmd.gov/soon). CARB's Fleet Average



Calculators can be downloaded at the ARB website:  
<https://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm>.

#### Methods of Delivery:

The proposer is encouraged to submit the application using the SCAQMD online system, available at [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer). This online system allows applicants to submit their application electronically to the SCAQMD prior to the date and time specified below. SCAQMD "Business Information Forms" requiring signatures must be scanned and uploaded to the online system in pdf format. First-time users must register as a new user. A tutorial of the system will be provided at the pre-application workshops and you may contact Walter Shen at [wshen@aqmd.gov](mailto:wshen@aqmd.gov) or (909) 396-2487 if you would like additional assistance.

An applicant may also deliver paper copies of the application in person, via a courier service or U.S. Mail. Applicant shall submit **four (4) complete paper copies of the application and an electronic copy (CD or flash drive) of the compliance plan and completed application** in a sealed envelope, plainly marked in the upper left-hand corner with the name and address of the proposer and the words "**Program Announcement #PA2018-05**". Paper applications shall be submitted in an eco-friendly format: stapled, not bound, black and white print; no three-ring, spiral or plastic binders, and no card stock or colored paper.

#### Due Date

All proposals submitted by paper or through the online application system must be received no later than **1:00 p.m., on Tuesday, June 5, 2018**. Postmarks for paper copies are not accepted as proof of deadline compliance. **Faxed or emailed proposals will not be accepted.** Paper proposals must be directed to:

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

**Any correction or resubmission done by the proposer will not extend the submittal due date.**

#### Grounds for Rejection

A proposal may be immediately rejected if:

1. It is not prepared in the format described.
2. It is not signed by an individual authorized to represent the firm.
3. Does not include current cost quotes, Contractor Statement Forms, and other forms required in this PA.

#### Disposition of Proposals

The SCAQMD reserves the right to reject any or all proposals. All responses become the property of the SCAQMD. One copy of the proposal shall be retained for SCAQMD files. Additional copies and materials will be returned only if requested and at the proposer's expense.



### Modification or Withdrawal

Once submitted, proposals cannot be altered without the prior written consent of SCAQMD.

## **SECTION IV: PROPOSAL EVALUATION/CONTRACTOR SELECTION CRITERIA**

SCAQMD staff will evaluate all submitted proposals and make recommendations to the SCAQMD Governing Board for final selection of project(s) to be funded. Proposals will be evaluated based on the cost-effectiveness of emissions reduced on a vehicle/equipment-by-vehicle/equipment basis. Be aware that there is a possibility that due to program priorities, cost-effectiveness and/or funding limitations, project applicants may be offered only partial funding, and not all proposals that meet minimum cost-effectiveness criteria may be funded.

Funding will be awarded based on the cost-effectiveness of each piece of equipment. In addition, at least 50 percent of the CMP funds are targeted to be allocated on projects that are domiciled within Disadvantaged Communities (DAC). SCAQMD uses the following method to meet these requirements.

1. All projects must qualify for the CMP by meeting the cost-effectiveness limit of \$30,000 per ton of emissions reduced and \$100,000/ton of emissions reduced for advanced technology that are zero-emission or alternatively, meet the cleanest optional standard certified.
2. The Office of Environmental Health Hazard Assessment (OEHHA) in the California Environmental Protection Agency (CalEPA) has developed the California Communities Environmental Health Screening Tool: CalEnviroScreen Version 3.0 (CalEnviroScreen 3.0). The CalEnviroScreen 3.0 tool will be used by SCAQMD to identify DACs, defined as scoring in the top 25th percentile, and maximize the benefits to these communities from this PA. All applications will be assessed with the CalEnviroScreen tool to identify and verify how their projects benefit DACs. This tool is available at: <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>.
3. All the proposals not awarded under the 50 percent allocated to projects domiciled within DACs will then be ranked according to cost-effectiveness, with the most cost-effective project funded first and then in descending order for each funding category until the remainder of the CMP funds are exhausted.

## **SECTION V: PAYMENT TERMS**

For all projects, payment will be made upon installation and commencement of operation of the funded equipment for 85% of the submitted repower invoice (80% of the submitted replacement invoice) or the contract maximum amount, whichever is less.

### **CONTACT FOR ADDITIONAL INFORMATION**

Questions regarding the content or intent of this PA, procedural matters, sample contract, and the compliance plan worksheet can be found at the SCAQMD SOON website (<http://www.aqmd.gov/SOON>), or can be addressed to:



Walter Shen  
Science and Technology Advancement  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765  
Phone: (909) 396-2487/Fax: (909) 396-3252  
wshen@aqmd.gov

**The remainder of this page is left intentionally blank.**



# **Application Forms**





Carl Moyer and SOON Application  
Form A-1  
General Application Form (page 1 of 3)

The SCAQMD is accepting applications for projects throughout its jurisdiction. All proposals will be evaluated based on their cost-effectiveness and their disproportionate impact score as discussed in Section IV "Proposal Evaluation/Contract Selection Criteria" contained in Program Announcement. For additional information about SCAQMD's policies and application information, visit: [www.aqmd.gov/moyer](http://www.aqmd.gov/moyer). In general, this program will follow CARB Carl Moyer Program guidelines, which are available at: <http://www.arb.ca.gov/msprog/moyer/moyer.htm>.

The submittal of an application does not guarantee approval for funding, but will be used to determine the potential emission reductions and eligible grant funding amount for the proposed project. Any equipment purchased prior to project approval by the SCAQMD Governing Board will not be eligible for funding. Applicant may, at their own risk, issue a purchase order for approved equipment prior to contract execution. Other than a purchase order, **no other work shall proceed** until a fully executed contract, i.e. signed by the applicant and SCAQMD Board Chairman and a pre-inspection, is completed.

**Organization Information**

Legal Name of Organization \*

The legal organization name must be that of the legal equipment owner.

**Organization Address**

Mailing Address \*

Street Address/P.O. Box

City \*

State \*

Zip \*

County \*

**Primary Contact Name and Information**

First Name

Last Name

Email Address   
(A valid Email address is required. Eg. john@gmail.com)

Phone Number

Fax Number

**Person Authorized to Sign Application and Execute Grant Agreement**

First Name

Last Name

Email Address   
(A valid Email address is required. Eg. john@gmail.com)

Phone Number

Fax Number

**Third Party Information**

Name of Person Who Completed the Application

What is Your Position?

How much are you being paid to complete this application for the owner or to assist in the proposed project?

What is the source of funds being used to pay you?

Signature of Third Party Person Who Completed the Application:

Date:





## Carl Moyer and SOON Application Form A-1 General Application Form (page 2 of 3)

All information provided in this application will be used by SCAQMD staff to evaluate the eligibility of this application to receive program funds. SCAQMD staff reserves the right to request additional information and can deny the application if such requested information is not provided by the requested deadline. Incomplete or illegible applications will be returned to applicant or vendor, without evaluation. An incomplete application is an application that is missing information critical to the evaluation of the project.

Please read and check each item below to indicate understanding and agreement:

I understand that this application is for evaluation purposes only and does not guarantee project funding. Only a fully executed Grant Agreement between the equipment owner and the District constitutes an obligation to fund a project. ☐

I certify to the best of my knowledge and under penalty of perjury that the information contained in this application is true and accurate. ☐

I understand that all vehicles/equipment, both existing and new, must be made available within the SCAQMD boundaries for inspection, unless otherwise approved by SCAQMD's Project Officer. ☐

The vehicle/engine will be used within the SCAQMD boundaries (with the emission reduction system operating) for at least the projected usage shown in this application, and no less than 75 percent of the time. ☐

I understand that it is my responsibility to ensure that all technologies are either verified or certified by the California Air Resources Board (CARB) to reduce NOx and/or PM pollutants. CARB Verification Letters and/or Executive Orders are attached, as applicable. ☐

I understand that for repower projects, I am required to install the highest level available verified diesel emission control device (VDECS), and that the costs of this device and associated installation are a CMP eligible expense. These costs may be included in the project grant request up to the maximum cost-effectiveness limit. ☐

I understand that there may be conditions placed upon receiving a grant and agree to refund the grant (or pro-rated portion thereof) if it is found that at any time I do not meet those conditions and if directed by the SCAQMD in accordance with the contract agreement. ☐

I understand that, for this equipment, I am required to disclose if I have applied for or received incentive funding from another entity or program. Failure to do so will disqualify me from Carl Moyer Program Funding. ☐

In the event that the vehicle(s)/equipment do not complete the minimum term of any agreement eventually reached from this application, I agree to ensure the equivalent project emissions reductions, or to return grant funds to the SCAQMD as required by the contract. ☐

I understand that all on-road engines in my fleet that are eligible for a low-NOx software upgrade (reflash) must be reflashed within 60 days of receipt of contract execution. I may self-certify that the reflash has been performed by submitting a receipt of the completed reflash or a picture of the "Low NOx Reflash Label" from the reflashed engine to SCAQMD. ☐

I understand that third party contracts are not permitted. A third party may, however complete an application on an owner's behalf. Third parties are required to list how much compensation, if any, they are receiving to prepare the application(s), and to certify that no Carl Moyer Program funds are being used for this compensation. ☐

I understand that off-road equipment applicants subject to CARB's In-Use Off-Road Diesel Vehicle Regulation (Off-Road Regulation must submit information regarding fleet size and compliance status. This must include the Diesel Off-Road On-line Reporting System (DOORS) ID of the fleet and the DOORS Equipment Identification Number (EIN) of the funded equipment. All documentation submitted must be signed and dated by the applicant and include language certifying that the fleet list provided is accurate and complete. ☐

I understand that additional project information may be requested during project review and must be submitted prior to contract award. ☐

I understand that all vehicles, engines or equipment funded by this program must be operational within eighteen (18) months of contract execution, or by the vehicle in service date as specified in the Statement of Work, whichever is earlier. ☐

All project applicants must submit documentation that supports the activity claimed in the application (i.e., fuel receipts, mileage logs and/or hour-meter readings covering the last two years). This documentation is attached. ☐

The grant contract language cannot be modified without the written consent of all parties. I have reviewed and accepted the sample contact language. ☐

I understand that an IRS Form 1099 may be issued to me for incentive funds received under the Moyer Program. I understand that it is my ☐





Carl Moyer and SOON Application  
Form A-1  
General Application Form (page 3 of 3)

responsibility to determine the tax liability associated with participating in the Moyer Program.

I understand that an SCAQMD-funded Global Positioning System (GPS) unit will be installed on vehicles/equipment not operating within SCAQMD boundaries full time. I will submit data as requested and otherwise cooperate with all data reporting requirements. I also understand that the additional cost of the GPS unit will be added to the project cost when calculating cost-effectiveness, though the SCAQMD will pay for this system directly. ☐

I understand that the SCAQMD has the right to conduct unannounced inspections for the full project life to ensure the project equipment is fully operational at the activity level committed to by the contract. ☐

I understand that all emission reductions resulting from Carl Moyer funded projects will be retired and the Carl Moyer Program claims all emission reductions from its funded projects. I also understand that there is no double counting or splitting of emission reductions if I receive additional incentive funding. ☐

I understand that a tamper proof, non-resettable digital hour meter/odometer must be installed on all vehicles/equipment and that the digital hour meter/odometer will record the hours/miles accumulated within the SCAQMD boundaries. This cost is my responsibility. ☐

I understand that any tax credits claimed must be deducted from the CMP request. ☐

**Please check one:**

☐ I do not plan to claim a tax credit or deduction for costs funded by the CMP.

☐ I do plan to claim a tax credit or deduction for costs funded by the CMP.

If so please indicate amount here: \$

☐ I plan to claim a tax credit or deduction only for the portion of incremental costs not funded by the CMP.

If so please indicate amount here: \$

**I have checked this box to indicate that there are no potential conflicts of interest with other clients affected by actions performed by the firm on behalf of SCAQMD. If I have not checked this box, I have attached a description to this application of the potential conflict of interest, which will be screened on a case-by-case basis by the SCAQMD District Counsel's Office.** ☐

**I understand and certify that I am currently in compliance with all federal, state and local air quality rules and regulations at the time of application submittal, and I am not aware of any outstanding or pending enforcement actions.** ☐

**By signing below, I certify under penalty of perjury that the information provided in this application is accurate and true.**

Please print the name of the signing authority (first and last name)

Signature of signing authority:

Please enter the proposal submission date:





# Carl Moyer and SOON Application Form C-1 Off-Road Equipment Replacement Equipment Information (page 1 of 2)

If you have any questions regarding this program or the application process, please contact Walter Shen by phone at (909) 396-2487 or by email at [wshen@aqmd.gov](mailto:wshen@aqmd.gov).

Large Off-Road Fleets have limited eligibility for Carl Moyer Program funding, but may apply for SOON Program funding using this application. For more information, please visit [www.aqmd.gov/SOON](http://www.aqmd.gov/SOON).

Please complete one Form for each piece of equipment.

## Existing Equipment Information

Are you applying under Carl Moyer Program or the Surplus Off-Road NOx Program?

Has this equipment received Carl Moyer Program funds in the past?

☐ Yes ☐ No

For Large Fleets Only - have you received Carl Moyer funding after January 1, 2017?

☐ Yes ☐ No

What is the primary function of this equipment?

Is the vehicle location address the same as the applicant address? If not, please complete below.

☐ Yes ☐ No

Street Address (if no address, provide intersection)

City

County

State

Zip

Vehicle Type

If other, please describe:

Equipment Category

Equipment Type

If other equipment type, please describe

Equipment Make

Equipment Model

Equipment Model Year

Equipment Serial Number or VIN

Unit Number or EIN# (for non-Ag Operations)

Is 2 to 1 Replacement Applied?

☐ Yes ☐ No

Number of Main Engines

Number of Auxiliary Engines

Is this equipment used in Agricultural operations?

☐ Yes ☐ No

What percentage of equipment operations are in Agriculture?





# Carl Moyer and SOON Application Form C-1

## Off-Road Equipment Replacement Equipment Information (page 2 of 2)

### New Equipment and Vendor Information

Unit Number	<input type="text"/>	Equipment Category	<input type="text"/>
Equipment Type	<input type="text"/>		
If other equipment type, please describe <input type="text"/>			
Equipment Make	<input type="text"/>	Equipment Model	<input type="text"/>
Equipment Model Year	<input type="text"/>		
Vendor	<input type="text"/>	Vendor Contact Name	<input type="text"/>
Vendor Phone Number	<input type="text"/>	Vendor Address	<input type="text"/>
Vendor City	<input type="text"/>	State	<input type="text"/>
Vendor Zip	<input type="text"/>		

All cost estimates must be based on quotes that have been obtained within 90 days prior to the closing date of the Program Announcement. Attach all quotes to the application.

Number of engines for this New Equipment Unit:

Main (Front) Engine(s)	<input type="text"/>	Auxiliary (Rear) Engine(s)	<input type="text"/>
New Replacement Unit Cost \$	<input type="text"/>	Tax \$	<input type="text"/>
Total Cost \$	<input type="text"/>	Applicant Co-Funding Amount (If Any) \$	<input type="text"/>
Applicant Grant Request (If Any) \$	<input type="text"/>		





# Carl Moyer and SOON Application

## Form C-1

### Off-Road Equipment Replacement

### Project Details

Is equipment currently subject to CARB's Off-Road Regulation?

☐ Yes ☐ No

What is the total horsepower of all vehicles in the fleet?

Enter DOORS Fleet Number

All Off-Road equipment applicants subject to CARB's In-Use Off-Road Diesel Vehicle Regulation must submit their DOORS fleet compliance snapshot and fleet vehicle list.

You may contact the DOORS hotline at (877) 593-6677 for assistance.

SOON applications must also submit the fleet average calculation. Please visit <https://arb.ca.gov/msprog/ordiesel/fac.htm> for more information.

Total Funding Requested

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE)

Applicant Co-Funding Amount

### Operation Information

Is existing equipment in operable condition?

☐ Yes ☐ No

How many years has the applicant owned the existing equipment?

Does this vehicle have a functioning, non-resettable hour meter?

☐ Yes ☐ No

Percent Operation in California

Percent Operation in District

Note: See <http://www.aqmd.gov/home/about/jurisdiction> for a jurisdiction map.

Proposed Project Life (this is the number of years that the equipment must operate as specified in your SCAQMD contract)





Carl Moyer and SOON Application  
Form C-1  
Off-Road Equipment Replacement  
Engine Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

**Existing/Baseline Engine Information**

Baseline Engine Type	<input type="radio"/> Main <input type="radio"/> Auxiliary		
Baseline Engine Fuel Type	<input type="text"/>		
Baseline Engine Make	<input type="text"/>	Baseline Engine Model	<input type="text"/>
Baseline Engine Model Year	<input type="text"/>	Baseline Engine Serial Number	<input type="text"/>
Baseline Engine Horsepower	<input type="text"/>	Baseline Engine Family Number	<input type="text"/>
Old Engine (Baseline) Emissions Tier	<input type="text"/>		

**New Engine Information**

New Engine Fuel Type	<input type="text"/>		
New Engine Make	<input type="text"/>	New Engine Model	<input type="text"/>
New Engine Model Year	<input type="text"/>	New Engine Serial Number	<input type="text"/>
New Engine Horsepower	<input type="text"/>	New Engine Family Number	<input type="text"/>
New Engine (Reduced) Emissions Tier	<input type="text"/>		





Carl Moyer and SOON Application  
Form C-1  
Off-Road Equipment Replacement  
Engine Activity Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

Project application must include documentation of existing equipment usage for the previous 24 months prior to the application date.

Baseline Engine - Annual operation details for the past 24-months

	Jan - Date of Application Submittal 2018	Jan - Dec 2017	Mar - Dec 2016	Estimated Annual Future Usage
Hours	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>





Carl Moyer and SOON Application  
Form C-1  
Off-Road Equipment Replacement  
Attachments

**The following attachments may be submitted for this proposal:**

- Insurance Documentation
- Engine Executive Order(s) and Retrofit Device Executive Order(s)
- Quotes (must be within 90 days of application submittal)
- Equipment Usage Documentation (for past 24 – months including, but not limited to, maintenance records, hour meter readings)
- Photo showing the baseline engine (old) engine model year, engine serial #, HP, engine family # (if available)
- Equipment Ownership (Bill of Sale)
- SOON Fleet Average Calculation (please go to <https://arb.ca.gov/msprog/ordiesel/fac.htm>)  
- only for applicants applying for SOON funding
- DOORS Fleet Compliance Snapshot including vehicle list
- Business Information Request Form
- Campaign Contribution Disclosure
- Business Status Cert
- W-9 Form
- Direct Deposit Form
- Certification of Debarment, Suspension and Other Responsibility Matters





# Carl Moyer and SOON Application Form C-2 Off-Road Equipment Repower Equipment Information

If you have any questions regarding this program or the application process, please contact Walter Shen by phone at (909) 396-2487 or by email at: [wshen@aqmd.gov](mailto:wshen@aqmd.gov)

Large Off-Road Fleets have limited eligibility for Carl Moyer Program funding, but may apply for SOON Program funding using this application. For more information, please visit [www.aqmd.gov/SOON](http://www.aqmd.gov/SOON).

Please complete ONE form for each piece of equipment.

## Existing Equipment Information

Are you applying under Carl Moyer Program or the Surplus Off-Road NOx Program?

Has this equipment received Carl Moyer Program funds in the past?

☐ Yes ☐ No

For Large Fleets Only - have you received Carl Moyer funding after January 1, 2017?

☐ Yes ☐ No

What is the primary  
function of this  
equipment?

Is the vehicle location address the same as the applicant address? If not, please complete below.

☐ Yes ☐ No

Street Address (if no address,  
provide intersection)

City

County

State

Zip

Vehicle Type

If other, please describe:

Equipment Category

Equipment Type

If other equipment type, please describe

Equipment Make

Equipment Model

Equipment Model Year

Equipment Serial  
Number or VIN

Unit Number or EIN# (for non-  
Ag Operations)

Is 2 to 1 Replacement Applied?

☐ Yes ☐ No

Number of Main  
Engines

Number of Auxiliary  
Engines

Is this equipment  
used in Agricultural operations?

☐ Yes ☐ No





# Carl Moyer and SOON Application Form C-2 Off-Road Equipment Repower Project Details

Is equipment currently subject to CARB's Off-Road Regulation?

☐ Yes ☐ No

What is the total horsepower of all vehicles in the fleet?

Enter DOORS Fleet Number

All Off-Road equipment applicants subject to CARB's In-Use Off-Road Diesel Vehicle Regulation must submit their DOORS fleet compliance snapshot and fleet vehicle list.

You may contact the DOORS hotline at (877) 593-6677 for assistance.

SOON applications must also submit the fleet average calculation. Please visit <https://arb.ca.gov/msprog/ordiesel/fac.htm> for more information.

Total Funding Requested (including Retrofit cost, if applicable)

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE - incl. Retrofit if applicable)

Applicant Co-Funding Amount

## Operation Information

Is existing equipment in operable condition?

☐ Yes ☐ No

How many years has the applicant owned the existing equipment?

Does this vehicle have a functioning, non-resettable hour meter?

☐ Yes ☐ No

Percent Operation in California

Percent Operation in District

Proposed Project Life (this is the number of years that the equipment must operate as specified in your SCAQMD contract)





Carl Moyer and SOON Application  
Form C-2  
Off-Road Equipment Repower  
Engine Information (page 1 of 2)

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

**Existing/Baseline Engine Information**

Baseline Engine Type	<input type="radio"/> Main <input type="radio"/> Auxiliary		
Baseline Engine Fuel Type	<input type="text"/>		
Baseline Engine Make	<input type="text"/>	Baseline Engine Model	<input type="text"/>
Baseline Engine Model Year	<input type="text"/>	Baseline Engine Serial Number	<input type="text"/>
Baseline Engine Horsepower	<input type="text"/>	Baseline Engine Family Number	<input type="text"/>
Old Engine (Baseline) Emissions Tier	<input type="text"/>		
Method proposed for rendering the baseline engine(s) inoperable			<input type="text"/>

**New Engine Information**

New Engine Fuel Type	<input type="text"/>		
New Engine Make	<input type="text"/>	New Engine Model	<input type="text"/>
New Engine Model Year	<input type="text"/>	New Engine Serial Number	<input type="text"/>
New Engine Horsepower	<input type="text"/>	New Engine Family Number	<input type="text"/>
New Engine (Reduced) Emissions Tier	<input type="text"/>		
Is the New Engine a Family Emissions Limit (FEL) engine?		<input type="radio"/> Yes <input type="radio"/> No	

**New Engine Cost Information**

New Engine Unit Cost	<input type="text"/>	Cost of Installation/Labor	<input type="text"/>
Cost of New Engine Tax	<input type="text"/>	Total Cost of Repower	<input type="text"/>
Applicant Co-Funding Amount (if any)	<input type="text"/>	Grant Request Amount for this Repower	<input type="text"/>

All cost estimates must be based on quotes that have been obtained within 90 days prior to the closing date of the Program Announcement. Attach all quotes to the application.

**New Engine Vendor Information**

Vendor	<input type="text"/>	Vendor Contact Name	<input type="text"/>
Vendor Phone Number	<input type="text"/>	Vendor Address	<input type="text"/>
Vendor City	<input type="text"/>	Vendor State	<input type="text"/>
Vendor Zip	<input type="text"/>		





Carl Moyer and SOON Application  
Form C-2  
Off-Road Equipment Repower  
Engine Information (page 2 of 2)

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

**Engine Retrofit Information**

Will a retrofit device be added to this engine as part of this project?

☒ Yes ☐ No

Retrofit Device Make

Retrofit Device Model

% PM Reduction

% NOX Reduction

% ROG Reduction

Retrofit Device ARB Executive  
Order Number

Project Life

**Retrofit Cost Information**

Retrofit Device System Cost

Retrofit Device Installation  
Cost

Total Cost of Retrofit

Amount requested for this  
retrofit \$





Carl Moyer and SOON Application  
Form C-2  
Off-Road Equipment Repower  
Engine Activity Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

Project application must include documentation of existing equipment usage for the previous 24 months prior to the application date.

Baseline Engine - Annual operation details for the past 24-months

	Jan - Date of Application Submittal 2018	Jan - Dec 2017	Mar - Dec 2016	Estimated Annual Future Usage
Hours	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>





Carl Moyer and SOON Application  
Form C-2  
Off-Road Equipment Repower  
Attachment

**The following attachments may be submitted for this proposal:**

- Insurance Documentation
- Engine Executive Order(s) and Retrofit Device Executive Order(s)
- Quotes (must be within 90 day of application submittal)
- Equipment Usage Documentation (for past 24 – months including, but not limited to, maintenance records, hour meter readings)
- Photo showing the baseline (old) engine model year, engine serial #, horsepower, engine family # (if available)
- SOON Fleet Average Calculation (please go to <https://arb.ca.gov/msprog/ordiesel/fac.htm>)  
- only for applicants applying for SOON funding
- DOORS Fleet Compliance Snapshot - including vehicle list
- Business Information Request Form
- Campaign Contribution Disclosure
- W-9 Form
- Direct Deposit Form
- Business Status Certification
- Certification of Debarment, Suspension and Other Responsibility Matters





# Carl Moyer and SOON Application Form C-3 Off-Road Equipment Retrofit Equipment Information

If you have questions regarding this program or the application process, please contact Walter Shen by phone at (909) 396-2487 or by email at: [wshen@aqmd.gov](mailto:wshen@aqmd.gov).

## Existing Equipment Information

Are you applying under Carl Moyer Program or the Surplus Off-Road NOx Program?

Has this equipment received Carl Moyer Program funds in the past?

☐ Yes ☐ No

What is the primary  
function of this  
equipment?

Is the vehicle location address the same as the applicant address? If not, please complete below.

☐ Yes ☐ No

Street Address (if no  
address, provide intersection)

City

County

State

Zip

Vehicle Type

If other, please describe:

Equipment Category

Equipment Type

If other equipment type, please describe

Equipment Make

Equipment Model

Equipment Model Year

Equipment Serial  
Number or VIN

Unit Number

Is 2 to 1 Replacement Applied?

☐ Yes ☐ No

Number of Main  
Engines

Number of Auxiliary  
Engines

Is this equipment  
used in Agricultural operations?

☐ Yes ☐ No





# Carl Moyer and SOON Application Form C-3 Off-Road Equipment Retrofit Project Details

Is equipment currently subject to CARB's Off-Road Regulation?

☐ Yes ☐ No

What is the total horsepower of all vehicles in the fleet?

Enter DOORS Fleet Number

All Off-Road equipment applicants subject to CARB's In-Use Off-Road Diesel Vehicle Regulation must submit their DOORS fleet compliance snapshot and fleet vehicle list.

You may contact the DOORS hotline at (877) 593-6677 for assistance.

SOON applications must also submit the fleet average calculation. Please visit <https://arb.ca.gov/msprog/ordiesel/fac.htm> for more information.

Total Funding Requested

Identify other funding sources to be used for this project

Total Project Cost (From Quote: MUST EQUAL QUOTE)

Applicant Co-Funding Amount

## Operation Information

Is existing equipment in operable condition?

☐ Yes ☐ No

How many years has the applicant owned the existing equipment?

Does this vehicle have a functioning, non-resettable hour meter?

☐ Yes ☐ No

Percent Operation in California

Percent Operation in District

See <http://www.aqmd.gov/home/about/jurisdiction> for a jurisdiction map.

Proposed Project Life (this is the number of years that the equipment must operate as specified in your SCAQMD contract)





Carl Moyer and SOON Application  
Form C-3  
Off-Road Equipment Retrofit  
Engine & Retrofit Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

**Existing/Baseline Engine Information**

Baseline Engine Type	<input type="radio"/> Main <input type="radio"/> Auxiliary		
Baseline Engine Fuel Type	<input type="text"/>		
Baseline Engine Make	<input type="text"/>	Baseline Engine Model	<input type="text"/>
Baseline Engine Model Year	<input type="text"/>	Baseline Engine Serial Number	<input type="text"/>
Baseline Engine Horsepower	<input type="text"/>	Baseline Engine Family Number	<input type="text"/>
Old Engine (Baseline) Emissions Tier	<input type="text"/>		

**Engine Retrofit Information**

Retrofit Device Make	<input type="text"/>	Retrofit Device Model	<input type="text"/>
Verification Level	<input type="text"/>	Project Life	<input type="text"/>
Verified % PM Reduction	<input type="text"/>	Verified % NOX Reduction	<input type="text"/>
Verified % ROG Reduction	<input type="text"/>	Retrofit Device ARB Executive Order Number	<input type="text"/>
Retrofit Device Serial Number	<input type="text"/>		

**Retrofit Cost Information**

Retrofit Device System Cost	<input type="text"/>	Retrofit Device Installation Cost	<input type="text"/>
Tax Amount for Retrofit	<input type="text"/>	Total Cost of Retrofit	<input type="text"/>
Maintenance Cost	<input type="text"/>	Amount requested for this retrofit	<input type="text"/>
Retrofit Dealer Vendor	<input type="text"/>		

All cost estimates must be based on quotes that have been obtained within 90 days prior to the closing date of the Program Announcement. Attach all quotes to the application. The data-logging cost of a retrofit project cannot be included in the eligible project cost.





Carl Moyer and SOON Application  
Form C-3  
Off-Road Equipment Retrofit  
Engine Activity Information

If you have more than one engine for your project, please make copies of this form and use one form for each engine.

Project application must include documentation of existing equipment usage for the previous 24 months prior to the application date.

Baseline Engine - Annual operation details for past 24 months

	Jan - Date of Application Submittal 2018	Jan - Dec 2017	Mar - Dec 2016	Estimated Annual Future Usage
Hours	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>





## Carl Moyer and SOON Application Form C-3 Off-Road Equipment Retrofit Attachments

**The following attachments may be submitted for this proposal:**

- Insurance Documentation
- Engine Executive Order(s) and Retrofit Device Executive Order(s)
- Quotes (must be within 90 days of application submittal)
- Equipment Usage Documentation (for past 24 – months)
- Other misc. attachments
- DOORS Vehicle List
- SOON Fleet Average Calculation (please go to <https://arb.ca.gov/msprog/ordiesel/fac.htm>)
- DOORS Fleet Compliance Snapshot
- Business Information Request Form
- Campaign Contribution Disclosure
- W-9 Form
- Business Status Certification
- Direct Deposit Form
- Certification of Debarment, Suspension and Other Responsibility Matters





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

## **Business Information Request**

Dear SCAQMD Contractor/Supplier:

South Coast Air Quality Management District (SCAQMD) is committed to ensuring that our contractor/supplier records are current and accurate. If your firm is selected for award of a purchase order or contract, it is imperative that the information requested herein be supplied in a timely manner to facilitate payment of invoices. In order to process your payments, we need the enclosed information regarding your account. **Please review and complete the information identified on the following pages, remember to sign all documents for our files, and return them as soon as possible to the address below:**

**Attention: Accounts Payable, Accounting Department  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765-4178**

If you do not return this information, we will not be able to establish you as a vendor. This will delay any payments and would still necessitate your submittal of the enclosed information to our Accounting department before payment could be initiated. Completion of this document and enclosed forms would ensure that your payments are processed timely and accurately.

If you have any questions or need assistance in completing this information, please contact Accounting at (909) 396-3777. We appreciate your cooperation in completing this necessary information.

Sincerely,

Sujata Jain  
Deputy Executive Officer  
Finance

DH:tm

Enclosures: Business Information Request  
Disadvantaged Business Certification  
W-9  
Form 590 Withholding Exemption Certificate  
Federal Contract Debarment Certification  
Campaign Contributions Disclosure  
Direct Deposit Authorization





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178

(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

## BUSINESS INFORMATION REQUEST

Business Name	
Division of	
Subsidiary of	
Website Address	
Type of Business <i>Check One:</i>	<input type="checkbox"/> Individual <input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____ <input type="checkbox"/> Other _____

## REMITTING ADDRESS INFORMATION

Address			
City/Town			
State/Province		Zip	
Phone	(     )     -     Ext	Fax	(     )     -
Contact		Title	
E-mail Address			
Payment Name if Different			

All invoices must reference the corresponding Purchase Order Number(s)/Contract Number(s) if applicable and mailed to:

**Attention: Accounts Payable, Accounting Department  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765-4178**



## BUSINESS STATUS CERTIFICATIONS

Federal guidance for utilization of disadvantaged business enterprises allows a vendor to be deemed a small business enterprise (SBE), minority business enterprise (MBE) or women business enterprise (WBE) if it meets the criteria below.

- is certified by the Small Business Administration or
- is certified by a state or federal agency or
- is an independent MBE(s) or WBE(s) business concern which is at least 51 percent owned and controlled by minority group member(s) who are citizens of the United States.

### Statements of certification:

As a prime contractor to SCAQMD, (name of business) will engage in good faith efforts to achieve the fair share in accordance with 40 CFR Section 33.301, and will follow the six affirmative steps listed below **for contracts or purchase orders funded in whole or in part by federal grants and contracts.**

1. Place qualified SBEs, MBEs, and WBEs on solicitation lists.
2. Assure that SBEs, MBEs, and WBEs are solicited whenever possible.
3. When economically feasible, divide total requirements into small tasks or quantities to permit greater participation by SBEs, MBEs, and WBEs.
4. Establish delivery schedules, if possible, to encourage participation by SBEs, MBEs, and WBEs.
5. Use services of Small Business Administration, Minority Business Development Agency of the Department of Commerce, and/or any agency authorized as a clearinghouse for SBEs, MBEs, and WBEs.
6. If subcontracts are to be let, take the above affirmative steps.

### **Self-Certification Verification: Also for use in awarding additional points, as applicable, in accordance with SCAQMD Procurement Policy and Procedure:**

Check all that apply:

- |   |  |
|---|--|
| <input type="checkbox"/> Small Business Enterprise/Small Business Joint Venture | <input type="checkbox"/> Women-owned Business Enterprise                               |
| <input type="checkbox"/> Local business   | <input type="checkbox"/> Disabled Veteran-owned Business Enterprise/DVBE Joint Venture |
| <input type="checkbox"/> Minority-owned Business Enterprise                     | <input type="checkbox"/> Most Favored Customer Pricing Certification                   |

Percent of ownership: \_\_\_\_\_ %

Name of Qualifying Owner(s): \_\_\_\_\_

**State of California Public Works Contractor Registration No. \_\_\_\_\_ MUST BE INCLUDED IF BID PROPOSAL IS FOR PUBLIC WORKS PROJECT.**

I, the undersigned, hereby declare that to the best of my knowledge the above information is accurate. Upon penalty of perjury, I certify information submitted is factual.

\_\_\_\_\_  
*NAME*

\_\_\_\_\_  
*TITLE*

\_\_\_\_\_  
*TELEPHONE NUMBER*

\_\_\_\_\_  
*DATE*



## **Definitions**

**Disabled Veteran-Owned Business Enterprise** means a business that meets all of the following criteria:

- is a sole proprietorship or partnership of which is at least 51 percent owned by one or more disabled veterans, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.
- the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
- is a sole proprietorship, corporation, partnership, or joint venture with its primary headquarters office located in the United States and which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.

**Joint Venture** means that one party to the joint venture is a DVBE and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that DVBE will receive at least 51 percent of the project dollars.

**Local Business** means a business that meets all of the following criteria:

- has an ongoing business within the boundary of SCAQMD at the time of bid application.
- performs 90 percent of the work within SCAQMD's jurisdiction.

**Minority-Owned Business Enterprise** means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more minority persons or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more minority persons.
- is a business whose management and daily business operations are controlled or owned by one or more minority person.
- is a business which is a sole proprietorship, corporation, partnership, joint venture, an association, or a cooperative with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

“Minority” person means a Black American, Hispanic American, Native American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian American (including a person whose origins are from India, Pakistan, or Bangladesh), Asian-Pacific American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, or Taiwan).

**Small Business Enterprise** means a business that meets the following criteria:

- a. 1) an independently owned and operated business; 2) not dominant in its field of operation; 3) together with affiliates is either:
  - **A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or**
  - A manufacturer with 100 or fewer employees.
- b. Manufacturer means a business that is both of the following:
  - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.
  - 2) Classified between Codes 311000 to 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.



**Small Business Joint Venture** means that one party to the joint venture is a Small Business and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that the Small Business will receive at least 51 percent of the project dollars.

**Women-Owned Business Enterprise** means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more women or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more women.
- is a business whose management and daily business operations are controlled or owned by one or more women.
- is a business which is a sole proprietorship, corporation, partnership, or a joint venture, with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

**Most Favored Customer** as used in this policy means that the SCAQMD will receive at least as favorable pricing, warranties, conditions, benefits and terms as other customers or clients making similar purchases or receiving similar services.



**Request for Taxpayer  
Identification Number and Certification**

► Go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9) for instructions and the latest information.

Give Form to the  
requester. Do not  
send to the IRS.

Print or type. See Specific Instructions on page 3.	<b>1</b> Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	<b>2</b> Business name/disregarded entity name, if different from above	
	<b>3</b> Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only <b>one</b> of the following seven boxes.  <input type="checkbox"/> Individual/sole proprietor or single-member LLC  <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► _____ <b>Note:</b> Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is <b>not</b> disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.  <input type="checkbox"/> Other (see instructions) ► _____	<b>4</b> Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):  Exempt payee code (if any) _____  Exemption from FATCA reporting code (if any) _____  <small>(Applies to accounts maintained outside the U.S.)</small>
	<b>5</b> Address (number, street, and apt. or suite no.) See instructions.	Requester's name and address (optional)
	<b>6</b> City, state, and ZIP code	
<b>7</b> List account number(s) here (optional)		

**Part I Taxpayer Identification Number (TIN)**

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

**Note:** If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

<b>Social security number</b>										
					-					
or										
<b>Employer identification number</b>										
					-					

**Part II Certification**

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

<b>Sign Here</b>	<b>Signature of U.S. person ►</b>	<b>Date ►</b>

**General Instructions**

Section references are to the Internal Revenue Code unless otherwise noted.

**Future developments.** For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9).

**Purpose of Form**

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

*If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.*



By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

**Note:** If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

**Foreign person.** If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, *Withholding of Tax on Nonresident Aliens and Foreign Entities*).

**Nonresident alien who becomes a resident alien.** Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

**Example.** Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

## Backup Withholding

**What is backup withholding?** Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

**Payments you receive will be subject to backup withholding if:**

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the instructions for Part II for details),
3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships*, earlier.

## What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

## Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

## Penalties

**Failure to furnish TIN.** If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

**Civil penalty for false information with respect to withholding.** If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.



**Criminal penalty for falsifying information.** Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

**Misuse of TINs.** If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

## Specific Instructions

### Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

**Note: ITIN applicant:** Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

### Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

### Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

### Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

#### Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)

2—The United States or any of its agencies or instrumentalities

3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

4—A foreign government or any of its political subdivisions, agencies, or instrumentalities

5—A corporation

6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession

7—A futures commission merchant registered with the Commodity Futures Trading Commission

8—A real estate investment trust

9—An entity registered at all times during the tax year under the Investment Company Act of 1940

10—A common trust fund operated by a bank under section 584(a)

11—A financial institution

12—A middleman known in the investment community as a nominee or custodian

13—A trust exempt from tax under section 664 or described in section 4947



The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 <sup>1</sup>	Generally, exempt payees 1 through 5 <sup>2</sup>
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

<sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

<sup>2</sup> However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

**Exemption from FATCA reporting code.** The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

**Note:** You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

## Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

## Line 6

Enter your city, state, and ZIP code.

## Part I. Taxpayer Identification Number (TIN)

**Enter your TIN in the appropriate box.** If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

**Note:** See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

**How to get a TIN.** If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at [www.SSA.gov](http://www.SSA.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/Businesses](http://www.irs.gov/Businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. Go to [www.irs.gov/Forms](http://www.irs.gov/Forms) to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to [www.irs.gov/OrderForms](http://www.irs.gov/OrderForms) to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

**Note:** Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

**Caution:** A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

## Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

**Signature requirements.** Complete the certification as indicated in items 1 through 5 below.



**1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.** You must give your correct TIN, but you do not have to sign the certification.

**2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

**3. Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.

**4. Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

## What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account <sup>1</sup>
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
5. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee <sup>1</sup> The actual owner <sup>1</sup>
6. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor <sup>4</sup>
For this type of account:	Give name and EIN of:
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity <sup>4</sup>
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

<sup>1</sup> List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

<sup>2</sup> Circle the minor's name and furnish the minor's SSN.

<sup>3</sup> You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.

**\*Note:** The grantor also must provide a Form W-9 to trustee of trust.

**Note:** If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

## Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

### Protect yourself from suspicious emails or phishing schemes.

Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.



The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to [phishing@irs.gov](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at [spam@uce.gov](mailto:spam@uce.gov) or report them at [www.ftc.gov/complaint](http://www.ftc.gov/complaint). You can contact the FTC at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see [www.IdentityTheft.gov](http://www.IdentityTheft.gov) and Pub. 5027.

Visit [www.irs.gov/IdentityTheft](http://www.irs.gov/IdentityTheft) to learn more about identity theft and how to reduce your risk.

## Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.



**2018 Withholding Exemption Certificate****590**

The payee completes this form and submits it to the withholding agent. The withholding agent keeps this form with their records.

**Withholding Agent Information**

Name \_\_\_\_\_

**Payee Information**

Name \_\_\_\_\_

☐ SSN or ITIN ☐ FEIN ☐ CA Corp no. ☐ CA SOS file no.

Address (apt./sta., room, PO box, or PMB no.) \_\_\_\_\_

City (if you have a foreign address, see instructions.) \_\_\_\_\_

State \_\_\_\_\_

ZIP code \_\_\_\_\_

**Exemption Reason****Check only one box.**

By checking the appropriate box below, the payee certifies the reason for the exemption from the California income tax withholding requirements on payment(s) made to the entity or individual.

☐ **Individuals — Certification of Residency:**

I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

☐ **Corporations:**

The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

☐ **Partnerships or Limited Liability Companies (LLCs):**

The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.

☐ **Tax-Exempt Entities:**

The entity is exempt from tax under California Revenue and Taxation Code (R&amp;TC) Section 23701 \_\_\_\_\_ (insert letter) or Internal Revenue Code Section 501(c) \_\_\_\_\_ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.

☐ **Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit-Sharing Plans:**

The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.

☐ **California Trusts:**

At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.

☐ **Estates — Certification of Residency of Deceased Person:**

I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.

☐ **Nonmilitary Spouse of a Military Servicemember:**

I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

**CERTIFICATE OF PAYEE: Payee must complete and sign below.**To learn about your privacy rights, how we may use your information, and the consequences for not providing the requested information, go to [ftb.ca.gov/forms](http://ftb.ca.gov/forms) and search for 1131. To request this notice by mail, call 800.852.5711.

Under penalties of perjury, I declare that I have examined the information on this form, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. I further declare under penalties of perjury that if the facts upon which this form are based change, I will promptly notify the withholding agent.

Type or print payee's name and title \_\_\_\_\_ Telephone (\_\_\_\_) \_\_\_\_\_

Payee's signature ► \_\_\_\_\_ Date \_\_\_\_\_



# 2017 Instructions for Form 590

## Withholding Exemption Certificate

References in these instructions are to the California Revenue and Taxation Code (R&TC).

### General Information

**Registered Domestic Partners (RDP)** – For purposes of California income tax, references to a spouse, husband, or wife also refer to a Registered Domestic Partner (RDP) unless otherwise specified. For more information on RDPs, get FTB Pub. 737, Tax Information for Registered Domestic Partners.

### A Purpose

Use Form 590, Withholding Exemption Certificate, to certify an exemption from nonresident withholding.

Form 590 does not apply to payments of backup withholding. For more information, go to [ftb.ca.gov](http://ftb.ca.gov) and search for **backup withholding**.

Form 590 does not apply to payments for wages to employees. Wage withholding is administered by the California Employment Development Department (EDD). For more information, go to [edd.ca.gov](http://edd.ca.gov) or call 888.745.3886.

**Do not** use Form 590 to certify an exemption from withholding if you are a **Seller of California real estate**. Sellers of California real estate use Form 593-C, Real Estate Withholding Certificate, to claim an exemption from the real estate withholding requirement.

**The following are excluded from withholding and completing this form:**

- The United States and any of its agencies or instrumentalities.
- A state, a possession of the United States, the District of Columbia, or any of its political subdivisions or instrumentalities.
- A foreign government or any of its political subdivisions, agencies, or instrumentalities.

### B Income Subject to Withholding

California Revenue and Taxation Code (R&TC) Section 18662 requires withholding of income or franchise tax on payments of California source income made to nonresidents of California.

Withholding is required on the following, but is not limited to:

- Payments to nonresidents for services rendered in California.
- Distributions of California source income made to domestic nonresident partners, members, and S corporation shareholders and allocations of California source income made to foreign partners and members.
- Payments to nonresidents for rents if the payments are made in the course of the withholding agent's business.
- Payments to nonresidents for royalties from activities sourced to California.

- Distributions of California source income to nonresident beneficiaries from an estate or trust.
- Endorsement payments received for services performed in California.
- Prizes and winnings received by nonresidents for contests in California.

However, withholding is optional if the total payments of California source income are \$1,500 or less during the calendar year.

For more information on withholding get FTB Pub. 1017, Resident and Nonresident Withholding Guidelines. To get a withholding publication, see Additional Information.

### C Who Certifies this Form

Form 590 is certified by the payee. California residents or entities exempt from the withholding requirement should complete Form 590 and submit it to the withholding agent before payment is made. The withholding agent is then relieved of the withholding requirements if the agent relies in good faith on a completed and signed Form 590 unless notified by the Franchise Tax Board (FTB) that the form should not be relied upon.

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed exemption certificate, the withholding agent may accept a letter from the payee as a substitute explaining why they are not subject to withholding. The letter must contain all the information required on the certificate in similar language, including the under penalty of perjury statement and the payee's taxpayer identification number (TIN). The withholding agent must retain a copy of the certificate or substitute for at least five years after the last payment to which the certificate applies, and provide it upon request to the FTB.

If an entertainer (or the entertainer's business entity) is paid for a performance, the entertainer's information must be provided. **Do not** submit the entertainer's agent or promoter information.

The grantor of a grantor trust shall be treated as the payee for withholding purposes. Therefore, if the payee is a grantor trust and one or more of the grantors is a nonresident, withholding is required. If all of the grantors on the trust are residents, no withholding is required. Resident grantors can check the box on Form 590 labeled "Individuals — Certification of Residency."

### D Definitions

For California nonwage withholding purposes, **nonresident** includes all of the following:

- Individuals who are not residents of California.
- Corporations not qualified through the California Secretary of State (CA SOS) to do business in California or having no permanent place of business in California.
- Partnerships or limited liability companies (LLCs) with no permanent place of business in California.
- Any trust without a resident grantor, beneficiary, or trustee, or estates where the decedent was not a California resident.

Foreign refers to non-U.S.

For more information about determining resident status, get FTB Pub. 1031, Guidelines for Determining Resident Status. Military servicemembers have special rules for residency. For more information, get FTB Pub. 1032, Tax Information for Military Personnel.

#### Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or it has qualified through the CA SOS to transact intrastate business. A corporation that has not qualified to transact intrastate business (e.g., a corporation engaged exclusively in interstate commerce) will be considered as having a permanent place of business in California only if it maintains a permanent office in California that is permanently staffed by its employees.

### E Military Spouse Residency Relief Act (MSRRA)

Generally, for tax purposes you are considered to maintain your existing residence or domicile. If a military servicemember and nonmilitary spouse have the same state of domicile, the MSRRA provides:

- A spouse shall not be deemed to have lost a residence or domicile in any state solely by reason of being absent to be with the servicemember serving in compliance with military orders.
- A spouse shall not be deemed to have acquired a residence or domicile in any other state solely by reason of being there to be with the servicemember serving in compliance with military orders.

**Domicile** is defined as the one place:

- Where you maintain a true, fixed, and permanent home.
- To which you intend to return whenever you are absent.



A military servicemember's nonmilitary spouse is considered a nonresident for tax purposes if the servicemember and spouse have the same domicile outside of California and the spouse is in California solely to be with the servicemember who is serving in compliance with Permanent Change of Station orders.

California may require nonmilitary spouses of military servicemembers to provide proof that they meet the criteria for California personal income tax exemption as set forth in the MSRRRA.

Income of a military servicemember's nonmilitary spouse for services performed in California is not California source income subject to state tax if the spouse is in California to be with the servicemember serving in compliance with military orders, and the servicemember and spouse have the same domicile in a state other than California.

For additional information or assistance in determining whether the applicant meets the MSRRRA requirements, get FTB Pub. 1032.

## Specific Instructions

### Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the TIN and check the appropriate TIN box.

You must provide a valid TIN as requested on this form. The following are acceptable TINs: social security number (SSN); individual taxpayer identification number (ITIN); federal employer identification number (FEIN); California corporation number (CA Corp no.); or CA SOS file number.

**Private Mail Box (PMB)** – Include the PMB in the address field. Write "PMB" first, then the box number. Example: 111 Main Street PMB 123.

**Foreign Address** – Follow the country's practice for entering the city, county, province, state, country, and postal code, as applicable, in the appropriate boxes. **Do not** abbreviate the country name.

**Exemption Reason** – Check the box that reflects the reason why the payee is exempt from the California income tax withholding requirement.

### Withholding Agent Instructions

**Do not** send this form to the FTB. The withholding agent retains this form for a minimum of five years or until the payee's status changes, and must provide this form to the FTB upon request.

The payee must notify the withholding agent if any of the following situations occur:

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.

- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

If any of these situations occur, then withholding may be required. For more information, get Form 592, Resident and Nonresident Withholding Statement, Form 592-B, Resident and Nonresident Withholding Tax Statement, and Form 592-V, Payment Voucher for Resident and Nonresident Withholding.

## Additional Information

**Website:** For more information go to [ftb.ca.gov](http://ftb.ca.gov) and search for **nonwage**.

**MyFTB** offers secure online tax account information and services. For more information and to register, go to [ftb.ca.gov](http://ftb.ca.gov) and search for **myftb**.

**Telephone:** 888.792.4900 or 916.845.4900, Withholding Services and Compliance phone service

**Fax:** 916.845.9512

**Mail:** WITHHOLDING SERVICES AND COMPLIANCE MS F182  
FRANCHISE TAX BOARD  
PO BOX 942867  
SACRAMENTO CA 94267-0651

For questions unrelated to withholding, or to download, view, and print California tax forms and publications, or to access the TTY/TDD numbers, see the information below.

### Internet and Telephone Assistance

**Website:** [ftb.ca.gov](http://ftb.ca.gov)

**Telephone:** 800.852.5711 from within the United States  
916.845.6500 from outside the United States

**TTY/TDD:** 800.822.6268 for persons with hearing or speech impairments

### Asistencia Por Internet y Teléfono

**Sitio web:** [ftb.ca.gov](http://ftb.ca.gov)

**Teléfono:** 800.852.5711 dentro de los Estados Unidos  
916.845.6500 fuera de los Estados Unidos

**TTY/TDD:** 800.822.6268 para personas con discapacidades auditivas o de habla



## **Certification Regarding Debarment, Suspension, and Other Responsibility Matters**

The prospective participant certifies to the best of its knowledge and belief that it and the principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them or commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statute or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

---

Typed Name & Title of Authorized Representative

---

Signature of Authorized Representative Date

☐ I am unable to certify to the above statements. My explanation is attached.

---





## CAMPAIGN CONTRIBUTIONS DISCLOSURE

In accordance with California law, bidders and contracting parties are required to disclose, at the time the application is filed, information relating to any campaign contributions made to South Coast Air Quality Management District (SCAQMD) Board Members or members/alternates of the MSRC, including: the name of the party making the contribution (which includes any parent, subsidiary or otherwise related business entity, as defined below), the amount of the contribution, and the date the contribution was made. 2 C.C.R. §18438.8(b).

California law prohibits a party, or an agent, from making campaign contributions to SCAQMD Governing Board Members or members/alternates of the Mobile Source Air Pollution Reduction Review Committee (MSRC) of more than \$250 while their contract or permit is pending before SCAQMD; and further prohibits a campaign contribution from being made for three (3) months following the date of the final decision by the Governing Board or the MSRC on a donor's contract or permit. Gov't Code §84308(d). For purposes of reaching the \$250 limit, the campaign contributions of the bidder or contractor plus contributions by its parents, affiliates, and related companies of the contractor or bidder are added together. 2 C.C.R. §18438.5.

In addition, SCAQMD Board Members or members/alternates of the MSRC must abstain from voting on a contract or permit if they have received a campaign contribution from a party or participant to the proceeding, or agent, totaling more than \$250 in the 12-month period prior to the consideration of the item by the Governing Board or the MSRC. Gov't Code §84308(c).

The list of current SCAQMD Governing Board Members can be found at SCAQMD website ([www.aqmd.gov](http://www.aqmd.gov)). The list of current MSRC members/alternates can be found at the MSRC website (<http://www.cleantransportationfunding.org>).

### **SECTION I.**

**Contractor (Legal Name):** \_\_\_\_\_

DBA, Name \_\_\_\_\_, County Filed in \_\_\_\_\_

Corporation, ID No. \_\_\_\_\_

LLC/LLP, ID No. \_\_\_\_\_

**List any parent, subsidiaries, or otherwise affiliated business entities of Contractor:**  
(See definition below).

---

---

### **SECTION II.**

Has Contractor and/or any parent, subsidiary, or affiliated company, or agent thereof, made a campaign contribution(s) totaling \$250 or more in the aggregate to a current member of the South Coast Air Quality Management Governing Board or member/alternate of the MSRC in the 12 months preceding the date of execution of this disclosure?

☐ Yes    ☐ No    **If YES, complete Section II below and then sign and date the form.  
If NO, sign and date below. Include this form with your submittal.**

**Campaign Contributions Disclosure, continued:**



Name of Contributor \_\_\_\_\_

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

Name of Contributor \_\_\_\_\_

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

Name of Contributor \_\_\_\_\_

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

Name of Contributor \_\_\_\_\_

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

**I declare the foregoing disclosures to be true and correct.**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

#### DEFINITIONS

Parent, Subsidiary, or Otherwise Related Business Entity (2 Cal. Code of Regs., §18703.1(d).)

- (1) Parent subsidiary. A parent subsidiary relationship exists when one corporation directly or indirectly owns shares possessing more than 50 percent of the voting power of another corporation.
- (2) Otherwise related business entity. Business entities, including corporations, partnerships, joint ventures and any other organizations and enterprises operated for profit, which do not have a parent subsidiary relationship are otherwise related if any one of the following three tests is met:
  - (A) One business entity has a controlling ownership interest in the other business entity.
  - (B) There is shared management and control between the entities. In determining whether there is shared management and control, consideration should be given to the following factors:
    - (i) The same person or substantially the same person owns and manages the two entities;
    - (ii) There are common or commingled funds or assets;
    - (iii) The business entities share the use of the same offices or employees, or otherwise share activities, resources or personnel on a regular basis;
    - (iv) There is otherwise a regular and close working relationship between the entities; or
  - (C) A controlling owner (50% or greater interest as a shareholder or as a general partner) in one entity also is a controlling owner in the other entity.





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178

(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

## Direct Deposit Authorization

### STEP 1: Please check all the appropriate boxes

- |  |  |
|--|--|
| <input type="checkbox"/> Individual (Employee, Governing Board Member) | <input type="checkbox"/> New Request           |
| <input type="checkbox"/> Vendor/Contractor                             | <input type="checkbox"/> Cancel Direct Deposit |
| <input type="checkbox"/> Changed Information                           |  |

### STEP 2: Payee Information

Last Name		First Name		Middle Initial	Title
Vendor/Contractor Business Name (if applicable)					
Address				Apartment or P.O. Box Number	
City		State	Zip	Country	
Taxpayer ID Number		Telephone Number		Email Address	

### Authorization

1. I authorize South Coast Air Quality Management District (SCAQMD) to direct deposit funds to my account in the financial institution as indicated below. I understand that the authorization may be rejected or discontinued by SCAQMD at any time. If any of the above information changes, I will promptly complete a new authorization agreement. If the direct deposit is not stopped before closing an account, funds payable to me will be returned to SCAQMD for distribution. This will delay my payment.
2. This authorization remains in effect until SCAQMD receives written notification of changes or cancellation from you.
3. I hereby release and hold harmless SCAQMD for any claims or liability to pay for any losses or costs related to insufficient fund transactions that result from failure within the Automated Clearing House network to correctly and timely deposit monies into my account.

### STEP 3:

You must verify that your bank is a member of an Automated Clearing House (ACH). Failure to do so could delay the processing of your payment. You must attach a voided check or have your bank complete the bank information and the account holder must sign below.

### To be Completed by your Bank

Staple Voided Check Here	Name of Bank/Institution		
	Account Holder Name(s)		
	<input type="checkbox"/> Saving <input type="checkbox"/> Checking	Account Number	Routing Number
	Bank Representative Printed Name	Bank Representative Signature	Date
	ACCOUNT HOLDER SIGNATURE:		Date

For SCAQMD Use Only

Input By \_\_\_\_\_

Date \_\_\_\_\_



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 6

**PROPOSAL:** Appropriate Funds and Execute Contract for Strategic Consulting Services

**SYNOPSIS:** Staff requires professional consulting services related to the implementation of the 2016 AQMP and related issues. This action is to appropriate funds from the General Fund Undesignated (Unassigned) Fund Balance and execute a contract with Double Nickel Advisors, LLC, for strategic communication and messaging to stakeholders, the Legislature and the Governor's Administration in support of the 2016 AQMP, its required elements, and related issues.

**COMMITTEE:** Administrative, February 9, 2018; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Appropriate \$120,000 from the General Fund Undesignated (Unassigned) Fund Balance to the Legislative, Public Affairs and Media Office's FY 2017-18 Budget, Services and Supplies Major Object, Professional and Special Services account; and
2. Authorize the Executive Officer to execute a contract with Double Nickel Advisors, LLC, in an amount not to exceed \$120,000 from the Legislative, Public Affairs and Media Office's FY 2017-18 Budget, Services and Supplies Major Object, Professional and Special Services account for strategic communication and messaging to stakeholders, the Legislature and the Governor's Administration in support of the 2016 AQMP and its required elements.

Wayne Natri  
Executive Officer



**Background**

On March 3, 2017, the SCAQMD Board approved the 2016 AQMP (or Plan), which is a regional blueprint for achieving air quality standards and healthful air. The 2016 AQMP represents a new approach, focusing on feasible and cost effective regulations, while continuing to acknowledge the critical role of incentives to accelerate the pace of clean equipment deployment. The most effective way to reduce air pollution impacts on the health of our more than 16 million residents, including those in disproportionately impacted and environmental justice communities that are concentrated along our transportation corridors and goods movement facilities, is to reduce emissions from mobile sources, the principal contributor to our air quality challenges. For that reason, the SCAQMD has been and will continue to be closely engaged with CARB and U.S. EPA who have primary responsibility for these sources. The Plan recognizes the critical importance of working with other agencies to develop funding and other incentives that encourage the accelerated transition of vehicles and other polluting equipment to cleaner technologies in a manner that benefits more than air quality. The 2016 AQMP puts a priority on maximizing emission reductions utilizing zero emission technologies, wherever cost effective and feasible, and near-zero emission technologies in all other applications. Incentives are still critically important to achieve near-term attainment goals, and serve to accelerate the transition to zero and near-zero technologies.

State and federal agencies have primary authority over mobile sources, which contribute over 80 percent of the emissions in the South Coast basin. Regulations alone, however, even if imposed at all levels of government, will not allow this area to meet health-based air quality standards. Incentives totaling an estimated \$11 billion to \$14 billion, or about \$1 billion per year over the next 15 years, are still needed in order to achieve clean air goals. Potential sources of funding include but are not limited to: seeking potential new sources of funding through federal authorization and appropriations; prioritizing existing funding programs to maximize co-benefits of criteria pollutants and greenhouse gas emission reductions; enhancing existing funding sources, such as the federal Diesel Emission Reduction Act (DERA) program and the state's Carl Moyer program and other fees.

The incentive funding needs are significant, but represent approximately 0.1 percent of the region's annual GDP. Should the region fail to meet federally mandated clean air goals, U.S. EPA could impose sanctions far more onerous and costly to the Basin's residents and businesses than the proposed plan.



**Proposal**

In order to communicate, promote, and advance the state and regional actions necessary to achieve clean air goals, staff proposes to execute a contract with Double Nickel Advisors, LLC, in an amount not to exceed \$120,000 for strategic communication and messaging to the stakeholders, the Legislature and the Governor's Administration in support of the 2016 AQMP and its required elements.

**Sole Source Justification**

Section VIII.B.2 of the Procurement Policy and Procedure identifies provisions by which the sole source award may be justified. This request for a sole source award is made under provision B.2.d: Other circumstances exist which in the determination of the Executive Officer requires such waiver in the best interest of the SCAQMD. Due to the firm's Principal being a former Speaker of the California Assembly, it has special and unique capabilities that will ensure the agencies communications and messaging to the California Legislature are the most effective to garner support for our funding needs for the AQMP.

**Resource Impacts**

Sufficient funding will exist for this contract upon the transfer of \$120,000 from the General Fund Undesignated (Unassigned) Fund Balance to the Legislative, Public Affairs and Media Office's FY 2017-18 Budget.



## REVISED

 [Back to Agenda](#)

BOARD MEETING DATE: March 2, 2018

AGENDA NO. 7

PROPOSAL: Issue Purchase Order to Promote “The Right to Breathe” Video

SYNOPSIS: This action is to add ~~\$375,000~~~~250,000~~ to SCAQMD’s 2018 Google AdWords campaign to promote the new “The Right to Breathe” video. Funding for this effort will come from the BP ARCO Settlement Projects Special Revenue Fund (46).

COMMITTEE: Administrative, February 9, 2018; Recommended for Approval

### RECOMMENDED ACTION:

Authorize the Executive Officer to issue a purchase order in an amount not to exceed \$375,000 to SCAQMD’s 2018 Google AdWords campaign to promote the new “The Right to Breathe” video from the BP ARCO Settlement Projects Special Revenue Fund (46). This funding will be combined with an existing \$277,957 credit for a total of \$652,957 for the video.

~~Utilizing \$277,957 in existing funding and \$250,000 in new funding, authorize the Executive Officer to issue a purchase order in an amount up to \$527,957 to pay monthly invoices for a Google AdWords campaign. New funding (\$250,000) will come from the BP ARCO Settlement Projects Special Revenue Fund (46).~~

Wayne Natri  
Executive Officer

SA

---

### **Background**

#### “The Right to Breathe” Video Update

In early 2017, the Chairman requested an update to SCAQMD’s signature film, “The Right to Breathe,” which was released in 2011. Like the original film, the goal of this update is to educate viewers about air quality and environmental justice challenges as well as current solutions. The updated video is in final production and should be ready for release in March 2018.



### Google AdWords Campaign

During the fall of 2015, SCAQMD implemented a highly successful pilot advertising program with Google AdWords. Since then, the Board has approved six Google AdWords advertising campaigns to promote various SCAQMD programs including “The Right to Breathe” video and the annual “Check Before You Burn” campaign.

Google AdWords have included YouTube “pre-roll” as well as display/banner ads. Pre-roll is a short video ad that plays automatically before a desired video selected by a YouTube viewer.

In December 2015, the Board approved an \$800,000 Google AdWords campaign that launched in December 2015 and was completed in October 2016. During this campaign, \$518,309 was allocated to promote the original “The Right to Breathe” video. The remainder of the budget was used to promote the SCAQMD’s Lawn Mower Exchange program, the “Do 1 Thing” video and an EV home charging infrastructure rebate.

In July 2017 the Board approved \$250,000 to promote the original “The Right to Breathe” video from August 2, 2017, through November 1, 2017. In September 2017, Google provided a service credit to SCAQMD in the amount of \$276,275 due to a Google error in which SCAQMD’s AdWords campaigns were not properly geo-targeted. With the ~~July 2017 Board funding~~, Google credit and the balancespending on the August 2 through November 1, 2017, campaign, SCAQMD now has a cumulative Google creditbalance for “The Right to Breathe” campaign of \$277,957.

The purpose of this Board letter is to issue a purchase order in an amount not to exceed \$375,000 to SCAQMD’s 2018 Google AdWords campaign to promote the new “The Right to Breathe” video from the BP ARCO Settlement Projects Special Revenue Fund (46). This funding will be combined with the existing \$277,957 credit. allocate an additional \$250,000 to the 2018 Google AdWords campaign, for the new “The Right to Breathe” video so that the The 2018 Google AdWords budget will total \$652,957\$27,957, an amount on par with that spent in that is greater than the 2015-2016 campaign promoting the original “The Right to Breathe” video.

With Board approval, the 2018 AdWords campaign would start upon completion of the updated video, anticipated in March, and conclude on December 31, 2018.

### **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. This request for a sole source award is made under provision B.2.c.: The desired services are available from only the sole source, specifically, B.2.c.(1): The unique experience and capabilities of the proposed contractor or contractor team.



### Google, Inc.

Consumers are increasingly turning to digital media for news and information. In turn, companies are making increasing use of digital advertising to promote their brand and services. Google is a leader in assisting companies with online advertising and its ownership of YouTube positions the company as a leader in online video messaging. For these reasons, Google remains uniquely qualified to assist SCAQMD with outreach for the “The Right to Breathe” campaign, utilizing online digital advertising featuring video pre-roll ads and website image ads. In addition, a Google digital strategist who is up-to-date on the latest digital advertising trends will assist SCAQMD to craft a strategy to reach its target audience, set goals to measure progress, launch the online advertising campaign, and provide hands-on personalized support throughout the process.

### **Resource Impacts**~~**Proposed Budget**~~

The ~~purchase order budget~~ for the proposed 2018 Google AdWords campaign is not to exceed an additional \$375,000~~250,000 for a purchase order with Google, Inc.~~ Sufficient funding is available in the BP ARCO Settlement Projects Special Revenue Fund (46). The total campaign budget will be \$652,957~~527,957~~, including \$277,957 in Google credits and funds previously allocated to the balance from the 2017 campaign for the updated “The Right to Breathe” video~~which remains unspent because the video was not finished.~~



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 8

**PROPOSAL:** Transfer and Appropriate Funds and Execute Contracts for Short- and Long-Term Systems Development, Maintenance and Support Services

**SYNOPSIS:** On November 3, 2017, the Board approved the release of an RFP to obtain short- and long-term systems development, maintenance and support services. This action is to transfer and appropriate funds and execute new contracts to obtain these services on a task order basis. Executing contracts with multiple bidders provides a pool of well-qualified professionals who have demonstrated their understanding of and expertise in meeting agency needs, and enables SCAQMD to obtain cost-effective and technically responsive support.

**COMMITTEE:** Administrative, February 9, 2018; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Transfer and appropriate \$65,000 from the Designation for Permit Streamlining (Assigned Fund Balance) to Information Management's FY 2017-18 Budget, Capital Outlay Major Object, Capital Outlay Account for continuation of permitting systems automation projects listed in Attachment A;
2. Transfer \$18,250 from Information Management's FY 2017-18 Budget, Services and Supplies Major Object, Professional and Special Services account to Information Management's FY 2017-18 Capital Outlay Major Object, Capital Outlay account for continuation of Air Quality Index (AQI) Development work;
3. Transfer \$47,800 from Information Management's FY 2017-18 Budget, Services and Supplies Major Object, Professional and Special Services account to Information Management's FY 2017-18 Capital Outlay Major Object, Capital Outlay account to partially fund PeopleSoft FSLA and HCM-BCC tasks;
4. Authorize the Chairman to execute a contract for systems development and support services with Varsun eTechnologies Group, Inc. in the amount of \$215,800 from Information Management's FY 2017-18 Budget, Capital Outlay Major Object, Capital Outlay account; and



5. Authorize the Chairman to execute a contract for systems development, maintenance and support services with Sierra Cybernetics, Inc., in the amount of \$18,250 from Information Management's FY 2017-18 Budget, Capital Outlay Major Object, Capital Outlay account and \$237,250 from Information Management's FY 2017-18 Budget, Services and Supplies Major Object, Professional and Special Services account for a total contract amount of \$255,500.

Wayne Nasti  
Executive Officer

RMM:OSM:RR:jga

---

### **Background**

On November 3, 2017, SCAQMD released RFP #P2018-03 for Systems Development, Maintenance and Support Services to solicit bids from consultants capable of providing a full range of high quality systems development, maintenance, and support services; enterprise resource planning; customer relationship management; and content management system services. The requested services include both routine maintenance of functional systems, as well as enhancements to existing systems and new system development. Additional development efforts are needed to enhance system functionality and to provide SCAQMD staff with additional automation for improving productivity. At the same time, Information Management is developing and/or acquiring systems capable of efficiently implementing new and evolving rules and programs.

A task order contract for a term of one year will be used, with the option to extend the term for two (2) one-year periods. Due to the indefinite nature of the work, the final contract amount cannot be determined at this time. As is the case with this action, funding for each contract will be added upon approval of a task order.

### **Outreach**

In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the RFP and inviting bids was published in the Los Angeles Times, the Los Angeles Sentinel, the Orange County Register, the San Bernardino Sun, Riverside County's Press Enterprise, and the Sacramento Bee newspapers, as well as through Eastern Group Publications, Inc. to leverage the most cost-effective method of outreach to the entire South Coast Basin and beyond. Additionally, potential bidders may have been notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the RFP has been e-mailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at SCAQMD's website (<http://www.SCAQMD.gov>).



**Bid Evaluation**

Forty-three copies of the RFP were mailed via USPS and 84 copies were distributed via e-mail. Sixteen vendors attended the mandatory Bidder's Conference in person or via WebEx held on November 15, 2017. Eight bids were received in response to the RFP when final bidding closed at 1:00 p.m. on December 13, 2017. Of the eight bids, one was from a woman-owned business enterprise, three were from certified small businesses, two were verified local businesses, and one was from a certified minority-owned business enterprise.

Of the eight responding bids, four were rated technically qualified to perform the work identified in the RFP; four did not achieve the minimum 56 points required to meet the technical criteria. Attachment A reflects the evaluation of the four qualified proposals and their respective scores.

**Panel Composition**

The seven-member evaluation panel consisted of: a Chief Information Officer from the Southern California Association of Governments, and six SCAQMD staff members: two Assistant Deputy Executive Officers, two Technology Implementation Managers, and two Systems and Programming Supervisors. Of the seven panelists, one is African-American, one is Asian, one is South Asian, two are Middle Eastern and two are Caucasian; three are female and four are male.

**Resource Impacts**

Upon Board approval, sufficient funds of \$234,050 will be available in Information Management's FY 2017-18 Budget, Capital Outlay Major Object, Capital Outlay account, and \$237,250 in Information Management's FY 2017-18 Budget, Services and Supplies Major Object, Professional and Specialized Services account to fund the contracts for Sierra Cybernetics and Varsun eTechnologies. A total of \$66,050 will be transferred from Information Management's Services & Supplies Major Object to Capital Outlay Major Object for recommended actions #2 and #3, and \$65,000 will be transferred from the Designation for Permit Streamlining (Assigned Fund Balance) to Information Management's Capital Outlay Major Object, Capital Outlay account. This designation has a balance of \$2,288,385 per the December 2017 General Ledger. Sufficient budget of \$340,250 to fund the balance of the two proposed contracts is currently available in Information Management's FY 2017-18 Budget, Services and Supplies Major Object, Professional and Special Services account and Information Management's FY 2017-18 Budget, Capital Outlay Major Object, Capital Outlay account as indicated below. The other qualified firms, AgreeYa Solutions and Prelude Systems, currently have existing contracts with residual amounts and will need Board approval to allocate additional contract funding.



Funding Source	Sierra Cybernetics	Varsun eTechnologies
Transfer from IM's Prof & Special Services Account to IM's Capital Account	\$ 18,250	\$ 47,800
Transfer from Designation for Permit Streamlining to IM's Capital Account		65,000
Current Budget in IM's Prof & Special Services Account	237,250	
Funding Source	Sierra Cybernetics	Varsun eTechnologies
Current Budget in IM's Capital Account		103,000
Total	\$255,500	\$215,800

#### **Attachment**

- A. Summary of Evaluation of Qualified Respondents to RFP #P2018-03 and Task Order Schedule



## ATTACHMENT A

### Summary of Evaluation of Qualified Respondents to RFP #P2018-03

Vendor	Technical Score	Cost Score	Additional Points	Total Score
AgreeYa Solutions	67	22.3	15	104.3
Prelude Systems	62	19.8	0	81.8
Sierra Cybernetics, Inc.	64	30	15	109
Varsun eTechnologies	67	18.1	15	100.1

### Task Order Schedule

Task	Description	Estimate	Awarded To
Automated Permitting UI/User Experience Improvements	Enhance the 400A Application Filing, Automatic Permit Processing and Login/Registration modules to improve the user experience and application workflow	\$65,000	Varsun eTechnologies
PeopleSoft FLSA and HCM-BCC	Implement the changes needed to support FLSA and Benefit Coordinator Corp (BCC) changes to HRMS/Payroll systems	\$76,000	Varsun eTechnologies
PeopleSoft/HR Labor Negotiations	Implement HRMS/Payroll changes to support Rideshare and Leave Accrual Teamster agreement	\$21,800	Varsun eTechnologies
AER Systems Maintenance and Enhancements	Provide AER systems maintenance and evaluation work needed for AER integration into the Districts mainline CLASS systems and architecture	\$53,000	Varsun eTechnologies
Web Application UI/UX Designer	Web Application User Interface and User Experience design services for startup and enhancement of all web application development projects	\$160,200	Sierra Cybernetics, Inc.
CLASS Systems Web Applications Maintenance	Development, maintenance and upgrade of Web Services and Web Programming Interfaces (API's) for the suite of SCAQMD Web Applications	\$77,050	Sierra Cybernetics, Inc.
Air Quality Index (AQI) Conversion and Migration	Additional funding needed to make AQI Web Service/Web API useable by AQ-SPEC low cost sensors	\$18,250	Sierra Cybernetics, Inc.



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 9

**PROPOSAL:** Amend Contracts to Provide Systems Development Services for Legal Division Case Management System Development and Implementation

**SYNOPSIS:** SCAQMD currently has contracts with several companies for short- and long-term systems development, maintenance and support services. These contracts are periodically amended to add budgeted funds as additional needs are defined. This action is to amend one of the contracts approved by the Board to add additional funding of \$500,000 for development and implementation of a new web-based case management software system for the Legal Division.

**COMMITTEE:** Administrative, February 9, 2018; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Transfer and appropriate \$500,000 from the Undesignated (Unassigned) Fund Balance to Information Management's FY 2017-18 Budget, Capital Outlays Major Object, Capital Outlays account.
2. Authorize the Executive Officer to amend a contract for systems development services in the amount of \$500,000 with a Board-approved software development contractor for the development and implementation of a new web-based case management system for the Legal Division.

Wayne Natri  
Executive Officer



## **Background**

In 2013 an outside consultant conducted a management review of the Legal Division and recommended investing in technology to develop improved work tracking mechanisms.

In response to the consultant's recommendation an RFP was issued in September 2013 resulting in a December 2013 contract award and execution with Courtview Justice Solutions to purchase, customize, and implement a new case and document management software system that would be compatible with the SCAQMD's permitting, enforcement and imaging databases and that would track and manage assignments and generate work efficiency.

The system was implemented in February of 2016 and staff has since been utilizing this Case Management System (CMS) software in an attempt to satisfy their document and case management divisional needs. The Courtview software has failed to meet the specifications and requirements in the contract between SCAQMD and Courtview and has also failed to meet operating standards that would be held by a reasonable user. The most notable issues follow.

- Product does not support Internet Explorer browser as specified in contract
- Ad hoc Search and Reporting tool/feature does not work as specified
- The product has inconsistent and incorrect data and business rules
- Certain data entered does not propagate to related screens
- Errors continue and new anomalies emerge even two years post initial deployment of the software
- Frequent system slowdown that requires server resets to correct
- System upgrades fail to address missing functionalities and features that are critical to support the Legal Division's workflow and business process
- Awkward user interface is difficult to use and navigate
- System lacks multi-level user security and audit trail

The SCAQMD sent the vendor a letter on January 26, 2018, requesting that it provide, in writing, assurances that it will cure the specified breaches in the contract and provide a timeline for doing so. However, given the vital importance of the software to the Legal Office's operations, and the fact that the functional and technical representations made by the software vendor and reasonably expected by a user have not been fully realized, and based on the unique needs of our Legal Division, particularly as it relates to the SCAQMD's CLASS systems interface requirements, it is recommended that the Board authorize a replacement of the Courtview system in case the vendor does not cure its breaches. The new system will not be an off-the-shelf product, but will be developed in-house to meet the needs of the Legal Division.



System development and maintenance efforts are currently needed to develop and implement a CMS solution with CLASS system interfaces. This includes a business process model to validate the needed processes and workflow, a business intelligence module to satisfy the intermediate reporting requirements and a web-based application to fully support the defined business process. This new system development project will take approximately two years to complete and will be developed in phases where intermediate releases can potentially be deployed as fully functional software components.

There are contracts in place with AgreeYa Solutions, Prelude Systems, Sierra Cybernetics and Varsun eTechnologies for short- and long-term development, maintenance and support services. The current contracts are for one year with the option to renew for two one-year periods. Staff proposes to award the Legal Division's new CMS development project to one of the previously approved contractors through a Basic Ordering Agreement competitive bid process.

### **Proposal**

Staff is recommending that the Board authorize the Executive Officer to amend the contract of one of the previously Board-approved software development contractors to develop the new Legal Division web-based CMS application.

### **Resource Impacts**

Sufficient funding will be included in the current FY 2017-18 Budget upon approval of the transfer and appropriation of \$500,000 from the Undesignated (Unassigned) Fund Balance.



 [Back to Agenda](#)

BOARD MEETING DATE: March 2, 2018

AGENDA NO. 10

**PROPOSAL:** Approve SCAQMD Annual Investment Policy and Delegation of Authority to Appointed Treasurer to Invest SCAQMD Funds

**SYNOPSIS:** State law requires a local government entity annually to provide a statement of investment policy for consideration at a public meeting and to renew its delegation of authority to its treasurer to invest or to reinvest funds of the local agency.

**COMMITTEE:** Investment Oversight, February 16, 2018; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Approve the attached Annual Investment Policy, and
2. Adopt the attached Resolution to renew delegation of authority to the Los Angeles County Treasurer to invest and reinvest SCAQMD funds.

Wayne Nastri  
Executive Officer

SJ:av

---

**Background**

Changes to the California Government Code, which took effect in 1996, require that a statement of investment policy be transmitted annually to the Oversight Committee and legislative body of a local agency for consideration at a public meeting. In addition, state law (Government Code Section 53607) requires that a local agency's legislative body annually renew its delegation of authority to its Treasurer to invest or to reinvest funds of the local agency.

Board action on April 12, 1996 approved a recommendation to minimize SCAQMD investments in the Los Angeles County Pooled Surplus Investment Portfolio (PSIP), by directing staff to work with the Los Angeles County Treasurer (SCAQMD's Treasurer) to make specific investments on behalf of SCAQMD. This change required the development of an annual statement of investment policy specific for SCAQMD.



SCAQMD's investment consultant, working with SCAQMD staff and the Los Angeles County Treasurer's office, developed the attached statement of investment policy. This policy, which is reviewed annually for possible changes, sets forth the investment guidelines for SCAQMD with the objective of ensuring that funds are prudently invested to preserve principal and provide necessary liquidity while earning a market average rate of return.

### **Proposal**

The Investment Policy was substantially revised in 2013, including updating credit requirements, revising maturity limits, and clarifying diversification guidelines. Minor updates have been made since that time to ensure compliance with changes to the California Government Code. There is one revision being recommended for the Investment Policy, which includes: 1) a change in title of the Chief Administrative Officer to the Assistant Deputy Executive Officer of Finance to match recent organizational changes.

The County of Los Angeles has provided excellent treasury management services to the SCAQMD since inception of the District. These services include providing banking services, processing electronic payments to SCAQMD, and the investment of the SCAQMD's cash balances. Staff is recommending that the SCAQMD continue with the services provided by the Los Angeles County Treasurer.

### **Resource Impacts**

Costs associated with SCAQMD treasury management operations are included in the FY 2017-18 Budget and will be included in the FY 2018-19 Budget.

### **Attachments**

1. SCAQMD Annual Investment Policy
2. Resolution - Delegation of Authority to Appoint L.A. County Treasurer



# **South Coast Air Quality Management District**

## **Annual Investment Policy**

### **I. PURPOSE**

This Annual Investment Policy (the “Policy”) sets forth the investment guidelines for all general, special revenue, trust, agency and enterprise funds of the South Coast Air Quality Management District (SCAQMD). The objective of this Policy is to ensure all of SCAQMD’s funds are prudently invested to preserve principal and provide necessary liquidity, while earning a market average rate of return.

SCAQMD funds deposited with the Los Angeles County Treasurer may only be invested in the Los Angeles County Pooled Surplus Investment Portfolio or in Special Purpose Investments as authorized by this Policy. The SCAQMD Annual Investment Policy conforms to the California Government Code (the Code) as well as customary standards of prudent investment management. Irrespective of these Policy provisions, should the provisions of the Code be or become more restrictive than those contained herein, such provisions will be considered immediately incorporated in this Policy and adhered to.

### **II. SCOPE**

It is intended that this Policy cover all funds (except those funds invested in the two retirement systems covering SCAQMD employees and 457 deferred compensation plan funds) and investment activities under the direction of the SCAQMD and deposited with the Los Angeles County Treasurer.

The investment of bond proceeds will be governed by state law and the permitted investment provisions of relevant bond documents.

### **III. OBJECTIVES**

The objectives of this Annual Investment Policy, in priority order, are SAFETY OF PRINCIPAL, LIQUIDITY, AND MARKET RATE OF RETURN.

1. Safety of Principal. The primary objective of SCAQMD is to reduce credit risk and interest rate risk to a level that is consistent with safe and prudent investment management. Credit risk is the risk of default or the inability of a debt issuer to make interest or principal payments when due. Credit risk is minimized by investing in only permitted investments and diversifying the portfolio according to this Annual Investment Policy so that no one type of issuer or issue will have a disproportionate impact on the portfolio. Interest



rate risk is associated with price volatility introduced by extending the maturity of instruments purchased. Interest rate risk is controlled by limiting the maturity exposure to acceptable levels.

2. Liquidity. SCAQMD funds will be invested to ensure that normal cash needs and scheduled extraordinary cash needs can be met. Cash flow forecasting will be used to determine the current and projected future needs of SCAQMD and the ability of SCAQMD to make Special Purpose Investments. SCAQMD shall invest funds in instruments for which there is a secondary market and which offer the flexibility to be easily sold at any time with minimal risk of loss of either the principal or interest based upon then prevailing interest rates.
3. Market Rate of Return. SCAQMD's funds shall be invested to attain a market average rate of return through economic cycles consistent with maintaining risk at a prudent level.

These objectives are to be achieved in part through the diversification of SCAQMD investments among the Los Angeles County Pooled Surplus Investment Portfolio and Special Purpose Investments. The combination of the Pooled Surplus Investment Portfolio and the Special Purpose Investment of SCAQMD funds in the State of California Local Agency Investment Fund will provide significant diversification, safety of principal and liquidity for the programs of the SCAQMD. Other Special Purpose Investments in an SCAQMD separate account will experience market price changes due to interest rate risk consistent with longer maturity investments that are permitted by this policy.

#### **IV. RESPONSIBILITIES**

*The Governing Board.* The SCAQMD Governing Board is responsible for establishing the Annual Investment Policy and ensuring investments are made in compliance with this Policy. This Policy shall be reviewed annually by the Governing Board at a public meeting pursuant to Section 53646(g) of the California Government Code. The Los Angeles County Treasurer has been appointed Treasurer of SCAQMD. The Treasurer shall be appointed at least annually by the SCAQMD Governing Board.

*The Treasurer.* The Treasurer is responsible for making investments and for compliance with this Policy pursuant to the delegation of authority to invest funds or to sell or exchange securities made in accordance with Code Section 53607. The Treasurer shall submit a monthly report of investment transactions to the SCAQMD Governing Board. If the SCAQMD Governing Board appoints as Treasurer someone other than the Los Angeles County Treasurer,



the new Treasurer shall be responsible for making investments and for compliance with this Policy or such other Policy which may be adopted by the Governing Board at that time.

~~The Chief Administrative Officer~~Assistant Deputy Executive Officer of Finance. The ~~Chief Administrative Officer~~Assistant Deputy Executive Officer of Finance, based on information provided by the Treasurer, shall submit a quarterly report to the Governing Board pursuant to Code Section 53646(g). The Assistant Deputy Executive Officer of Finance~~Chief Administrative Officer~~ is responsible for preparation of cash flow forecasts for SCAQMD funds as described below. The Assistant Deputy Executive Officer of Finance~~Chief Administrative Officer~~ will recommend specific individual investments for the Special Purpose Investments to be made by the Treasurer.

*The Investment Oversight Committee.* The SCAQMD Governing Board shall appoint an Investment Oversight Committee. The duties and responsibilities of the Investment Oversight Committee shall consist of the following:

1. Annual review of SCAQMD's Investment Policy before it is considered by the Governing Board, and recommend revisions, as necessary, to the ~~Chief Administrative Officer~~Assistant Deputy Executive Officer of Finance.
2. Quarterly review of SCAQMD's investment portfolio for conformance with SCAQMD's Annual Investment Policy diversification and maturity guidelines, and make recommendations to the Assistant Deputy Executive Officer of Finance~~Chief Administrative Officer~~ as appropriate.
3. Provide comments to the SCAQMD Assistant Deputy Executive Officer of Finance~~Chief Administrative Officer~~ regarding potential investments and potential investment strategies.
4. Perform such additional duties and responsibilities as may be required from time to time by specific action and direction of the Governing Board.

It shall not be the purpose of the Investment Oversight Committee to advise on particular investment decisions of SCAQMD.

## **V. IMPLEMENTATION**

This Policy establishes and defines investable funds, authorized instruments, credit quality requirements, maximum maturities and concentrations, collateral requirements, and qualifications of brokers, dealers, and financial institutions doing business with or on behalf of the SCAQMD.



A. *Standard of Care.*

SCAQMD's Governing Board or persons authorized to make investment decisions on behalf of SCAQMD are trustees and fiduciaries subject to the prudent investor standard, as required by Code Section 53600.3, and shall be applied in the context of managing an overall portfolio. SCAQMD's investment professionals acting in accordance with written procedures and the Annual Investment Policy and exercising due diligence shall be relieved of personal responsibility for an individual security's credit risk or market price changes, provided deviations from expectations are reported in a timely fashion and appropriate action is taken to control developments.

The Prudent Investor Standard: When investing, reinvesting, purchasing, acquiring, exchanging, selling, or managing public funds, a trustee shall act with care, skill, prudence, and diligence under the circumstances then prevailing, including but not limited to, the general economic conditions and the anticipated needs of the agency, that a prudent person acting in a like capacity and familiarity with those matters would use in the conduct of funds of a like character and with like aims, to safeguard the principal and maintain the liquidity needs of the agency.

B. *Investable Funds.*

Investable Funds for purposes of this Policy are the SCAQMD general, special revenue, trust, agency and enterprise funds that are available for investment at any one time including any estimated bank account float. Investable Funds are idle or surplus funds of the SCAQMD including all segregated funds. All bond proceeds are excluded from Investable Funds. The Cash Flow Horizon is the time period in which the SCAQMD cash flow can be reasonably forecast. This Policy establishes the Cash Flow Horizon for SCAQMD idle or surplus funds to be three (3) years. The SCAQMD cash flow forecast must be updated at least every six months.

When the SCAQMD ~~Assistant Deputy Executive Officer of Finance~~~~Chief Administrative Officer~~ determines that the cash flow forecast can be met, the Treasurer, at the request of the Assistant Deputy Executive Officer of Finance~~Chief Administrative Officer~~, may invest a maximum of up to 75% of the minimum amount of funds available for investment during the Cash Flow Horizon in Special Purpose Investments ("SPI"), exclusive of investments in the State of California Local Agency Investment Fund ("LAIF"), in a separate account outside of the Pooled Surplus Investment ("PSI") Portfolio, in accordance with this Policy.



*C. Authorized Investments.*

Authorized investments shall match the general categories established by the California Government Code Sections 53601 et seq. and 53635 et seq.

Authorization for specific instruments within these general categories as well as portfolio concentration and maturity limits are established below as part of this Policy. No investments shall be authorized that have the possibility of returning a zero or negative yield when held to maturity; for example: inverse floaters, range notes or interest only STRIPS. As the California Government Code is amended, this Policy shall likewise become amended.

SCAQMD investments or deposits in the County of Los Angeles PSI Portfolio are governed by the County of Los Angeles Treasurer's Investment Policy for Pooled Surplus Funds. SCAQMD investments or deposits in the LAIF are governed by the investment policy and guidelines for LAIF as established by the Office of the Treasurer for the State of California.

Investments in LAIF are an SPI investment and are limited in amount to the investment limits established for LAIF by the California State Treasurer.

SCAQMD funds and segregated funds that are invested by the Treasurer in an SPI separate account outside of the County of Los Angeles PSI Portfolio or LAIF are subject to this Policy. SCAQMD funds invested in an SPI separate account will be governed by various approved lists that may be established and maintained by the Los Angeles County Treasurer or the SCAQMD's Investment Advisor.

*D. Maximum Maturities.*

The maximum maturity of any SPI investment shall be five (5) years. The weighted average maturity of the SPI separate account portfolio may not exceed three (3) years. Maturity shall mean the nominal maturity of the security, or the unconditional put option date, if the security contains such provision. Term or tenure shall mean the remaining time to maturity when purchased.

*E. Permitted Investments.*

1. U.S. Treasuries



Direct obligations of the United States of America and securities which are fully and unconditionally guaranteed as to the timely payment of principal and interest by the full faith and credit of the United States of America.

U.S. Treasury coupon and principal STRIPS are not considered to be derivatives for the purpose of this Annual Investment Policy and are, therefore, permitted investments pursuant to the Annual Investment Policy.

2. Federal Agencies and U.S. Government Sponsored Enterprises.

Obligations, participations, or other instruments of, or issued by, a federal agency or a United States government sponsored enterprise.

3. Los Angeles County Pooled Surplus Investment Portfolio.

The County of Los Angeles Pooled Surplus Investment Portfolio is a pooled fund managed by the County Treasurer whose permitted investments are authorized in the Code and are governed by the Treasurer's Investment Policy with credit requirements and maturity limits established by the County Treasurer and adopted by the County Board of Supervisors.

4. State of California Local Agency Investment Fund.

LAIF is a pooled fund managed by the Office of the State Treasurer whose permitted investments are identified in the Code and whose credit requirements and maturity limits are established by the State Treasurer.

5. Shares of Money Market Mutual Funds.

Credit requirements for approved money market funds shall be limited to ratings of AAA by at least two nationally recognized statistical rating organizations (NRSRO) or managed by an investment advisor registered with the Securities and Exchange Commission with not less than five years' experience and with assets under management in excess of five hundred million dollars (\$500,000,000), and such investment may not represent more than ten percent (10%) of the total assets in the money market fund.

6. Bankers' Acceptances.

Bankers' acceptances must be issued by national or state-chartered banks or a state-licensed branch of a foreign bank. Eligible bankers' acceptances shall have the highest ranking or the highest letter and number rating as provided for by a NRSRO.

Maximum maturities for bankers' acceptances are 180 days.



7. Negotiable Certificates of Deposit.

Negotiable certificates of deposit must be issued by national or state-chartered banks, a federally- or state-licensed branch of a foreign bank, savings associations and state or federal credit unions. Negotiable CDs must be rated in a rating category of “A” or its equivalent, or higher, by at least one NRSRO.

The SCAQMD will not purchase negotiable certificates of deposit of a savings association or credit union as Special Purpose Investments if an SCAQMD Board member or a member of management staff, with investment authority, also serves on the Board of Directors or a committee of that savings association or credit union.

Maximum maturities for all negotiable certificates of deposit are five (5) years.

8. Commercial Paper.

Commercial paper of “prime” quality of the highest ranking or of the highest letter and number rating as provided for by a NRSRO. The entity that issues the commercial paper shall meet all of the following conditions in either paragraph a. or paragraph b.:

- a. The entity meets the following criteria:
  - i. Is organized and operating in the United States as a general corporation.
  - ii. Has total assets in excess of one billion dollars (\$1,000,000,000).
  - iii. Has debt other than commercial paper, if any, that is rated in a rating category of “A”, or the equivalent, or higher, by a NRSRO.
- b. The entity meets the following criteria:
  - i. Is organized within the United States as a special purpose corporation, trust, or limited liability company.
  - ii. Has program wide credit enhancements including, but not limited to, over collateralization, letters of credit, or surety bond.
  - iii. Has commercial paper that is rated in a rating category of “A-1”, or the equivalent, or higher, by at least two NRSROs.

Investments may not represent more than ten percent (10%) of the outstanding paper of the issuing corporation.

Maximum maturities for commercial paper are 270 days.



9. Medium Term Maturity Corporate Securities.

Medium-term corporate notes shall be rated in a rating category “A” or its equivalent or higher by a NRSRO.

Floating rate medium term notes may be used if interest resets at least quarterly.

Maximum maturities for medium term maturity corporate securities are five years.

10. Mortgage Securities or Asset-backed Securities.

Credit requirements for any mortgage pass-through security, collateralized mortgage obligations, mortgage-backed or other pay-through bond, equipment lease-backed certificate, consumer receivable pass-through certificate, or consumer receivable backed bond shall be rated “AAA” or its equivalent or better by a nationally recognized rating service, and issued by an issuer having a rating in the category of “AA”, or its equivalent, or higher by a NRSRO for its long-term debt.

The maximum maturity for Mortgage or Asset-backed Securities shall be five years.

11. Repurchase Agreements.

All repurchase transactions must be collateralized by U.S. Treasuries or Agencies with a market value of 102% for collateral marked to market daily, entered into with a broker-dealer which is a recognized primary dealer and evidenced by a broker-dealer master purchase agreement signed by the County Treasurer and approved by SCAQMD.

The maximum maturity of a repurchase agreement shall be 30 days.

12. Reverse Repurchase Agreements.

Reverse repurchase agreements are not allowed except as part of investments in the County of Los Angeles Pooled Surplus Investment Portfolio and the State of California Local Agency Investment Fund.

13. Variable and Floating Rate Securities.

Variable and floating rate securities are instruments that have a coupon or interest rate that is adjusted periodically due to changes in a base or benchmark rate. Investments in floating rate securities must utilize commercially available U.S. denominated indices such as U. S. Treasury



bills or Federal Funds. Investments in floating rate securities whose reset is calculated using more than one of the above indices are not permitted, i.e. dual index notes.

Variable and Floating Rate Securities that are priced based on a single common index are not considered derivative securities.

The maximum maturity is five years.

14. Obligations of the State of California or any local agency within the state.

Permitted obligations will include bonds payable solely out of revenues from a revenue producing property owned, controlled or operated by the state or any local agency, or by a department, board, agency or authority of the state or any local agency.

Obligations of the State of California or other local agencies within the state must be rated in a rating category of “A”, or its equivalent, or higher, by a NRSRO.

15. Obligations of Supranational Institutions`

Permitted obligations will include U.S. dollar denominated senior unsecured unsubordinated obligations issued or unconditionally guaranteed by any of the supranational institutions identified in California Government Code Section 53601(q), which are eligible for purchase and sale within the U.S.

Obligations of supranational institutions must be rated in a rating category of “AA”, or its equivalent, or higher, by a NRSRO.

*F. Diversification Guidelines.*

Diversification limits ensure that at the time of investment the SCAQMD’s portfolio is not unduly concentrated in the securities of one type, industry, or issuer, thereby assuring adequate portfolio liquidity should one sector or issuer experience difficulties. The diversification limits outlined below for an individual investment instrument and issuer/counterparty are expressed as the maximum percentage of the total SCAQMD’s portfolio invested by the Los Angeles County Treasurer. Maximum percentage limits shall apply at the time of purchase and allocations in excess of maximum percentages



due to fluctuations in portfolio size will not be considered out of compliance with this Policy.

<u>Instrument</u>	<u>Maximum % of Portfolio</u>
1. U.S. Treasuries	100%
2. Federal Agencies & U.S. Government Sponsored Enterprises	100%
3. Los Angeles County Pooled Surplus Investment Portfolio	100%
4. State of California Local Agency Investment Fund	100%
5. Shares of Money Market Mutual Funds	15%
6. Bankers Acceptances	40%
7. Negotiable Certificates of Deposit	30%
8. Commercial Paper	25%
9. Medium Term Maturity Corporate Securities	30%
10. Mortgage Securities or Asset-backed Securities	20%
11. Repurchase Agreements	50%
12. Reverse Repurchase Agreements*	Not Allowed
13. Variable and Floating Rate Securities	30%
14. Obligations of the State of California or any California local agency	30%
15. Obligations of Supranational Institutions	10%

\* See Section V(E)(12).

<u>Issuer/Counterparty</u>	<u>Maximum % of Portfolio</u>
Any one Federal Agency or U.S. Government Sponsored Enterprise	50%
Securities of any single non-government issuer or its related entities, regardless of security type	5%
Securities of any State of California or California local agency	5%
Any one Repurchase Agreement or other collateralized counterparty name	50%

**G. Investment Agreements (For Bond Funds Only).**

Investment Agreements or Fully Flexible Repurchase Agreements shall provide a fixed spread to an index or a fixed rate of return with liquidity, usually one-to-seven day's withdrawal notice with no penalties, to meet cash flow needs of the SCAQMD. Investment Agreements may be with any bank, insurance company or broker/dealer, or any corporation whose principal business is to enter into such agreements, if:



1. At the time of such investment:
  - a. Such bank has an unsecured, uninsured and unguaranteed obligation rated in a rating category of “AA”, or its equivalent, or higher, by at least two NRSROs, or
  - b. such insurance company or corporation has an unsecured, uninsured and unguaranteed claims paying ability rated “AAA” or its equivalent by at least two NRSROs, or
  - c. such bank or broker/dealer has an unsecured, uninsured and unguaranteed obligation rated in a rating category of “A”, or its equivalent, or higher by at least two NRSROs (and with respect to such broker/dealer shall be rated of the highest short-term ratings by at least two NRSROs); provided, that such broker/dealer or “A” rated bank also collateralize the obligation under the investment agreement with U.S. Treasuries or Agencies.
2. The agreement shall include a provision to the effect that if any rating of any such bank, insurance company, broker/dealer or corporation is downgraded below the rating existing at the time such agreement was entered into, the SCAQMD shall have the right to terminate such agreement.
3. Collateralization shall be at a minimum of 102%, marked to market, at a minimum, weekly.

The maximum term for an Investment Agreement for bond proceeds will be governed by the permitted investment language of the bond indenture.

#### *H. Rating Downgrades.*

Securities that are currently under “Credit Watch-Negative” for downgrade below the minimum credit criteria of this Policy by any NRSROs are not permitted for purchase for the SPI investments under this Policy.

The SCAQMD SPI separate account may from time to time be invested in a security whose rating is downgraded below the quality criteria permitted by the Annual Investment Policy. Any security held as an investment whose rating falls below the investment guidelines or whose rating is put on notice for possible downgrade shall be immediately reviewed for action by the Assistant Deputy Executive Officer of Finance~~Chief Administrative Officer~~. The decision to retain the security until maturity, sell (or put) the security, or other action shall be approved by the Treasurer. Minimum credit criteria shall apply at the time of purchase.



*I. Securities Safekeeping.*

Securities shall be deposited for safekeeping with a third party custodian in compliance with Code Section 53608.

*J. Review and Monitoring of Investments.*

The Assistant Deputy Executive Officer of Finance~~Chief Administrative Officer~~ will submit to the Governing Board the quarterly reports on investments prepared by the Treasurer for the Pooled Surplus Investment Portfolio and SCAQMD funds invested in the State Local Agency Investment Fund and Special Purpose Investments. The Assistant Deputy Executive Officer of Finance~~Chief Administrative Officer~~ will review at least monthly the transactions and positions of SCAQMD funds invested in Special Purpose Investments outside of the Local Agency Investment Fund or the Pooled Surplus Investment Portfolio.

Approved March 23, 2018~~7~~



**RESOLUTION NO. 18-\_\_\_\_**

**A Resolution of the South Coast Air Quality Management District Board delegating authority to the Treasurer of the County of Los Angeles to invest and reinvest funds of the South Coast Air Quality Management District.**

WHEREAS, the Governing Board of the South Coast Air Quality Management District desires to reaffirm the appointment of the Treasurer of the County of Los Angeles as Treasurer of the South Coast Air Quality Management District; and

WHEREAS, the Governing Board of the South Coast Air Quality Management District pursuant to Section 40527 of the Health and Safety Code has authority to appoint a Treasurer; and

WHEREAS, the Governing Board of the South Coast Air Quality Management District pursuant to Section 53607 of the Government Code is required to annually renew the delegation of authority to its Treasurer to invest or to reinvest funds, or sell or exchange securities of the District;

THEREFORE, BE IT RESOLVED that the Governing Board of the South Coast Air Quality Management District hereby delegates to the Treasurer of the County of Los Angeles the authority to invest and to reinvest funds of the South Coast Air Quality Management District.

AYES:

NOES:

ABSENT:

Date: \_\_\_\_\_

\_\_\_\_\_  
Clerk of the Boards





[↑ Back to Agenda](#)

BOARD MEETING DATE: March 2, 2018

AGENDA NO. 11

PROPOSAL: Approve Contract Awards Approved by MSRC

SYNOPSIS: As part of their FYs 2016-18 Work Program, the MSRC approved new contracts under the Major Event Center Transportation, Natural Gas Infrastructure, and Local Government Partnership Programs. The MSRC also approved a replacement contract under their FYs 2014-16 Work Program. At this time the MSRC seeks Board approval of the contract awards.

COMMITTEE: Mobile Source Air Pollution Reduction Review, February 15, 2018;  
Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Approve contract award to Los Angeles County Metropolitan Transportation Authority (Metro) in an amount not to exceed \$1,324,560 to provide special bus and train service to Dodger Stadium for 2018 under the Major Event Center Transportation Program, as part of approval of the FYs 2016-18 Work Program, as described in this letter;
2. Approve contract awards totaling \$448,000 under the Natural Gas Infrastructure Program, as part of approval of the FYs 2016-18 Work Program, as described in this letter and as follows:
  - a. A contract with Omnitrans in an amount not to exceed \$83,000 to modify their vehicles maintenance facility and train technicians; and
  - b. A contract with the City of Gardena in an amount not to exceed \$365,000 to install a new limited access CNG station supplied with renewable natural gas, modify their maintenance facility and train technicians;
3. Approve contract award to the City of Artesia in an amount not to exceed \$50,000 to install electric vehicle charging infrastructure under the Local Government Partnership Program, as part of approval of the FYs 2016-18 Work Program, as described in this letter;
4. Approve a new/replacement contract with the City of Wildomar, in an amount not to exceed \$500,000, for the installation of bicycle lane improvements along approximately 5.2 miles of roadway under the Local Government Match Program, as part of approval of the FYs 2014-16 Work Program, as described in this letter;



5. Authorize MSRC the authority to adjust contract awards up to five percent, as necessary and previously granted in prior work programs; and
6. Authorize the Chairman of the Board to execute contracts under FYs 2014-16 and 2016-18 Work Programs, as described above and in this letter.

Larry McCallon,  
Vice Chair, MSRC

MMM:FM:CR

---

### **Background**

In September 1990 Assembly Bill 2766 was signed into law (Health & Safety Code Sections 44220-44247) authorizing the imposition of 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 subvented to the SCAQMD be placed into an account to be allocated pursuant to a work program developed and adopted by the MSRC and approved by the Board.

At its February 15, 2018 meeting, the MSRC considered recommended awards under the Natural Gas Infrastructure, Major Event Center Transportation, and Local Government Partnership Programs. The MSRC also considered a replacement contract under the Local Government Match Program. Details are provided below in the Proposals section.

### **Outreach**

In accordance with SCAQMD's Procurement Policy and Procedure, public notices advertising the Natural Gas Infrastructure and Major Event Center Transportation solicitations were published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and Riverside County Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin. In addition, the solicitations were advertised in the Desert Sun newspaper for expanded outreach in the Coachella Valley.

Additionally, potential bidders may have been notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the solicitations was e-mailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at SCAQMD's website (<http://www.aqmd.gov>). Further, the solicitations were posted on the MSRC's website at <http://www.cleantransportationfunding.org> and electronic notifications were sent to those subscribing to this website's notification service.



## **Proposals**

At its February 15, 2018 meeting, the MSRC considered recommendations from its MSRC-TAC and approved the following:

### **FYs 2016-18 Major Event Center Transportation Program (PA2017-05)**

As part of its FYs 2016-18 Work Program, the MSRC allocated \$5,000,000 for event center transportation programs and released Program Announcement #PA2017-05. The Program Announcement solicits applications from qualifying major event centers and/or transportation providers to provide transportation service for venues not currently served by sufficient transportation service. To date, the MSRC has awarded a total of \$2,335,573. The MSRC considered recommendations concerning an additional application submitted by Metro. Metro requested the MSRC to consider an award of \$1,324,560 to provide special express bus service, as well as special Metrolink service for select games, for 2018. Service would be provided by CNG buses between Union Station and Dodger Stadium for all Dodger home games as well as up to two special events, providing service from at least 90 minutes prior to each event until at least 45 minutes after the game ends or 20 minutes following a special event, whichever is later. In addition, special Metrolink trains would be added in support of “cross-town rivalry” games versus the Los Angeles Angels of Anaheim. For these games, trains would depart from Oceanside and arrive at Union Station, enabling patrons to utilize the bus service to access Dodger Stadium. Service would promote the use of public transit, including bus and rail, in lieu of personal automobile. Elimination of traffic congestion, especially reductions in automobile stop and go driving and queuing, has a direct link to reduced vehicle exhaust emissions. Metro and the Los Angeles Dodgers would contribute at least \$1,687,875 in co-funding. In accordance with the Program terms, Metro would only seek reimbursement for rail trips performed using Tier 4 locomotives. The MSRC approved a contract award to Metro in an amount not to exceed \$1,324,560 as part of the FYs 2016-18 Work Program to implement the 2018 Dodger Stadium Express service.

### **FYs 2016-18 Natural Gas Infrastructure Program**

The MSRC approved release of Program Announcement #PA2017-07 under the FYs 2016-18 Work Program. The Program Announcement, with a targeted funding level of \$4.0 million, provides funds for new and expanded natural gas stations, as well as for the upgrade of existing vehicle maintenance facilities and technician training. Stations will be eligible for up to 50 percent of station capital equipment, site construction, signage, and reasonable project management costs, not to exceed the specified maximum award amounts. The maximum MSRC funding per project varies from \$100,000 to \$275,000 depending upon whether the applicant is a public or private entity, accessibility level of the proposed project, and the number of fuels offered. Additionally, projects may be eligible for a \$100,000 bonus if they commit to use at least 50% renewable natural gas for a minimum of five years. The RFP includes an open application period commencing with its release on June 2, 2017, and closing June 30, 2018. To date, the MSRC has approved awards totaling \$418,500 in response to this solicitation. The MSRC approved



two additional contract awards totaling \$448,000 as part of the FYs 2016-18 Work Program, as follows:

- a. A contract with Omnitrans in an amount not to exceed \$83,000 to modify their vehicles maintenance facility and train technicians; and
- b. A contract with the City of Gardena in an amount not to exceed \$365,000 to install a new limited access CNG station supplied with renewable natural gas, modify their maintenance facility and train technicians.

#### FYs 2016-18 Local Government Partnership Program

The MSRC approved the release of Local Government Partnership PON2018-01 under the FYs 2016-18 Work Program. The Invitation to Negotiate (ITN), with a targeted funding level of \$21,180,650, focuses on providing funds for projects to support SCAQMD's 2016 AQMP. Cities and counties which have opted into the AB 2766 motor vehicle registration surcharge fee program are eligible to participate. The majority of participants would be allocated maximum funding equivalent to their annual AB 2766 Subvention Fund allocation; however, those whose annual Subvention Fund allocation is less than \$50,000 would be eligible to receive a maximum of \$50,000, and the maximum allocation for any single city or county would be \$3,000,000. MSRC funding could be used for light-duty zero emission vehicle purchases and leases; medium- and heavy-duty zero emission vehicle purchases, near-zero emission heavy-duty alternative fuel vehicle purchases and repower, electric vehicle charging station installation, and construction or expansion of alternative fuel refueling infrastructure, subject to match funding requirements as outlined in the ITN. Additionally, those jurisdictions eligible for a maximum contribution of \$50,000 would have the option to pursue traffic signal synchronization, bicycle active transportation, and first mile/last mile strategies. The ITN includes an open application period commencing with its release on September 1, 2017, and closing March 2, 2018. The MSRC previously approved awards totaling \$217,541 in response to this solicitation. The MSRC approved an award to the City of Artesia, in an amount not to exceed \$50,000, for the installation of electric vehicle charging infrastructure as part of the FYs 2016-18 Work Program.

#### FYs 2014-16 Local Government Match Program

As part of the FYs 2014-16 Work Program, the MSRC awarded the City of Wildomar \$500,000 towards the installation of bicycle lane improvements along approximately 5.2 miles of roadway. The contract to effectuate the project lapsed on November 1, 2017. In January 2018, the City submitted a request to complete the project. They indicated that the process of obtaining necessary approvals from Caltrans for the project's co-funding took longer than anticipated, and resulted in award of construction on November 8, 2017. They are confident that the bicycle lanes can be completed in June 2018. The MSRC considered and approved a 12-month replacement contract in the amount of \$500,000 as part of the FYs 2014-16 Work Program.

At this time, the MSRC requests the SCAQMD Board to approve the contract awards as part of approval of the FYs 2014-16 and 2016-18 AB 2766 Discretionary Fund Work Programs as outlined above. The MSRC also requests the Board to authorize the



SCAQMD Chairman of the Board the authority to execute all agreements described in this letter. The MSRC further requests authority to adjust the funds allocated to each project specified in this Board letter by up to five percent of the project's recommended funding. The Board has granted this authority to the MSRC for all past Work Programs.

**Resource Impacts**

The SCAQMD 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 contracts specified herein, as well as any contracts awarded in response to the solicitation, will be drawn from this fund.



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 12

**PROPOSAL:** Amend Award for Participation in California Hydrogen Infrastructure Research Consortium

**SYNOPSIS:** Last month, the Board approved executing an agreement with the National Renewable Energy Laboratory (NREL) for \$100,000 from the Clean Fuels Program Fund (31) for participation in the California Hydrogen Infrastructure Research Consortium. National laboratories, however, are managed and operated by third parties. The Alliance for Sustainable Energy, LLC, operates and manages NREL. Therefore, this action is to execute an agreement with the Alliance for Sustainable Energy, LLC, to facilitate participation in the California Hydrogen Infrastructure Research Consortium. Several state offices and agencies may also join the agreement. No funding changes are required.

**COMMITTEE:** No Committee Review

**RECOMMENDED ACTION:**

Authorize the Executive Officer to execute a joint agreement with the Alliance for Sustainable Energy, LLC, as well as those of the following agencies that choose to join the agreement: CEC, CARB, and the Governor's Office of Business and Economic Development ("GO-Biz") to facilitate participation in the California Hydrogen Infrastructure Research Consortium in the amount of \$100,000 from the Clean Fuels Program Fund (31).

Wayne Natri  
Executive Officer

MMM:FM:NB:LCM:DAH

---

**Background**

Last month, the Board approved executing an agreement with the National Renewable Energy Laboratory (NREL) for \$100,000 from the Clean Fuels Program Fund (31) for participation in the California Hydrogen Infrastructure Research Consortium. National



laboratories, however, are managed and operated by third parties. Since the Alliance for Sustainable Energy, LLC, operates and manages NREL, staff proposes to amend the award to execute an agreement with Alliance rather than NREL. The agreement may also be joined by CEC, CARB, and GO-Biz.

### **Proposal**

This action is to execute an agreement with the Alliance for Sustainable Energy, LLC, and the other project partners to facilitate participation in the California Hydrogen Infrastructure Research Consortium. No funding changes are required.

### **Sole Source Justification**

Section VIII.B.2 of the Procurement Policy and Procedure identifies provisions under which a sole source award may be justified. This request for a sole source award is made under provision B.2.d: Other circumstances exist which in the determination of the Executive Officer require such waiver in the best interest of SCAQMD.

Specifically, these circumstances are B.2.d.(1): Projects involving cost-sharing by multiple partners. The major sponsors currently contributing financially to the California Hydrogen Infrastructure Research Consortium include the U.S. DOE, CARB and CEC.

### **Resource Impacts**

No funding changes are required. The agreement with the Alliance for Sustainable Energy, LLC, will not exceed \$100,000 from the Clean Fuels Program Fund (31).

Sufficient funds are available from the Clean Fuels Fund, 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.



 [Back to Agenda](#)

BOARD MEETING DATE: March 2, 2018

AGENDA NO. 13

PROPOSAL: Annual Meeting of Health Effects of Air Pollution Foundation

SYNOPSIS: This item is to conduct the annual meeting of the Health Effects of Air Pollution Foundation. The Foundation staff will present an annual report detailing the research supported by the Foundation over the past year, the Foundation's plans for the future, and a financial report.

COMMITTEE: No Committee Review

**RECOMMENDED ACTION:**

Receive and file the annual report and ratify the Foundation's disbursements described in the annual report.

Wayne Nastri  
Executive Officer

BTG:ML

---

### **2018 Annual Report**

#### **Background**

In February 2003, the SCAQMD Board directed staff to establish the Brain Tumor and Air Pollution Foundation to implement an initiative by the Board Chairman to fund research into the potential connections between air pollution and brain cancer. After years of supporting research related to the impacts of air pollution on brain tumors, in March 2017 the Board changed the Foundation's name to the Health Effects of Air Pollution Foundation and expanded the Foundation's mission to support research on the incidence, detection, and causes and cures of various health conditions that may be caused or aggravated by air pollution. To date, the Foundation has received contributions of almost \$9 million and has funded studies with leading medical and public health researchers in Southern California.



## **Directors and Officers**

The Directors of the Foundation are: Mayor Ben Benoit, Chairman  
Dr. William A. Burke, Vice Chairman  
Dr. Clark E. Parker, Sr.  
Mayor Pro Tem Judith Mitchell

The Foundation's staff is: Wayne Nastri, Chief Executive Officer  
Denise Whitcher, Secretary  
Sujata Jain, Treasurer  
Susanna Leung, Assistant Treasurer

## **Report on the Foundation's Activities**

### *Current Research Projects*

The following four research projects, in progress, are currently being funded by the Foundation:

“A Cohort Study of Air Pollution, Malignant and Benign Brain Tumors in Los Angeles County” (BTAP010)

Principal Investigator: Dr. Anna Wu (University of Southern California)

Approved Funding: \$758,978

Summary: The proposed study leverages the Multiethnic Cohort (MEC) study to examine whether air pollution is associated with primary malignant and benign brain tumors. The investigators leverage previous air pollution exposure work and propose adding new components (e.g., ultrafine particle exposure, air toxics) to comprehensively assess air pollution exposures in the MEC cohort. The study proposes to examine associations between traffic air pollution and malignant primary brain cancer and meningiomas (non-cancerous brain tumors). The first 6-month progress report was approved in August 2017. Key milestones that have been accomplished so far include obtaining administrative approvals to conduct the research, calculating estimates of participants' exposures to criteria pollutants and ultrafine particles, conducting data management activities, and completing data linkages to cancer registries and Medicare and hospital discharge administrative files to identify brain tumor cases.

“Role of Particle-Induced Inflammation in Progression of Brain Tumors” (BTAP011)

Principal Investigator: Dr. Keith Black (Cedars-Sinai Medical Center)

Approved Funding: \$733,461

Summary: The investigators are studying whether exposure to ambient air pollution-derived particulate matter (PM) alters the progression of brain tumors in mice. The mice used in the experiments have brain tumors initiated from human glioblastoma cell lines. The PM will be concentrated for experimental use from Irvine, CA ambient air. As part of this study, changes in tumor progression and inflammatory markers (measured by changes in gene expression) and stem cell activation will also be evaluated. The first



six-month progress report was approved in January 2018. Key milestones that have been accomplished so far include the completion of the first experimental stages on tumor-bearing and non-tumor bearing mice. The mice were separated into 4 groups, which were exposed to filtered air, coarse PM, fine PM, and ultrafine PM for one month. The exposure period was originally planned to be two months, but had to be reduced to one month due to the tumor-bearing animals showing signs of distress and malaise. Molecular analyses (RNAseq and proteomics) were performed on the brain tissues of the non-tumor bearing mice, and preliminary findings show indications of changes in gene expression in certain pathways that play a fundamental role in cancer development, neurological disorders, inflammation and immune response, metabolic disorders, cardiovascular system function and disease, and other functions and diseases.

“Do Changes in Amount and Composition of Ambient PM Influence Induction or Exacerbation of Brain and Lung Tumors?” (HEAPF012)

Principal Investigator: Dr. Arthur Cho (University of California, Los Angeles)

Approved Funding: \$979,182

Summary: This study uses cellular and mouse models to investigate whether exposure to air pollution (PM and vapor phase) increases the expression of biological markers that are associated with the development or progression of lung or brain cancers. The investigators will collect ambient air samples at several locations and in different seasons in the Los Angeles Air Basin. The samples will be characterized for their potential biological actions, and then used in studying the potential effects in human lung cancer cells and brain cancer cells. Biological markers relevant to cancer development or progression (oxidative stress, inflammation, tumor cell growth stimulators, and invasive behavior of cells) will be evaluated in these experiments. The air samples will also be used in an exposure study of mice induced with brain cancer cells, to monitor and quantify tumor growth. Additionally, the study will separate the PM from the air samples into “fractions” with different chemical properties, and these PM fractions will be tested for toxicity using human lung and brain cancer cells, the same biological markers for inflammation and tumor cell growth. The six-month progress report was approved in February 2018. Key milestones that have been accomplished so far include the development of the protocol for use in the lung cell studies, characterization of a reference sample of diesel exhaust particles, collection of an initial sample at one of the experimental sites, and hiring key staff to conduct the study components. The study experienced an administrative delay due to a requirement to inspect and approve the facility where the research will be conducted.



“Role of Particle-Induced Inflammation on Progression of Neurodegenerative Brain Disease” (HEAPF013)

Principal Investigator: Drs. Keith Black and Julia Ljubimova (Cedars-Sinai Medical Center)

Approved Funding: \$750,000

Summary: This study will investigate whether exposure to ambient air pollution-derived particulate matter (PM) alters the progression of neurodegenerative disorders in mice. The mice to be used in the experiments include ones that are genetically modified so that they will develop Alzheimer’s disease, as well as control wild-type mice. The mice were separated into 4 groups, which were exposed to filtered air, coarse PM, fine PM, and ultrafine PM for three months or six months. The PM will be concentrated for experimental use from Irvine, CA ambient air. As part of this study, changes in disease progression and biomarkers of Alzheimer’s disease will also be evaluated. The first 6-month progress report was received in January 2018 and is currently under revision. Key milestones that have been accomplished so far include the initiation of the three- and six-month PM exposure periods in three cohorts of mice, updates to the experimental timeline and quantifiable hypotheses based on the pathology of the mice used in the experiments, completion of three- and six-month exposures of filtered air in healthy control mice, and completion of PM experiments in healthy control mice using RNAseq and proteomic analysis, which resulted in the identification of key biomarkers that link PM exposures to Alzheimer’s disease.

### **Financial Report**

The Foundation’s fiscal year ended June 30, 2017. Financial statements were prepared by staff and audited by BCA Watson Rice, LLP (Auditor). Total expenses for the fiscal year were \$501,271 and included grant (\$500,000), audit fees (\$1,200) and other fees/taxes (\$71). The Auditor issued an unmodified opinion, indicating that the financial statements were presented fairly, in all material respects, and in accordance with generally accepted accounting principles.



As of December 31, 2017, the Foundation had a cash balance of \$3,188,831. Following is an accounting of the Foundation's operations since its inception (7/23/03):

<b>Revenue from Operations</b>	
Contributions	\$8,972,568
Interest Income	42,337
<b><i>Total Revenue from Operations</i></b>	<b>\$9,014,905</b>
<b>Operating Expenses</b>	
Grants	
-Cedars-Sinai	\$5,308,353
-USC	499,894
Corporation Filing Costs	1,629
Bank charges	598
Professional fees-audit	15,600
<b><i>Total Operating Expenses</i></b>	<b>\$5,826,074</b>
<b>Cash Balance</b>	<b>\$3,188,831</b>

#### **Plans for the Upcoming Year**

The Foundation will continue monitoring the progress of the existing research projects and will provide an update to the Board when the projects have final results to report.

#### **Resource Impacts**

None.



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 14

REPORT: Legislative, Public Affairs and Media Report

SYNOPSIS: This report highlights the January 2018 outreach activities of the Legislative, Public Affairs and Media Office, which include: an Environmental Justice Update, Community Events/Public Meetings, Business Assistance, Media Relations and Outreach to Business and Federal, State, and Local Government.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:  
Receive and file.

Wayne Nastri  
Executive Officer

DJA:FW:LTO:LA:DM

---

## **BACKGROUND**

This report summarizes the activities of the Legislative, Public Affairs and Media Office for January 2018. The report includes five major areas: Environmental Justice Update; Community Events/Public Meetings (including the Speakers Bureau/Visitor Services, Communications Center, and Public Information Center); Business Assistance; Media Relations; and Outreach to Business and Governments.

## **ENVIRONMENTAL JUSTICE UPDATE**

The following are key environmental justice-related activities in which staff participated during January 2018. These events involve communities which suffer disproportionately from adverse air quality impacts.

### January 31

Staff hosted a Lunch and Learn on “How Electric Vehicles Can Help Clean the Air and Improve Public Health,” in partnership with Christ Our Redeemer Church in Irvine. The event was part of the Environmental Justice Community Partnership, which aims to strengthen relationships with stakeholders in environmental justice communities. Over 70 people attended the event, which included elected officials, business owners, community members, and electric vehicle enthusiasts.



## **COMMUNITY EVENTS/PUBLIC MEETINGS**

Each year SCAQMD staff engage with thousands of residents, providing valuable information about the agency, incentive programs and ways individuals can help reduce air pollution through events and meetings sponsored solely by SCAQMD or in partnership with others. Attendees typically receive the following information:

- Tips on reducing their exposure to smog and its health effects;
- Clean air technologies and their deployment;
- Invitations or notices of conferences, seminars, workshops and other public events;
- SCAQMD incentive programs;
- Ways to participate in SCAQMD's rule and policy development; and
- Assistance in resolving air pollution-related problems.

SCAQMD staff attended and/or provided information and updates at the following events:

### January 9

- Wilmington Neighborhood Council Meeting, Los Angeles Public Library, Wilmington.

### January 11

- 2018 SoCal Energy Water + Green Living Summit, Rancho Mirage.

### January 13

- SCAQMD, A Martin Luther King Jr., Day of Service Forum, Los Angeles.

### January 20

- SCAQMD, Refinery Committee Meeting, Torrance.

## **SPEAKERS BUREAU/VISITOR SERVICES**

SCAQMD 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. SCAQMD also hosts visitors from around the world who meet with staff on a wide range of air quality issues.

### January 12

- Twelve staff from the California Department of Transportation (Caltrans) visited SCAQMD. The visit included an overview of SCAQMD, air quality, and clean alternative fuel vehicles. The visit also included a tour of the SCAQMD facility, its laboratory, and clean alternative fueling stations and vehicles.



## COMMUNICATION CENTER STATISTICS

The Communication Center handles calls on SCAQMD's main line, the 1-800-CUT-SMOG® line, the Spanish line, and after-hours calls to each of those lines. Total calls received in the month of January were:

Calls to SCAQMD's Main Line and 1-800-CUT-SMOG® Line	3,941
Calls to SCAQMD's Spanish-language Line	<u>43</u>
Total Calls	3,984

## PUBLIC INFORMATION CENTER STATISTICS

The Public Information Center (PIC) handles phone calls and walk-in requests for general information. Information for the month of January is summarized below:

Calls Received by PIC Staff	168
<u>Calls to Automated System</u>	<u>1,040</u>
Total Calls	1,208

Visitor Transactions	323
Email Advisories Sent	11,346

## BUSINESS ASSISTANCE

SCAQMD notifies local businesses of proposed regulations so they can participate in the agency's rule development process. SCAQMD also works with other agencies and governments to identify efficient, cost-effective ways to reduce air pollution and shares that information broadly. Staff provides personalized assistance to small businesses both over the telephone and via on-site consultation. The information is summarized below:

- Provided permit application assistance to 276 companies
- Issued 60 clearance letters;
- Conducted 14 free on-site consultations
- Provided assistance in filing 1 request for variance

### Types of businesses assisted

Auto Body Shops	Dry Cleaners	Furniture Refinishing Facilities
Plating Facilities	Gas Stations	Printing Facilities
Breweries	Restaurants	Engineering, Construction
Manufacturing Facilities	Auto Repair Centers	& Architecture Firms



## **MEDIA RELATIONS**

The Media Office handles all SCAQMD outreach and communications with television, radio, newspapers and all other publications and media operations.

Total Media Inquiries: 176

Press Releases Issued: 3

No-Burn Alerts: 7

### **Major Media Topics for January**

**All inquiries closed unless noted as pending**

- **Check Before You Burn:** Laguna Beach Independent featured an op-ed article by SCAQMD's Executive Officer. . Staff was interviewed on KCAA and KPCC radio.
- **Wildfire Smoke:** Accuweather inquired about air quality and smoke levels in Southern California.
- **RECLAIM Lawsuit Appeal:** IWP News followed up on inquiries regarding the Governing Board's decision to appeal a court decision related to RECLAIM.
- **Refineries:** Torrance Daily Breeze and OC Independent attended the January 20 Refinery Committee meeting in Torrance. KPCC, Reuters and Bloomberg requested information on the status of refineries switching from hydrofluoric acid to sulfuric acid.
- **Portable Air Monitors:** Staff was interviewed by Valley Public Radio, based in Fresno, on SCAQMD's work with local communities and environmental justice groups.
- **Air Quality Careers:** Pearson Education interviewed air monitoring staff about careers in air quality science for a fifth grade science textbook.
- **Aliso Canyon:** L.A. Daily News published a story on Aliso Canyon residents' response to the Porter Ranch gas leak situation. KABC 7 interviewed staff on-camera in a related story.
- **Coastal Odors:** The Seal Beach Sun inquired about coastal odor investigations and whether SCAQMD had any plans to install air monitors in the area.
- **Refuse Haulers:** L.A. Times requested information on whether refuse hauling trucks contracted by the City of L.A. were subject to SCAQMD's Rule 1193 - Clean On-Road Residential and Commercial Refuse Collection.
- **School Air Filters:** KPCC interviewed staff regarding SCAQMD's involvement in installing air filters in classrooms.
- **Indirect Source Rules:** IWP News inquired about the status of SCAQMD's facility-based rules.
- **EV Charger Funding:** Following a City of Calabasas agenda item on AB 2766 funding, staff provided information to The Acorn newspaper about funding for EV charging infrastructure in the city.



## **Media Campaigns**

### **Google Ad Campaigns**

The Check Before You Burn campaign is live. Preparations are underway for the next The Right to Breathe campaign.

### **Annual Check Before You Burn Program:**

31 No-Burn Days since November 1, 2017.

Three events attended by the contractor in December, with an event added in January to continue to seek signups for AirAlerts and pledges.

After distribution of campaign outreach materials at several public events, a review of AirAlerts sign-ups shows continued higher-than-average totals for new subscribers in each month, compared to previous campaigns.

### **The Right to Breathe Signature Film update**

Additional edits were requested and discussed with the contractor. Contract was extended to accommodate additional work.

### **News Releases & Media Advisories Issued**

- SCAQMD Refinery Committee Receives Comments on use of Toxic Chemical at Two Refineries - January 20, 2018
- Building Upon the Dream: A Martin Luther King, Jr. Day of Service Forum - January 13, 2018
- Los Angeles County Supervisor Hilda L. Solis Joins SCAQMD Board - January 5, 2018

## **OUTREACH TO COMMUNITY GROUPS AND FEDERAL, STATE, AND LOCAL GOVERNMENTS**

Field visits and/or communications were conducted with elected officials or staff from the following cities:

Agoura Hills	Calimesa	Glendora
Alhambra	Calabasas	Grand Terrace
Aliso Viejo	Chino	Hemet
Anaheim	Chino Hills	Huntington Beach
Arcadia	Claremont	Industry
Azusa	Covina	Irvine
Banning	Cypress	Jurupa Valley
Brea	Diamond Bar	La Cañada Flintridge
Buena Park	Duarte	Lake Forest
Burbank	Eastvale	Laguna Beach
Baldwin Park	Fountain Valley	Laguna Woods
Beverly Hills	Fullerton	Laguna Niguel
Canyon Lake	Glendale	La Habra



La Palma	Newport Beach	Santa Clarita
La Puente	Ontario	Sierra Madre
La Quinta	Pasadena	South El Monte
La Verne	Placentia	South Pasadena
Lake Elsinore	Pomona	Temecula
Los Angeles	Rancho Santa Margarita	Temple City
Malibu	Riverside	Walnut
Menifee	Rosemead	West Hollywood
Mission Viejo	Santa Ana	Westlake Village
Monrovia	San Dimas	Wildomar
Moreno Valley	San Fernando	West Covina
Monterey Park	San Gabriel	Yorba Linda
Murrieta	San Marino	

Visits and/or communications were conducted with elected officials or staff from the following state and federal offices:

- U.S. Congresswoman Nanette Barragán
- U.S. Congressman Lou Correa
- U.S. Congressman Dana Rohrabacher
- U.S. Congressman Ted Lieu
- Congresswoman Judy Chu
- Congresswoman Grace Napolitano
- Senator Ed Hernandez
- Senator Anthony Portantino
- Senator Josh Newman
- Assembly Member Chris Holden
- Assembly Member Ed Chau
- Assembly Member Philip Chen
- Assembly Member Blanca Rubio
- Assembly Member Stephen Choi
- Assembly Member Al Muratsuchi
- Assembly Member Sharon Quirk-Silva
- Assembly Member Sabrina Cervantes
- Assembly Member Jose Medina

Staff represented SCAQMD and/or provided updates or a presentation to the following governmental agencies and business organizations:

California Air Resources Board  
 California Environmental Protection Agency  
 California Department of Transportation  
 California Fuel Cell Partnership  
 California State Treasurer  
 Center for Sustainable Energy  
 Chino Valley Chamber of Commerce  
 Coachella Valley Association of Governments  
 Coachella Water Mosquito & Vector Control District  
 Costa Mesa Chamber of Commerce  
 Department of Toxic Substances Control (DTSC)  
 County of Los Angeles (Department of Public Health/Fire Department)



Los Angeles County Arboretum and Botanic Garden  
Newport Beach Chamber of Commerce  
Orange County Council of Governments  
League of California Cities, Orange County Division  
League of California Cities, Inland Empire Division  
Orange County Business Council  
Pasadena Chamber of Commerce  
Regional Water Quality Control Boards  
Riverside County Transportation Commission  
Riverside Transit Agency  
Regional Water Quality Control Board, Colorado River Basin  
Riverside County Agricultural Commissioners  
San Bernardino County Transportation Authority  
San Bernardino City Unified School District  
San Gabriel Valley Council of Governments  
San Gabriel Valley Economic Partnership  
South Bay Association of Chambers of Commerce  
South Bay Cities Council of Governments  
South Orange County Economic Coalition  
South Pasadena Chamber of Commerce  
Southern California Gas Company  
Santa Ana Chamber of Commerce  
Southern California Association of Governments  
Western Riverside Council of Governments  
Western Municipal Water District, Riverside

Staff represented SCAQMD and/or provided updates or a presentation to the following community and educational groups and organizations:

Alliance for a Healthy Orange County  
Cabazon Band of Mission Indians  
Coachella Valley Environmental Justice Enforcement Taskforce  
Comite Civico del Valle  
Environmental Charter High School, Lawndale  
Huntington Beach Coastal Odors Ad Hoc Committee  
Rancho Senior Center, Irvine  
Morongo Band of Mission Indians  
Orange County Community Relations Collaborative, Irvine  
Pasadena Neighborhood Connections  
Porter Ranch Neighborhood Council  
Riverside University Health System  
Taking Responsibility and Control (TRAC) 91746, La Puente  
Torch Middle School, La Puente  
Twenty-Nine Palms Band of Mission Indians



San Gabriel Valley Conservation Corps.  
San Manuel Band of Mission Indians Tribal Government  
Sustainable Claremont  
University of California, Irvine  
Wilmington Neighborhood Council



 [Back to Agenda](#)

BOARD MEETING DATE: March 2, 2018

AGENDA NO. 15

REPORT: Hearing Board Report

SYNOPSIS: This reports the actions taken by the Hearing Board during the period of January 1 through January 31, 2018.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:  
Receive and file.

Julie Prussack  
Chairman of Hearing Board

DG

---

Two summaries are attached: **January 2018 Hearing Board Cases and Rules From Which Variances and Orders for Abatement Were Requested in 2018.** An Index of District Rules is also attached.

The total number of appeals filed during the period January 1 to January 31, 2018 is 0.



## Report of January 2018 Hearing Board Cases

Case Name and Case No. (SCAQMD Attorney)	Rules	Reason for Petition/Hearing	District Position/ Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
1. Air Liquide Large Industries U.S., LP Case No. 5705-5 (S. Hanizavareh)	203(b) 2004(f)(1) 3002(c)(1)	Petitioner experienced sudden rapid degeneration of its SCR system.	Not Opposed/Granted	RV granted commencing 1/23/18 and continuing through 5/18/18.	NH3: 100 lbs/day
2. SCAQMD vs. Smart Cremation of California Services, Inc. Case No. 6095-1 (B. Tomasovic)	1147(c)(1)	Respondent's crematorium has been out of compliance with NOx limits.	Stipulated/Issued	O/A issued commencing 1/24/18 and continuing through 7/24/18. The Hearing Board shall retain jurisdiction over this matter until 7/24/18.	N/A
3. Tesoro Refining and Marketing Company, LLC – Wilmington Calciner Case No. 4982-112 (Consent Calendar; No Appearance)	203(b) 2004(f)(1) 2011(c)(2)(A) 2011(c) (2)(B) 2011 (e)(1) 2012(c)(2)(A) 2012(c)(2)(B) 2012(g)(1) 3002(c)	Petitioner seeks to perform maintenance on its CEMS during a scheduled turnaround.	Not Opposed/Granted	SV and AOC granted commencing once notice is given per Condition 2.a. of the Order and continuing for 30 days terminating on the date notice is provided as specified in Condition 2.b.	None

### Acronyms

AOC: Alternative Operating Conditions  
 CEMS: Continuous Emissions Monitoring System  
 CO: Carbon Monoxide  
 ERC: Emissions Reduction Credits  
 EV: Emergency Variance  
 N/A: Not Applicable  
 NH3: Ammonia  
 NOx: Oxides of Nitrogen  
 O/A: Order for Abatement  
 RV: Regular Variance  
 SCR: Selective Catalytic Reduction  
 SOx: Oxides of Sulfur  
 SV: Short Variance  
 TBD: To be determined



Rules from which Variances and Orders for Abatement were Requested in 2018														
	2018	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
# of HB Actions Involving Rules														
203(b)		2												2
1147(c)(1)		1												1
2004(f)(1)		2												2
2011(c)(2)(A)		1												1
2011(c)(2)(B)		1												1
2011(e)(1)		1												1
2012(c)(2)(A)		1												1
2012(c)(2)(B)		1												1
2012(g)(1)		1												1
3002(c)		1												1
3002(c)(1)		1												1



**DISTRICT RULES AND REGULATIONS INDEX  
FOR 2018 HEARING BOARD CASES AS OF January 31, 2018**

**REGULATION II – PERMITS**

Rule 203      Permit to Operate

**REGULATION XI - SOURCE SPECIFIC STANDARDS**

Rule 1147      NOx Reductions from Miscellaneous Sources

**REGULATION XX - REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)**

Rule 2004      Requirements

Rule 2011      Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SOx) Emissions

Rule 2012      Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions

**REGULATION XXX - TITLE V PERMITS**

Rule 3002      Requirements



 [Back to Agenda](#)

BOARD MEETING DATE: March 2, 2018

AGENDA NO. 16

REPORT: Civil Filings and Civil Penalties Report

SYNOPSIS: This reports the monthly penalties from January 1 through January 31, 2018, and legal actions filed by the General Counsel's Office from January 1 through January 31, 2018. An Index of District Rules is attached with the penalty report.

COMMITTEE: Stationary Source, February 16, 2018, Reviewed

RECOMMENDED ACTION:  
Receive and file.

Bayron T. Gilchrist  
General Counsel

BTG:ew

---

<u>Civil Filings</u>	<u>Violations</u>
1. Max Beno dba Lex-Ry Holding Inc. dba Excel Cleaners Los Angeles Superior Court Small Claims Court Case No. 18VESC00196; Filed 1.16.18 (GV) P62158 R. 203 – Permit to Operate	1      1
2. Moti Balyan dba Harbor Chevron Orange County Superior Court Small Claims Court Case No. 30-2018-00966875-SC-SC-NJC; Filed 1.16.18 (GV) P61679 R. 461 – Gasoline Transfer and Dispensing	



Civil Filings

Violations

3. Flintridge Tree Care, Inc.  
Los Angeles Superior Court  
Flintridge Tree Care, Inc.  
Los Angeles Superior Court  
Case No. EC067704; Filed 1.23.18 (NAS)  
P44878, P44880, P57560  
R. 203 – Permit to Operate

1

3 Violations

**Attachments**

January 2018 Penalty Report

Index of District Rules and Regulations



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
General Counsel's Office**

**January 2018 Settlement Penalty Report**

<b><u>Total Penalties</u></b>	
Civil Settlements:	\$157,098.84
MSPAP Settlements:	\$37,455.00
<b>Total Cash Settlements:</b>	<b>\$194,553.84</b>
<b>Total SEP Value:</b>	<b>\$0.00</b>
<b>Fiscal Year through 1 / 2018 Cash Total:</b>	<b>\$4,376,256.81</b>
<b>Fiscal Year through 1 / 2018 SEP Value Only Total:</b>	<b>\$2,120,000.00</b>



Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbr	Total Settlement
<b>Civil Settlements</b>						
184154	JUDITH L. ALBERT ALBERT LIVING TRUST	1403	1/12/2018	DH	P64740	\$10,000.00
122666	A'S MATCH DYEING & FINISHING	2004 2004(d) 2004(f)(1)	1/16/2018	NSF	P62812 P62814	\$10,000.00
173449	AMERIPOLISH INC	314	1/30/2018	BST	P64823	\$1,000.00
116984	ARCO, FOSTER GAS	461(E)(2)(A) 203 (b) 41954 41960.2 461 461(c)(2)(B)	1/16/2018	SMP	P58297	\$5,000.00
1034	BUILDERS FENCE CO INC	3002(c)(1) 3003	1/30/2018	SH	P61721 P61729	\$2,500.00
42676	CES PLACERITA INC	2004 3002(c)(1)	1/22/2018	ML	P62059 P62076 P62086	\$300.00
180983	EVERARDO	203 (a)	1/3/2018	BST	P65509	\$500.00
16338	KAISER ALUMINUM FABRICATED PRODUCTS, LLC	2004	1/2/2018	SH	P60559	\$750.00



Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbr	Total Settlement
29411	LA CO., SHERIFF'S DEPT	1146 3002(c)(1) 461 (e) (2)	1/24/2018	SMP	P60518	\$14,000.00
155877	MILLERCOORS, LLC	2004(f)(1) 2004	1/23/2018	BST	P59695 P60588	\$3,000.00
176322	MTB1 GROUP, LLC	1403	1/11/2018	TRB	P61063	\$45,000.00
179137	QG PRINTING II CORP	2004 2004(f)(1) 3002(c)(1)	1/24/2018	KRW	P57093 P62804 P62809 P64169 P64171 P64401	\$13,750.00
139490	RUST-OLEUM CORP	1151	1/25/2018	WBW	P64806	\$16,798.84
182929	SAVON PETROLEUM	203 (a) 461 461(c)(2)(B)	1/10/2018	BST	P64294 P65009	\$1,500.00
85943	SIERRA ALUMINUM COMPANY	2012	1/26/2018	SMP	P60270	\$28,000.00
150524	TARGET CORPORATION #2307	1470 203 (b)	1/12/2018	BST	P65562	\$5,000.00

**Total Civil Settlements: \$157,098.84**



Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbr	Total Settlement
<b>MSPAP Settlements</b>						
170522	ABC ARCO FA CHAI CORP	461	1/3/2018	GC	P64348	\$100.00
99157	ARCO DLR ALI YASIN	461	1/19/2018	GC	P63219	\$850.00
185335	AZTEC ENGINEERING	203(a)	1/3/2018	JS	P66655	\$800.00
170993	BROOKDALE SAN DIMAS	1146.2	1/3/2018	JS	P65365	\$800.00
13854	EAST LOS ANGELES COLLEGE	3002(c)(1)	1/16/2018	GC	P60535	\$450.00
126964	EDWARDS LIFESCIENCES LLC	203 (b)	1/3/2018	GC	P64069	\$560.00
145797	ENN GEE CORPORATION, RANCHO CAR WASH	461 (e) (2)	1/3/2018	GC	P65017	\$1,200.00
183556	FLATIRON	Title 13	1/17/2018	GC	P65252	\$1,150.00
182609	FLATIRON CONSTRUCTION CORP	403 403(d)(2)	1/24/2018	GC	P60539 P64126	\$2,800.00
174357	FUTURE INKLINGS, INC.	461	1/17/2018	GC	P65708	\$100.00
153470	GOMEZ SANDBLASTING	203 (a) 203 (b)	1/19/2018	GC	P60685	\$600.00



Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbr	Total Settlement
175062	GURKIRPA PROPERTIES INC.	461	1/16/2018	GC	P64968	\$1,300.00
173422	HOLY SEPULCHER CEMETERY	461(e)(2)	1/19/2018	GC	P63610	\$1,300.00
176569	HUBBS HARLOW QUARRY, ROBERTSON	204	1/3/2018	GC	P59691	\$600.00
139409	LAUSD, PROCUREMENT WAREHOUSE	203 (b)	1/24/2018	TF	P63761	\$1,100.00
183232	MANA RECYCLING	403 403(d)(2)	1/3/2018	TF	P65258	\$1,100.00
180670	MB FUELING INC.	203 (a)	1/16/2018	TF	P65027	\$100.00
179276	MESA GENERAL ENGINEER	403	1/16/2018	TF	P62048	\$825.00
179276	MESA GENERAL ENGINEER	403	1/16/2018	TF	P65503 P65504	\$2,150.00
183248	MG OIL ENERGY, INC	203	1/24/2018	TF	P64984	\$1,100.00
104004	MICROMETALS, INC	3002(c)(1)	1/19/2018	TF	P63869	\$500.00
63462	MORGAN SERVICES INC	1146 203(b)	1/24/2018	TF	P60540	\$1,000.00



Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbr	Total Settlement
176025	N.P. COLLISION CENTER	1151	1/3/2018	TF	P65560	\$550.00
89248	OLD COUNTRY MILLWORK INC	3002	1/25/2018	TF	P63688	\$1,500.00
94987	ONE STOP DRY CLEAN INC	1421	1/19/2018	TF	P65764	\$250.00
184074	PARK TOWER, MILAN CAPITAL	1415 203	1/19/2018	TF	P64225	\$500.00
83232	POWER PROFESSIONAL CLEANERS CORPORATION	203 (b)	1/25/2018	TF	P64080	\$550.00
167335	PRO LINE BODY SHOP/PRO LINE AUTO CO.	203 (a)	1/16/2018	TF	P56741	\$2,000.00
153058	SKANSKA USA CIVIL WEST CA DISTRICT INC.	PERP 2460	1/3/2018	GV	P66651	\$800.00
153058	SKANSKA USA CIVIL WEST CA DISTRICT INC.	203(a)	1/3/2018	GV	P66652	\$800.00
185212	SKY READY MIX INC	403	1/3/2018	GV	P60690	\$3,200.00
185525	SMART AND FINAL STORES LLC	203(a)	1/25/2018	GV	P66658	\$800.00
121536	STAPLES, INC.	203 (a)	1/3/2018	GV	P65363	\$3,200.00
121978	STARS AUTO BODY & FRAME	203	1/3/2018	GV	P65153	\$560.00



Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbr	Total Settlement
185297	STATEWIDE SANDBLASTING		1/3/2018	GV		\$800.00
		203(a)			P66654	
183639	UNITED ROCK PRODUCTS CORPORATION		1/19/2018	GV		\$800.00
		403			P63765	
88816	YORBA CLEANERS		1/25/2018	GV		\$660.00
		1421			P65765	
<b>Total MSPAP Settlements: \$37,455.00</b>						



## DISTRICT'S RULES AND REGULATIONS INDEX FOR JANUARY 2018 PENALTY REPORT

## REGULATION II - PERMITS

- |          |  |
|----------|--|
| Rule 203 | Permit to Operate ( <i>Amended 1/5/90</i> )  |
| Rule 204 | Permit Conditions ( <i>Amended 10/8/93</i> ) |

## REGULATION III - FEES

- ## Rule 314 Fees for Architectural Coatings

## REGULATION IV – PROHIBITIONS

- |          |   |
|----------|---|
| Rule 403 | Fugitive Dust ( <i>Amended 12/11/98</i> ) <i>Pertains to solid particulate matter emitted from man-made activities.</i> |
| Rule 461 | Gasoline Transfer and Dispensing ( <i>Amended 6/15/01</i> )   |

## REGULATION XI - SOURCE SPECIFIC STANDARDS

- |             |  |
|-------------|--|
| Rule 1146   | Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters ( <i>Amended 11/17/00</i> ) |
| Rule 1146.2 | Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers ( <i>Adopted 1/9/98</i> )   |
| Rule 1151   | Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations ( <i>Amended 12/11/98</i> )  |

## REGULATION XIV - TOXICS

- |           |   |
|-----------|---|
| Rule 1403 | Asbestos Emissions from Demolition/Renovation Activities ( <i>Amended 4/8/94</i> )  |
| Rule 1415 | Reduction of Refrigerant Emissions from Stationary Refrigeration and Air Conditioning Systems ( <i>Amended 10/14/94</i> ) |
| Rule 1421 | Control of Perchloroethylene Emissions from Dry Cleaning Operations ( <i>Amended 6/13/97</i> )                            |
| Rule 1470 | Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines                      |



## **REGULATION XX REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)**

Rule 2004 Requirements (*Amended 5/11/01*)

Rule 2012 Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NO<sub>x</sub>) Emissions (*Amended 5/11/01*)

## **REGULATION XXII ON-ROAD MOTOR VEHICLE MITIGATION**

Rule 2202 On-Road Motor Vehicle Mitigation Options (*Amended 10/9/98*)

## **REGULATION XXX TITLE V PERMITS**

Rule 3002 Requirements (*Amended 11/14/97*)

Rule 3003 Applications (*Amended 3/16/01*)

## **CALIFORNIA HEALTH AND SAFETY CODE § 41700**

41954 Compliance for Control of Gasoline Vapor Emissions

41960.2 Gasoline Vapor Recovery

## **CALIFORNIA CODE OF REGULATIONS**

Title 13 Mobile Sources and Fuels

PERP 2460 Portable Equipment Testing Requirements



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 17

REPORT: Lead Agency Projects and Environmental Documents Received By SCAQMD

SYNOPSIS: This report provides, for the Board's consideration, a listing of CEQA documents received by the SCAQMD between January 1, 2018 and January 31, 2018, and those projects for which the SCAQMD is acting as lead agency pursuant to CEQA.

COMMITTEE: Mobile Source, February 16, 2018, Reviewed

RECOMMENDED ACTION:  
Receive and file.

Wayne Nastri  
Executive Officer

PF:SN:MK:LS:LW

---

**CEQA Document Receipt and Review Logs (Attachments A and B)** – Each month, the SCAQMD receives numerous CEQA documents from other public agencies on projects that could adversely affect air quality. A listing of all documents received and reviewed during the reporting period January 1, 2018 through January 31, 2018 is included in Attachment A. A list of active projects from previous reporting periods for which SCAQMD staff is continuing to evaluate or has prepared comments is included in Attachment B. A total of 83 CEQA documents were received during this reporting period and 19 comment letters were sent. A notable project in this report is the Pier B On-Dock Rail Support Facility Project at the Port of Long Beach.

The Intergovernmental Review function, which consists of reviewing and commenting on the adequacy of the air quality analysis in CEQA documents prepared by other lead agencies, is consistent with the Board's 1997 Environmental Justice Guiding Principles and Environmental Justice Initiative #4. As required by the Environmental Justice Program Enhancements for FY 2002-03 approved by the Board in October 2002, each of the attachments notes those proposed projects where the SCAQMD has been contacted regarding potential air quality-related environmental justice concerns. The SCAQMD



has established an internal central contact to receive information on projects with potential air quality-related environmental justice concerns. The public may contact the SCAQMD about projects of concern by the following means: in writing via fax, email, or standard letters; through telephone communication; as part of oral comments at SCAQMD meetings or other meetings where SCAQMD staff is present; or by submitting newspaper articles. The attachments also identify for each project the dates of the public comment period and the public hearing date, if applicable, as reported at the time the CEQA document is received by the SCAQMD. Interested parties should rely on the lead agencies themselves for definitive information regarding public comment periods and hearings as these dates are occasionally modified by the lead agency.

At the January 6, 2006 Board meeting, the Board approved the Workplan for the Chairman's Clean Port Initiatives. One action item of the Chairman's Initiatives 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 response to describing goods movement, CEQA documents (Attachments A and B) are organized to group projects of interest into the following categories: goods movement projects; schools; landfills and wastewater projects; airports; general land use projects, etc. In response to the mitigation component, guidance information on mitigation measures were compiled into a series of tables relative to: off-road engines; on-road engines; harbor craft; ocean-going vessels; locomotives; fugitive dust; and greenhouse gases. These mitigation measure tables are on the CEQA webpages portion of the SCAQMD'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, including airport ground support equipment and other sources.

As resources permit, staff focuses on reviewing and preparing comments for projects: where the SCAQMD is a responsible agency; that may have significant adverse regional air quality impacts (e.g., special event centers, landfills, goods movement, etc.); that may have localized or toxic air quality impacts (e.g., warehouse and distribution centers); where environmental justice concerns have been raised; and those projects for which a lead or responsible agency has specifically requested SCAQMD review. If staff provided written comments to the lead agency as noted in the column "Comment Status," there is a link to the "SCAQMD Letter" under the Project Description. In addition, if staff testified at a hearing for the proposed project, a notation is provided under the "Comment Status." If there is no notation, then staff did not provide testimony at a hearing for the proposed project.



During the period January 1, 2018 through January 31, 2018, the SCAQMD received 83 CEQA documents. Of the total of 99 documents\* listed in Attachments A and B:

- 19 comment letters were sent;
- 36 documents were reviewed, but no comments were made;
- 23 documents are currently under review;
- 3 documents did not require comments (e.g., public notices);
- 0 documents were not reviewed; and
- 18 documents were screened without additional review.

\* These statistics are from January 1, 2018 to January 31, 2018 and may not include the most recent “Comment Status” updates in Attachments A and B.

Copies of all comment letters sent to lead agencies can be found on the SCAQMD’s CEQA webpage at the following internet address:

<http://www.aqmd.gov/home/regulations/ceqa/commenting-agency>.

**SCAQMD Lead Agency Projects (Attachment C)** – Pursuant to CEQA, the SCAQMD periodically acts as lead agency for stationary source permit projects. Under CEQA, the lead agency is responsible for determining the type of CEQA document to be prepared if the proposal is considered to be a “project” as defined by CEQA. For example, an Environmental Impact Report (EIR) is prepared when the SCAQMD, as lead agency, finds substantial evidence that the proposed project may have significant adverse effects on the environment. Similarly, a Negative Declaration (ND) or Mitigated Negative Declaration (MND) may be prepared if the SCAQMD determines that the proposed project will not generate significant adverse environmental impacts, or the impacts can be mitigated to less than significance. The ND and MND are written statements describing the reasons why proposed projects will not have a significant adverse effect on the environment and, therefore, do not require the preparation of an EIR.

Attachment C to this report summarizes the active projects for which the SCAQMD is lead agency and is currently preparing or has prepared environmental documentation. As noted in Attachment C, the SCAQMD continued working on the CEQA documents for five active projects during January.

### **Attachments**

- A. Incoming CEQA Documents Log
- B. Ongoing Active Projects for Which SCAQMD Has or Will Conduct a CEQA Review
- C. Active SCAQMD Lead Agency Projects



**ATTACHMENT A\***  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b><i>Goods Movement</i></b> <b>LAC180112-01</b> Pier B On-Dock Rail Support Facility Project	The proposed project consists of reconfiguration and expansion of the Pier B On-Dock Rail Support Facility to (a) accommodate the expected demand of cargo to be moved via on-dock rail into the foreseeable future; (b) maximize on-dock intermodal operations to reach the long-term goal of 30 to 35 percent of cargo containers to be handled by on-dock rail; c) accept and handle longer container trains; and (d) provide a rail yard that is cost effective and fiscally prudent. The project is located on the northwest corner of Interstate 710 and Ocean Boulevard in the community of Wilmington-Harbor City. Reference LAC170127-01 and LAC161216-06  Comment Period: N/A Public Hearing: 1/22/2018	Final Environmental Impact Report	Port of Long Beach	Document reviewed - No comments sent
<b><i>Goods Movement</i></b> <b>LAC180116-03</b> Reeves Avenue Marine Services Support Yard Project	The proposed project consists of improvement to a 1,000-square-foot area of damaged asphalt and paving of a 5,000-square-foot compacted soil area on 12 acres. The project is located at 801 Reeves Avenue on the northeast corner of Navy Way and Reeves Avenue on Terminal Island in the community of San Pedro. Reference LAC170922-05  Comment Period: N/A Public Hearing: 1/25/2018	Response to Comments	Port of Los Angeles	Document reviewed - No comments sent
<b><i>Warehouse &amp; Distribution Centers</i></b> <b>LAC180123-03</b> Telegraph Commerce Center Precise Plan of Design No. 541 and Minor Variance No. 748	The proposed project consists of demolition of 78,402 square feet of industrial buildings and construction of a 122,746-square-foot distribution center on 6.48 acres. The project is located at 7875 Telegraph Road near the northeast corner of Telegraph Road and Industry Avenue. Reference LAC171221-02  Comment Period: N/A Public Hearing: N/A	Technical Data	City of Pico Rivera	Document reviewed - No comments sent
<b><i>Warehouse &amp; Distribution Centers</i></b> <b>RVC180118-05</b> South Milliken Distribution Center (Project No. PLN 17-20013)	The proposed project consists of construction of a 277,636-square-foot warehouse on 15.8 acres. The project is located on the northeast corner of South Milliken Avenue and the State Route 60 off-ramp.  Comment Period: 1/19/2018 - 2/20/2018 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Eastvale	Under review, may submit written comments

\*Sorted by Land Use Type (in order of land uses most commonly associated with air quality impacts), followed by County, then date received.

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A  
INCOMING CEQA DOCUMENTS LOG  
January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b>Warehouse &amp; Distribution Centers</b> <b>RVC180123-01</b> Banning Distribution Center (GPA 17-2501, ZC 17-3501)	The proposed project consists of construction of a 1,000,000-square-foot warehouse on 63.9 acres. The project is located near the northeast corner of East Lincoln Street and South Hathaway Street.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopbanningdistribution-021518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopbanningdistribution-021518.pdf</a>  Comment Period: 1/22/2018 - 2/20/2018 Public Hearing: 2/6/2018	Notice of Preparation	City of Banning	SCAQMD staff commented on 2/15/2018
<b>Warehouse &amp; Distribution Centers</b> <b>RVC180126-02</b> Guthrie Industrial Warehouse (Planning Cases P17-0506 (DR), P17-0507 (GE), P17-0748 (GE), and P17-0749 (VR))	The proposed project consists of construction of a 346,290-square-foot warehouse on 22.34 acres. The project is located at 750 Marlborough Avenue and 1550 Research Park Drive near the northeast corner of Marlborough Avenue and Northgate Street.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndguthrieindustrial-021418.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndguthrieindustrial-021418.pdf</a>  Comment Period: 2/8/2018 - 2/27/2018 Public Hearing: 3/7/2018	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Riverside	SCAQMD staff commented on 2/14/2018
<b>Warehouse &amp; Distribution Centers</b> <b>RVC180131-02</b> Duke Warehouse at Perris Boulevard and Markham Street Project	The proposed project consists of construction of a 1,189,860-square-foot warehouse and two sanitary sewer connections on 55 acres. The project is located on the northeast corner of Markham Street and Perris Boulevard. Reference RVC170913-02 and RVC170829-02  Comment Period: 1/31/2018 - 3/16/2018 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	City of Perris	Under review, may submit written comments
<b>Warehouse &amp; Distribution Centers</b> <b>SBC180109-05</b> Caprock Warehouse Project	The proposed project consists of construction of a 1,175,720-square-foot warehouse with two offices and associated amenities on 76 acres. The project is located on the northeast corner of Citrus Avenue and Interstate 15.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopcaprockwarehouse-020718.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopcaprockwarehouse-020718.pdf</a>  Comment Period: 1/4/2018 - 2/7/2018 Public Hearing: 1/31/2018	Notice of Preparation	City of Fontana	SCAQMD staff commented on 2/7/2018

# - Project has potential environmental justice concerns due to the nature and/or location of the project. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A**  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b>Warehouse &amp; Distribution Centers</b> <b>SBC180117-02</b> Southwest Fontana Logistics Center	The proposed project consists of construction of two warehouses totaling 1,628,936 square feet on 73.3 acres. The project will also preserve 17.5 acres of open space. The project is located on the southeast corner of Santa Ana Avenue and Oleander Avenue. Reference SBC171128-03, SBC170905-02 and SBC160923-01  Comment Period: N/A Public Hearing: 1/23/2018	Notice of Public Hearing	City of Fontana	Document reviewed - No comments sent
<b>Airports</b> <b>LAC180104-04</b> Los Angeles International Airport (LAX) Secured Area Access Post Project	The proposed project consists of demolition of a vacant office building, and construction of two canopy structures and two, 350-square-foot guard stations on 4.1 acres. The project is located on the southeast corner of World Way West and Pershing Drive. Reference LAC170727-07 and LAC170421-04  Comment Period: 1/4/2018 - 1/17/2018 Public Hearing: 1/18/2018	Final Environmental Impact Report	Los Angeles World Airports	Document reviewed - No comments sent
<b>Airports</b> <b>LAC180109-03</b> Los Angeles International Airport (LAX) Secured Area Access Post Project	This document changes the public hearing time from 10:30 a.m. to 8:30 a.m. on January 18, 2018 for the proposed project. The proposed project consists of demolition of a vacant office building, and construction of two canopy structures and two, 350-square-foot guard stations on 4.1 acres. The project is located on the southeast corner of World Way West and Pershing Drive. Reference LAC180104-04, LAC170727-07 and LAC170421-04  Comment Period: 1/4/2018 - 1/17/2018 Public Hearing: 1/18/2018	Revised Notice of Public Hearing	Los Angeles World Airports	Document reviewed - No comments sent
<b>Airports</b> <b>LAC180125-07</b> Los Angeles International Airport (LAX) Landside Access Modernization Program (LAMP)	The proposed project consists of construction of automated people mover system, improvements to roadways, and modifications to existing terminals and facilities. The project is located on the southwest corner of Interstate 405 and Westchester Parkway/West Arbor Vitae Street in the Central Terminal Area. Reference LAC170818-05, LAC170216-06, LAC170127-03, LAC160915-13, and LAC150206-04  Comment Period: N/A Public Hearing: N/A	Finding of No Significant Impact and Record of Decision	Los Angeles World Airports	Document reviewed - No comments sent

# - Project has potential environmental justice concerns due to the nature and/or location of the project. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A**  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<i>Industrial and Commercial</i>	The proposed project consists of demolition of existing automobile service building and parking lot, and construction of a 18,854-square-foot commercial building with subterranean parking on 15,086 square feet. The project is located at 2929 Pico Boulevard on the southwest corner of Pico Boulevard and Dorchester Avenue.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mnd2929picoboulevard-021518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mnd2929picoboulevard-021518.pdf</a>	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Santa Monica	SCAQMD staff commented on 2/15/2018
<b>LAC180124-01</b> 2929 Pico Boulevard Mixed Use Office/Retail Project				
	Comment Period: 1/22/2018 - 2/22/2018	Public Hearing: N/A		
<i>Industrial and Commercial</i>	The proposed project consists of construction of construction of a 160,447-square-foot office building on a 1.73-acre portion of 11.38 acres. The project is located on the northeast corner of North Avon Street and Empire Avenue. Reference LAC130219-03  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopmediastudios-021518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopmediastudios-021518.pdf</a>	Notice of Preparation	City of Burbank	SCAQMD staff commented on 2/15/2018
<b>LAC180130-04</b> Media Studios Project				
	Comment Period: 1/29/2018 - 2/27/2018	Public Hearing: 2/15/2018		
<i>Industrial and Commercial</i>	The proposed project consists of construction of nine racetracks, associated amenities, and eight desilting drainage basins on 163 acres. The project is located at 11091 Highway 71 near the northwest corner of Highway 71 and Highway 91 in the community of Green River.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/noppradoraceway-020718.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/noppradoraceway-020718.pdf</a>	Notice of Preparation	County of Riverside	SCAQMD staff commented on 2/7/2018
<b>RVC180116-02</b> Prado Raceway				
	Comment Period: 1/12/2018 - 2/12/2018	Public Hearing: 1/22/2018		
<i>Industrial and Commercial</i>	The proposed project consists of increase in project area from 100 acres to 232 acres, extension of project termination date to 100 years, and increase in annual mining rate from 200,000 cubic yards to 300,000 cubic yards on 260 acres. The project is located on the southwest corner of Berdoo Canyon Road and Dillon Road in the community of Western Coachella Valley.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/spea37151-020118.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/spea37151-020118.pdf</a>	Site Plan	Riverside County Planning	SCAQMD staff commented on 2/1/2018
<b>RVC180130-02</b> Reclamation Plan No. 152, Revised No. 2, AMD No. 1 - EA37151				
	Comment Period: 1/11/2018 - 2/1/2018	Public Hearing: N/A		

# - Project has potential environmental justice concerns due to the nature and/or location of the project. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A**  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b>Industrial and Commercial</b> <b>RVC180131-01</b> Tige Watersports (Planning Application No. 2016-113, Industrial Design Review No. 2016-03, and Conditional Use Permit No. 2017-03)	The proposed project consists of construction of a 25,682-square-foot commercial building and a 9,800-square-foot storage building on 2.78 acres. The project is located on the southwest corner of Riverside Drive and Collier Avenue.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndtigewatersports-021518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndtigewatersports-021518.pdf</a>  Comment Period: 1/26/2018 - 2/26/2018 Public Hearing: 3/6/2018	Mitigated Negative Declaration	City of Lake Elsinore	SCAQMD staff commented on 2/15/2018
<b>Waste and Water-related</b> <b>LAC180123-05</b> Malibu Creek Ecosystem Restoration Project	The proposed project consists of restoration of aquatic and riparian habitat connectivity along Malibu Creek and tributaries, including removal of Rindge Dam, excavation and placement of 780,000 cubic yards of sediment, and modification and removal of upstream aquatic habitat barriers. The project is located southwest of the Mulholland Highway and Las Virgenes Road intersection. Reference LAC170127-05  Comment Period: N/A Public Hearing: 2/7/2018	Notice of Public Hearing	California Department of Parks and Recreation	Document does not require comments
<b>Waste and Water-related</b> <b>LAC180126-05</b> El Monte Gateway Parcel 3 Site	The proposed project consists of cleanup of lead-contaminated soil on 5.51 acres for future development of transit oriented development. The project is located at 3535 Santa Anita Avenue on the northwest corner of Santa Fe Drive and Santa Anita Avenue in the City of El Monte. The project will be subject to a number of South Coast Air Quality Management District rules addressing soil contamination, nuisance, and fugitive dust.  Comment Period: 1/29/2018 - 2/27/2018 Public Hearing: N/A	Draft Remedial Action Plan	Department of Toxic Substances Control	Under review, may submit written comments
<b>Waste and Water-related</b> <b>LAC180130-05</b> Former NI Industries Site	The proposed project consists of development of corrective measures study including soil excavation, installation of soil cap and vapor intrusion protection structures, and establishment of land use covenant to prohibit future development of residential uses. The project is located at 5215 South Boyle Avenue on the northwest corner of South Boyle Avenue and East 54th Street in the City of Vernon.  Comment Period: 1/25/2018 - 2/26/2018 Public Hearing: N/A	Community Notice	Department of Toxic Substances Control	Under review, may submit written comments

# - Project has potential environmental justice concerns due to the nature and/or location of the project. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A**  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<b>Waste and Water-related</b>	The proposed project consists of changes to facility's contact person, emergency coordinators, and emergency agent list. The project is located at 1737 East Denni Street near the northwest corner of East Grant Street and Vreeland Avenue in the community of Wilmington.	Permit Modification	Department of Toxic Substances Control	Document reviewed - No comments sent
<b>LAC180131-03</b> Clean Harbors Wilmington, LLC - Notice of a Class 1 Permit Modification				
	Comment Period: N/A Public Hearing: N/A			
<b>Waste and Water-related</b>	The proposed project consists of construction of rubber dams, water conveyance pipelines, groundwater extraction wells, and additional upgrades to existing facilities. The project is located near the northeast corner of Antonio Parkway and State Route 74 within the cities of San Juan Capistrano and Dana Point in Orange County. Reference ORC171228-04 and ORC161223-03	Notice of Public Hearing	Santa Margarita Water District	Document reviewed - No comments sent
<b>ORC180104-07</b> San Juan Watershed Project				
	Comment Period: N/A Public Hearing: 1/30/2018			
<b>Waste and Water-related</b>	The proposed project consists of construction of drainage structures and landfill cover, and placement of erosion control materials on 80 acres. The project is located at 95250 66th Street on the northwest corner of 66th Avenue and Garfield Street in the community of Mecca.	Mitigated Negative Declaration	Riverside County Department of Waste Resources	Document reviewed - No comments sent
<b>RVC180110-02</b> Mecca II Landfill Closure and Post-Closure Maintenance Project				
	Comment Period: 1/9/2018 - 2/7/2018 Public Hearing: 3/20/2018			
<b>Waste and Water-related</b>	The proposed project consists of construction of a waste disposal pipeline of 12 inches in diameter and 23 miles in length. The project is located at 715 West Fourth Street on the northwest corner of Nicholas Road and West Fourth Street.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndbeaumontwastewater-020718.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndbeaumontwastewater-020718.pdf</a>	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Beaumont	SCAQMD staff commented on 2/7/2018
<b>RVC180118-03</b> Beaumont Wastewater Treatment Plant Upgrade/Expansion and Brine Disposal Pipeline Project				
	Comment Period: 1/18/2018 - 2/16/2018 Public Hearing: 3/6/2018			

# - Project has potential environmental justice concerns due to the nature and/or location of the project. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A  
INCOMING CEQA DOCUMENTS LOG  
January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Utilities</i> <b>LAC180125-06</b> Power Plant 1 and Power Plant 2 Transmission Line Conversion Project	The proposed project consists of demolition of existing 115-kilovolt (kV) transmission line, and construction of new 230 kV double circuit transmission lines and associated transmission structures on a 12-mile segment of land. The project is located on the northeast corner of Interstate 5 and Interstate 210 in the community of Granada Hills-Knollwood and within the City of Santa Clarita.  Comment Period: 1/24/2018 - 3/9/2018 Public Hearing: 2/7/2018	Notice of Preparation	Los Angeles Department of Water and Power	Under review, may submit written comments
<i>Transportation</i> <b>LAC180104-08</b> Division 20 Portal Widening and Turnback Facility Project	This document includes revision to the Notice of Preparation (NOP) that was circulated for public review from October 18, 2017 to November 17, 2017 for the proposed project with no changes to the project description. The proposed project consists of demolition of 306,875 square feet of existing buildings, construction of tracks and switches on the Metro Red and Purple Lines, installation of traction power substation and emergency backup power generator, reconfiguration of existing tracks and access roads, and modification to the 1st Street Bridge on 45 acres. The revision to the original NOP includes acquisition of new property and does not change project description. The project is located on the southeast corner of Commercial Street and Center Street in the community of Central City North. Reference LAC171013-08 and LAC171013-07  Comment Period: 1/3/2018 - 2/2/2018 Public Hearing: N/A	Revised Notice of Preparation	Los Angeles County Metropolitan Transportation Authority	Document reviewed - No comments sent
<i>Transportation</i> <b>LAC180117-03</b> Westbound State Route-91 Project	The proposed project consists of construction of new lane in the westbound direction along State Route 91 (SR-91), new lane at the SR-91 and Interstate 605 (I-605) interchange off ramp, and additional arterial street improvements. The project is located between Shoemaker Avenue and the SR-91/I-605 interchange, and at the I-605 northbound exit to Alondra Boulevard. Reference LAC160929-07  Comment Period: N/A Public Hearing: 1/30/2018	Community Notice	California Department of Transportation	Document reviewed - No comments sent

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A**  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

<u>SCAQMD LOG-IN NUMBER</u>	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<b>Transportation</b>	The proposed project consists of construction of additional eastbound and westbound lanes on Whittier Boulevard and additional southbound right-turn lane on Painter Avenue. The project is located at the intersection of Whittier Boulevard and Painter Avenue.	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Whittier	Document reviewed - No comments sent
<b>LAC180126-01</b> Whittier Boulevard/Painter Avenue Intersection Improvement Project				
	Comment Period: 1/25/2018 - 2/23/2018 Public Hearing: 3/27/2018			
<b>Transportation</b>	The proposed project consists of construction of a 3.3-mile, two-lane roadway from intersection of Hathaway Street and Westward Avenue in the City of Banning to intersection of Bonita Avenue and Apache Trail in the community of Cabazon. Reference RVC131113-01 and RVC121102-01	Notice of Availability of a Draft Environmental Impact Report/Draft Environmental Assessment	Riverside County Transportation Department	Document reviewed - No comments sent
<b>RVC180102-09</b> 1-10 Bypass: Banning to Cabazon Project				
	Comment Period: 12/29/2017 - 2/13/2018 Public Hearing: 1/25/2018			
<b>Transportation</b>	The proposed project consists of construction of a bridge, utility extensions, drainage infrastructure, and roadway segment. The project is located near the northeast corner of Avenue 50 and Fillmore Street. Reference RVC170620-09	Final Environmental Assessment/ Finding of No Significant Impact	City of Coachella	Document reviewed - No comments sent
<b>RVC180119-03</b> Avenue 50 Canal Crossing Project				
	Comment Period: N/A Public Hearing: N/A			
<b>Institutional (schools, government, etc.)</b>	The proposed project consists of demolition of 12 buildings, and construction of four buildings totaling 89,436 square feet and recreational amenities on 22.5 acres. The project is located at 6020 Miles Avenue on the southeast corner of Miles Avenue and Belgrave Avenue in the City of Huntington Park. Reference LAC170824-06	Draft Environmental Impact Report	Los Angeles Unified School District	Document reviewed - No comments sent
<b>LAC180103-01</b> Huntington Park High School Comprehensive Modernization Project				
	Comment Period: 1/3/2018 - 2/19/2018 Public Hearing: 1/25/2018			

# - Project has potential environmental justice concerns due to the nature and/or location of the project. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A**  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<b>Institutional (schools, government, etc.)</b>	The proposed project consists of demolition of a 20,000-square-foot aquatic center, and construction of athletic stadium with 2,500 seats and 8,162 square feet of support buildings. The project will also include 91,643 square feet of recreational uses on 29 acres. The project is located at 11356 Leffingwell Road on the southwest corner of Leffingwell Road and McRae Avenue in the City of Norwalk.	Draft Environmental Impact Report	Norwalk-La Mirada Unified School District	Document reviewed - No comments sent
<b>LAC180125-05</b> Norwalk High School New Stadium and Athletic Fields Improvement Project				
	Comment Period: 1/23/2018 - 3/8/2018 Public Hearing: 3/1/2018			
<b>Institutional (schools, government, etc.)</b>	The proposed project consists of construction of a 10,587-square-foot school and daycare center with nine classrooms on 59,129 square feet. The project is located on the southwest corner of Picasso Drive and Pomona Rincon Road. Reference SBC171228-02	Response to Comments	City of Chino Hills	Document reviewed - No comments sent
<b>SBC180111-04</b> Goddard School Project (Site Plan Review No. 15SPR02)				
	Comment Period: N/A Public Hearing: N/A			
<b>Retail</b>	The proposed project consists of demolition of two existing on-site structures, and construction of a 262,315-square-foot hotel with 141 rooms and subterranean parking on three acres. The project is located on the northwest corner of North Robertson Boulevard and Melrose Avenue. Reference LAC170323-09 and LAC141210-01	Notice of Public Hearing	City of West Hollywood	Document reviewed - No comments sent
<b>LAC180116-05</b> Robertson Lane Hotel Project				
	Comment Period: N/A Public Hearing: 1/22/2018			
<b>Retail</b>	The proposed project consists of construction of a gaming facility with ancillary amenities on 13 acres. The project is located on the southwest corner of Date Palm Drive and Buddy Rogers Avenue within the City of Cathedral City in Riverside County.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopcahuillaindianscathedral-011618.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopcahuillaindianscathedral-011618.pdf</a>	Notice of Preparation	Bureau of Indian Affairs	SCAQMD staff commented on 1/16/2018
<b>RVC180102-05</b> Agua Caliente Band of Cahuilla Indians Cathedral City Fee-to-Trust Casino Project				
	Comment Period: 12/29/2017 - 1/29/2018 Public Hearing: 1/18/2018			

# - Project has potential environmental justice concerns due to the nature and/or location of the project. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A**  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Retail</i> <b>RVC180109-04</b> Desert Land Ventures Specific Plan Environmental Impact Report	The proposed project consists of development of 62.9 acres for commercial uses, a hotel with 150 rooms, and 38.7 acres of open space on 123.4 acres. The project is located near the northwest corner of Interstate 10 and Palm Drive. Reference RVC170525-08  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirdesertland-020718.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirdesertland-020718.pdf</a>  Comment Period: 1/5/2018 - 2/19/2018 Public Hearing: N/A	Draft Environmental Impact Report	City of Desert Hot Springs	SCAQMD staff commented on 2/7/2018
<i>Retail</i> <b>RVC180123-04</b> Desert Land Ventures Specific Plan Environmental Impact Report	The proposed project consists of development of 62.9 acres for commercial uses, a hotel with 150 rooms, and 38.7 acres of open space on 123.4 acres. The project is located near the northwest corner of Interstate 10 and Palm Drive. Reference RVC180109-04 and RVC170525-08  Comment Period: 1/18/2018 - 2/19/2018 Public Hearing: N/A	Technical Data	City of Desert Hot Springs	Document reviewed - No comments sent
<i>Retail</i> <b>RVC180126-03</b> Lewis Retail and Civic Center (PLN17-20015) and Al's Corner (PLN17-20029)	The proposed project consists of construction of a gasoline station with eight fueling pumps, 19,500 square feet of retail space, a 10,000-square-foot medical office, a 74,800-square-foot hotel with 130 rooms, and 65,000 square feet of civic space on 23 acres. The project would also include installation of a 36-inch storm drain. The project is located at 7270 Hamner Avenue on the southeast corner of Hamner Avenue and Mississippi Drive. <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/noplewisretail-021518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/noplewisretail-021518.pdf</a>  Comment Period: 1/25/2018 - 2/26/2018 Public Hearing: N/A	Notice of Preparation	City of Eastvale	SCAQMD staff commented on 2/15/2018
<i>Retail</i> <b>RVC180126-04</b> CUP16-008 (Shop N Go) Resubmittal	The proposed project consists of construction of 25,885 square feet of retail space, a 4,859-square-foot fuel canopy, and a gasoline station with 16 fueling pumps on 4.04 acres. The project is located at 855 North Sanderson Avenue on the southwest corner of West Fruitvale Avenue and North Sanderson Avenue.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/spcup16008-013018.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/spcup16008-013018.pdf</a>  Comment Period: N/A Public Hearing: 2/1/2018	Site Plan	City of Hemet	SCAQMD staff commented on 1/30/2018

# - Project has potential environmental justice concerns due to the nature and/or location of the project. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A**  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b>Retail</b> <b>RVC180131-04</b> Wildomar Crossing Retail Center Project (Planning Application No. 16-0134)	The proposed project consists of construction of four retail buildings totaling 26,204 square feet, a 13,383-square-foot outfall area, and roadway and drainage improvements on 3.6 acres. The project is located on the northwest corner of Clinton Keith Road and Stable Lanes Road.  Comment Period: 1/31/2018 - 3/1/2018 Public Hearing: 4/18/2018	Mitigated Negative Declaration	City of Wildomar	Document reviewed - No comments sent
<b>Retail</b> <b>SBC180112-06</b> Hotel & Casino Expansion Project	The proposed project consists of construction of 795,000 square feet of entertainment and hospitality facilities including a hotel with 500 rooms, a performance venue with 4,000 seats, and subterranean parking on 70 acres. The project is located on the northwest corner of East Lynwood Drive and North Victoria Avenue within and adjacent to the existing San Manuel Casino on the Tribe's Reservation. Reference SBC171110-05  Comment Period: 1/10/2018 - 2/26/2018 Public Hearing: 1/25/2018	Draft Tribal Environmental Impact Report	San Manuel Band of Mission Indians	Document reviewed - No comments sent
<b>General Land Use (residential, etc.)</b> <b>LAC180102-06</b> Sunset & Everett Mixed-Use Development Project and Everett Small Lot Subdivision	The proposed project consists of demolition of a 3,000-square-foot warehouse, an apartment building, a 4,800-square-foot commercial building, and three residential homes. The project will also include construction of six residential homes totaling 10,887 square feet and two buildings with 204 residential units totaling 197,858 square feet on 2.6 acres. The project is located on the northeast corner of North Boylston Street and West Sunset Boulevard in the community of Silver Lake-Echo Park-Elysian Valley. Reference LAC160527-07 and LAC150612-10  Comment Period: N/A Public Hearing: N/A	Response to Comments	City of Los Angeles	Document reviewed - No comments sent
<b>General Land Use (residential, etc.)</b> <b>LAC180102-07</b> Cudahy 2040 General Plan Update	The proposed project consists of construction of 1,448 residential units, 1.8 million square feet of commercial use, 1.3 million square feet of industrial use, and 0.7 million square feet of public and institutional uses on 768 acres. The project is located on the southeast corner of Walnut Street and Salt Lake Avenue.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deircudahy2040-020718.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deircudahy2040-020718.pdf</a>  Comment Period: 12/29/2017 - 2/12/2018 Public Hearing: N/A	Draft Environmental Impact Report	City of Cudahy	SCAQMD staff commented on 2/7/2018

# - Project has potential environmental justice concerns due to the nature and/or location of the project. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A  
INCOMING CEQA DOCUMENTS LOG  
January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<b>General Land Use (residential, etc.)</b> <b>LAC180104-05</b> 6200 West Sunset Boulevard (ENV-2015-3603-EIR)	The proposed project consists of construction of a 243,315-square-foot building with 270 residential units on 1.24 acres. The project is located on the southwest corner of North El Centro Avenue and Sunset Boulevard in the community of Hollywood. Reference LAC160119-01  <div> Comment Period: 1/4/2018 - 2/20/2018 Public Hearing: N/A </div>	Draft Environmental Impact Report	City of Los Angeles	Document reviewed - No comments sent
<b>General Land Use (residential, etc.)</b> <b>LAC180109-01</b> Garvey Earle Plaza (Design Review 16-04)	The proposed project consists of demolition of a used car lot, and construction of a building with 35 residential units and 7,520 square feet of retail use on 0.87 acres. The project is located on the northeast corner of Garvey Avenue and Earle Avenue. Reference LAC171228-01  <div> Comment Period: 1/3/2018 - 2/1/2018 Public Hearing: 2/5/2018 </div>	Revised Notice of Intent to Adopt a Mitigated Negative Declaration	City of Rosemead	Document reviewed - No comments sent
<b>General Land Use (residential, etc.)</b> <b>LAC180111-03</b> ENV-2016-3498: 636-638 S. Manhattan Pl & 3801-3815 W. Wilshire Blvd.	The proposed project consists of construction of 132 residential units totaling 102,939 square feet of additional space to be added to existing parking garage on 0.73 acres. The project would also include reuse of existing 136,066-square-foot office building and 21,220 square feet of retail use into 176 residential units and 10,000 square feet of retail use. The project is located near the northeast corner of South Manhattan Place and Wilshire Boulevard in the community of Wilshire.  <div> Comment Period: 1/11/2018 - 1/31/2018 Public Hearing: N/A </div>	Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
<b>General Land Use (residential, etc.)</b> <b>LAC180112-05</b> The District at South Bay Specific Plan	The proposed project consists of construction of 1,601,500 square feet of commercial uses, 1,250 residential units, and two hotels with a total of 350 rooms on 168 acres. The project is located on the southeast corner of East Del Amo Boulevard and Main Street. Reference LAC171017-06, LAC171017-02 and LAC170801-08  <div> Comment Period: N/A Public Hearing: N/A </div>	Response to Comments	City of Carson	Document reviewed - No comments sent

# - Project has potential environmental justice concerns due to the nature and/or location of the project. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A  
INCOMING CEQA DOCUMENTS LOG  
January 01, 2018 to January 31, 2018**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>General Land Use (residential, etc.)</i> <b>LAC180118-01</b> ENV-2015-3703: 9530, 9534 & 9546 N. Reseda Blvd.	The proposed project consists of demolition of a 26,000-square-foot building and surface parking lot, and construction of a 127,062-square-foot building with 128 residential units and subterranean parking on 1.54 acres. The project is located near the southeast corner of Reseda Boulevard and Halsted Street in the community of Northridge.  Comment Period: 1/18/2018 - 2/7/2018 Public Hearing: N/A	Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> <b>LAC180118-02</b> ENV-2016-2384: 7660-7702 & 7718- 7728 N. Lankershim Blvd. ( 7720 Lankershim Blvd. Project)	The proposed project consists of demolition of two residential units totaling 2,619 square feet, existing commercial buildings totaling 8,449 square feet, and a parking lot. The project will also include construction of a 61,188-square-foot building with 64 multi-family units and 99 single-family units totaling 168,127 square feet on 4.9 acres. The project is located near the southeast corner of Lankershim Boulevard and Stagg Street in the community of Sun Valley-La Tuna Canyon.  Comment Period: 1/18/2018 - 2/7/2018 Public Hearing: N/A	Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> <b>LAC180123-02</b> Northlake Specific Plan Project	The proposed project consists of construction of 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 the community of Santa Clarita Valley. Reference LAC170503-02 and LAC150324-04  Comment Period: N/A Public Hearing: 2/21/2018	Notice of Public Hearing	County of Los Angeles	Document does not require comments
<i>General Land Use (residential, etc.)</i> <b>LAC180124-02</b> Pico Rivera Homes (Tentative Tract Map No. 74823, General Plan Amendment No. 56, Zone Reclassification No. 324, Conditional Use Permit No. 734, and Major Variance (No. 187)	The proposed project consists of subdivision of 2.58 acres for future development of 18 residential units. The project is located near the southwest corner of Slauson Avenue and the San Gabriel River Mid Trail.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndpicoriverahomes-020718.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndpicoriverahomes-020718.pdf</a>  Comment Period: 1/23/2018 - 2/22/2018 Public Hearing: N/A	Mitigated Negative Declaration	City of Pico Rivera	SCAQMD staff commented on 2/7/2018

# - Project has potential environmental justice concerns due to the nature and/or location of the project.  
Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A**  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>General Land Use (residential, etc.)</i> <b>LAC180125-01</b> ENV-2017-508: 4208 E. Huntington Dr. South	The proposed project consists of demolition of existing commercial building, parking lot, and retaining wall. The project will also include construction of two buildings totaling 91,596 square feet with 85 residential units and subterranean parking on 5.23 acres. The project is located on the southwest corner of Huntington Drive and Huntington Drive South in the community of Northeast Los Angeles.  Comment Period: 1/25/2018 - 2/14/2018 Public Hearing: N/A	Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> <b>LAC180125-04</b> ENV-2015-2448-EIR; SunWest Project	The proposed project consists of demolition of a 26,457-square-foot commercial building, and construction of a mixed-use building with 293 residential units, 33,980 square feet of commercial uses, and subterranean parking on 2.22 acres. The project is located at 5509-5529 West Sunset Boulevard, 1505-1535 North Western Avenue, and 5518 West Harold Way on the northwest corner of Western Avenue and Sunset Boulevard, and on the southwest corner of Western Avenue and Harold Way in the community of Hollywood. Reference LAC161021-02, LAC151001-11 and LAC150903-02  Comment Period: N/A Public Hearing: 2/21/2018	Notice of Public Hearing	City of Los Angeles	Document does not require comments
<i>General Land Use (residential, etc.)</i> <b>LAC180130-01</b> The Terraces at Walnut Specific Plan	The proposed project consists of construction of 290 residential units, three to five acres of commercial use, and 17 acres of parks and open space on 49 acres. The project is located near the northeast corner of Grand Avenue and Valley Boulevard.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/noptheterraces-021518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/noptheterraces-021518.pdf</a>  Comment Period: 1/26/2018 - 2/26/2018 Public Hearing: 2/12/2018	Notice of Preparation	City of Walnut	SCAQMD staff commented on 2/15/2018
<i>General Land Use (residential, etc.)</i> <b>ORC180104-06</b> The Preserve at San Juan Residential Development Project	The proposed project consists of construction of 72 residential units on 584.1 acres. The project will also include 414.6 acres of open space. The project is located on the southwest corner of Monte Vista Street and Ortega Highway 74. Reference ORC170526-04 and ORC141031-01  Comment Period: N/A Public Hearing: N/A	Response to Comments	County of Orange Public Works	Document reviewed - No comments sent

# - Project has potential environmental justice concerns due to the nature and/or location of the project. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A**  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b>General Land Use (residential, etc.)</b> <b>ORC180109-06</b> Bolsa Row Specific Plan - Project Case No. 2017-06	The proposed project consists of construction of a 122,207-square-foot hotel with 150 rooms, 20,000 square feet of public assembly area, 45,000 square feet of retail uses, and 205 residential units on six acres. The project is located on the southeast corner of Brookhurst Street and Bolsa Avenue. Reference ORC170912-14  Comment Period: 1/8/2018 - 2/21/2018      Public Hearing: 2/7/2018	Notice of Availability of a Draft Environmental Impact Report	City of Westminster	Document reviewed - No comments sent
<b>General Land Use (residential, etc.)</b> <b>ORC180116-01</b> The Preserve at San Juan Residential Development Project	The proposed project consists of construction of 72 residential units on 584.1 acres. The project will also include 414.6 acres of open space. The project is located on the southwest corner of Monte Vista Street and Ortega Highway 74. Reference ORC170526-04 and ORC141031-01  Comment Period: N/A      Public Hearing: 1/24/2018	Notice of Public Hearing	County of Orange Public Works	Document reviewed - No comments sent
<b>General Land Use (residential, etc.)</b> <b>RVC180102-01</b> Paradise Valley (Specific Plan No. 339, General Plan Amendment No. 686, Change of Zone No. 6915, EIR 506)	The proposed project consists of construction of six villages including 8,500 residential units, 1.38 million square feet of non-residential land uses, and 110 acres of recreational trails and parks on a 1,800-acre portion of 5,000 acres. The project will also preserve 3,000 acres of open space. The project is located approximately eight miles east of the City of Coachella and 10 miles west of Chiriaco Summit near the interchange between Frontage Road and Interstate 10 in the community of Shavers Valley. Reference RVC151009-01 <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirparadisvalley-020718.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirparadisvalley-020718.pdf</a>  Comment Period: 1/2/2018 - 2/15/2018      Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	County of Riverside	SCAQMD staff commented on 2/7/2018
<b>General Land Use (residential, etc.)</b> <b>RVC180118-06</b> Travertine Specific Plan	The proposed project consists of development of 1,200 residential units, a hotel with 100 rooms, a 12-hole golf course with a clubhouse, and 380 acres of open space on 878 acres. The project is located near the southwest corner of Madison Street and Avenue 60.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/noptravertine-020718.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/noptravertine-020718.pdf</a>  Comment Period: 1/16/2018 - 2/15/2018      Public Hearing: 1/17/2018	Notice of Preparation	City of La Quinta	SCAQMD staff commented on 2/7/2018

# - Project has potential environmental justice concerns due to the nature and/or location of the project. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A**  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<b>General Land Use (residential, etc.)</b>	The proposed project consists of construction of 3,800 residential units, 280,000 square feet of commercial uses, a 20-acre elementary school, 483 acres of habitat restoration, and 29 acres of public open space on a 598-acre portion of 4,088 acres. The project will also include preservation of 3,176 acres of conservation lands. The project is located northwest of the intersection between Interstate 210 and Interstate 15. Reference SBC170912-13 <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/revisednopannexation-011618.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/revisednopannexation-011618.pdf</a>	Revised Notice of Preparation	City of Rancho Cucamonga	SCAQMD staff commented on 1/16/2018
<b>SBC180102-08</b> Rancho Cucamonga North Eastern Sphere Annexation Specific Plan				
	Comment Period: 12/29/2017 - 1/29/2018	Public Hearing: N/A		
<b>Plans and Regulations</b>	The proposed project consists of development of land use policies and design guidelines for 88 acres. The project is located along a 1.2-mile portion of Garvey Avenue between Charlotte Avenue and New Avenue. Reference LAC170509-09 and LAC150421-06	Response to Comments	City of Rosemead	Document reviewed - No comments sent
<b>LAC180109-02</b> Garvey Avenue Corridor Specific Plan				
	Comment Period: N/A	Public Hearing: 1/17/2018		
<b>Plans and Regulations</b>	The proposed project consists of amendments to the Land Use Element of the City's General Plan and Municipal Code to facilitate development of permanent supportive housing units. Reference LAC171201-09	Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
<b>LAC180111-01</b> ENV-2017-3137: Citywide - Permanent Supportive Housing				
	Comment Period: 1/11/2018 - 2/10/2018	Public Hearing: N/A		
<b>Plans and Regulations</b>	The proposed project consists of development of comprehensive set of incentives, standards, and requirements to provide a vision and policies to guide future development over time on 4.6 square miles. The project is located north of the Forest Lawn Memorial Park, east of the San Fernando Road corridor, south of State Route 134, and west of State Route 2. Reference LAC160915-09 <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirsouthglendale-021518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirsouthglendale-021518.pdf</a>	Notice of Availability of a Draft Environmental Impact Report	City of Glendale	SCAQMD staff commented on 2/15/2018
<b>LAC180116-04</b> South Glendale Community Plan				
	Comment Period: 1/12/2018 - 3/12/2018	Public Hearing: 3/7/2018		

# - Project has potential environmental justice concerns due to the nature and/or location of the project. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A  
INCOMING CEQA DOCUMENTS LOG  
January 01, 2018 to January 31, 2018**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Plans and Regulations</i> <b>LAC180119-01</b> Arrow Highway Specific Plan	The proposed project consists of establishment of land use development policies and guidelines for the areas along a 2.73-mile portion of the Arrow Highway. The project will also provide guidance to support development of 40.9 acres of commercial use, 20.6 acres of public/institutional use, 13 acres of industrial use, 29.1 acres of residential use, and 8.6 acres of open space on 106 acres. The project is located north of the Arrow Highway between North Calera Avenue and North Rennell Avenue. Reference LAC170414-03 and LAC170413-05 <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirthearrowhighway-021518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirthearrowhighway-021518.pdf</a>  Comment Period: 1/18/2018 - 3/5/2018 Public Hearing: N/A	Draft Environmental Impact Report	City of Glendora	SCAQMD staff commented on 2/15/2018
<i>Plans and Regulations</i> <b>SBC180119-02</b> Palm Desert Campus 2016 Master Plan	The proposed project consists of development of a planning framework, goals, and programs, and identification of facility needs for future growth in student enrollment. The project is located on the northeast corner of Cook Street and Frank Sinatra Drive in the City of Palm Desert, Riverside County. Reference SBC171012-04  Comment Period: N/A Public Hearing: 1/30/2018	Response to Comments	California State University	Document reviewed - No comments sent

# - Project has potential environmental justice concerns due to the nature and/or location of the project.  
Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT B\***  
**ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS**  
**OR IS CONTINUING TO CONDUCT A CEQA REVIEW**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b><i>Airports</i></b> <b>LAC171207-04</b> Los Angeles International Airport United Airlines East Aircraft Maintenance and Ground Support Equipment Project	The proposed project consists of demolition of existing structures and construction of a 411,000-square-foot aircraft maintenance and ground support equipment facility on 37 acres. The project is located at 6000-6016 and 6020-6024 Avion Drive near the southwest corner of Airport Boulevard and West Century Boulevard.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/noplaxunitedairlines-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/noplaxunitedairlines-010518.pdf</a> Comment Period: 12/7/2017 - 1/8/2018 Public Hearing: 12/19/2017	Notice of Preparation	Los Angeles World Airports	SCAQMD staff commented on 1/5/2018
<b><i>Industrial and Commercial</i></b> <b>LAC171213-01</b> Berth 240 Transportation Vessels Manufacturing Facility	The proposed project consists of demolition of a 9,150-square-foot structure and construction of a 203,450-square-foot industrial manufacturing facility on 10 acres. The project is located near the southwest corner of Terminal Way and Seaside Avenue.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndberth240-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndberth240-010518.pdf</a> Comment Period: 12/8/2017 - 1/8/2018 Public Hearing: N/A	Mitigated Negative Declaration	Port of Los Angeles	SCAQMD staff commented on 1/5/2018
<b><i>Industrial and Commercial</i></b> <b>LAC171226-01</b> Northrop Grumman Lab Expansion Project	The proposed project consists of demolition of 3,525 square feet of building space and construction of five laboratory buildings and a lobby totaling 150,500 square feet on 13 acres. The project is located on the northeast corner of Space Park Boulevard and Mettler Drive.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndnorthrop-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndnorthrop-010518.pdf</a> Comment Period: 12/21/2017 - 1/10/2018 Public Hearing: 1/18/2018	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Redondo Beach	SCAQMD staff commented on 1/5/2018
<b><i>Waste and Water-related</i></b> <b>LAC171201-04</b> PV Peninsula Water Reliability Project (PA-29-16)	The proposed project consists of construction of pump station and replacement of seven miles of underground potable water pipeline. The project is located on the northeast corner of Crenshaw Boulevard and Crest Road in portions of the Cities of Rolling Hills Estates and Rancho Palos Verdes.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndpvpeninsula-010218.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndpvpeninsula-010218.pdf</a> Comment Period: 11/30/2017 - 1/8/2018 Public Hearing: N/A	Mitigated Negative Declaration	City of Rolling Hills Estates	SCAQMD staff commented on 1/2/2018

\*Sorted by Comment Status, followed by Land Use, then County, then date received.

# - Project has potential environmental justice concerns due to the nature and/or location of the project.



**ATTACHMENT B**  
**ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS**  
**OR IS CONTINUING TO CONDUCT A CEQA REVIEW**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Waste and Water-related</i> <b>LAC171208-05</b> Food Waste Receiving and Digestion Program at the Joint Water Pollution Control Plant	The proposed project consists of demolition of existing digester, and construction of a food waste facility, biogas pipelines, and additional flares on 220 acres. The project would also include expansion of biogas conditioning system and compressed natural gas fueling station. The project is located on the northeast corner of West Lomitas Boulevard and Interstate 110 in the City of Carson.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndfoodwaste-010418.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndfoodwaste-010418.pdf</a> Comment Period: 12/8/2017 - 1/7/2018 Public Hearing: N/A	Mitigated Negative Declaration	Sanitation Districts of Los Angeles County	SCAQMD staff commented on 1/4/2018
<i>Waste and Water-related</i> <b>LAC171214-03</b> Hollenbeck Park Lake Rehabilitation and Stormwater Management Project	The proposed project consists of diversion and treatment of runoff, replacement of potable water deliveries to recycled water deliveries, installation of an 18-inch underground sewer pipeline, and development of water quality improvements and long-term solution to erosion on 4.3 acres. The project is located on the southwest corner of South Saint Louis Street and East 4th Street in the community of Boyle Heights.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nophollenbeckpark-011618.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nophollenbeckpark-011618.pdf</a> Comment Period: 12/14/2017 - 1/18/2018 Public Hearing: 1/11/2018	Notice of Preparation	City of Los Angeles	SCAQMD staff commented on 1/16/2018
<i>Waste and Water-related</i> <b>LAC171214-05</b> United Rock Quarry No. 3 Project/Buena Vista Sediment Placement Site (SPS)	The proposed project consists of improvements to United Rock Quarry No. 3 to be as a permanent sediment placement location. The project is located at 1137 Meridian Street near the northeast corner of Meridian Street and Bateman Avenue in the City of Irwindale. Reference LAC160513-01  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirunitedrock-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirunitedrock-010518.pdf</a> Comment Period: 12/14/2017 - 1/29/2018 Public Hearing: N/A	Draft Environmental Impact Report	Los Angeles County Flood Control District	SCAQMD staff commented on 1/5/2018
<i>Waste and Water-related</i> <b>RVC171212-05</b> Land Acquisition and Site Improvement Project at the Lamb Canyon Landfill	The proposed project consists of acquisition of 70 acres of land adjacent to the Lamb Canyon Landfill. The project would also include drainage improvements, dirt management, and monitoring. The project is located at 16411 Lamb Canyon Road near the southwest corner of Beaumont Avenue and East First Street in the City of Beaumont.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndlambcanyon-011118.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndlambcanyon-011118.pdf</a> Comment Period: 12/11/2017 - 1/11/2018 Public Hearing: 2/6/2018	Mitigated Negative Declaration	County of Riverside	SCAQMD staff commented on 1/11/2018

# - Project has potential environmental justice concerns due to the nature and/or location of the project.



**ATTACHMENT B**  
**ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS**  
**OR IS CONTINUING TO CONDUCT A CEQA REVIEW**

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Utilities</i> <b>SBC171122-05</b> Rialto Bioenergy Facility Project	The proposed project consists of production of 13.38 megawatts (MW) in equivalent electricity of renewable energy on 6.2 acres. The project is located at 503 East Santa Ana Avenue near the southeast corner of South Riverside Avenue and East Santa Ana Avenue. Reference SBC170907-06  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirrialtobioenergy-010318.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirrialtobioenergy-010318.pdf</a>  Comment Period: 11/16/2017 - 1/5/2018 Public Hearing: N/A	Draft Environmental Impact Report	City of Rialto	SCAQMD staff commented on 1/3/2018
<i>Institutional (schools, government, etc.)</i> <b>SBC171228-02</b> Goddard School Project (Site Plan Review No. 15SPR02)	The proposed project consists of construction of a 10,587-square-foot school and daycare center with nine classrooms on 59,129 square feet. The project is located on the southwest corner of Picasso Drive and Pomona Rincon Road.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndgoddardschool-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndgoddardschool-010518.pdf</a>  Comment Period: 12/22/2017 - 1/10/2018 Public Hearing: 1/16/2018	Mitigated Negative Declaration	City of Chino Hills	SCAQMD staff commented on 1/5/2018
<i>Medical Facility</i> <b>LAC171116-04</b> City of Hope Campus Plan (General Plan Amendment & Zone Change 15-01)	The proposed project consists of demolition of 387,500 square feet of existing buildings and construction of 1,426,000 square feet of new buildings on 116 acres. The project is located on the southeast corner of Duarte Road and Cinco Robles Drive. Reference LAC151016-02  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deircityofhope-010418.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deircityofhope-010418.pdf</a>  Comment Period: 11/15/2017 - 1/4/2018 Public Hearing: 12/6/2017	Draft Environmental Impact Report	City of Duarte	SCAQMD staff commented on 1/4/2018
<i>Retail</i> <b>LAC171212-03</b> Beach Cities Media Campus Project	The proposed project consists of construction of four commercial buildings with office and retail uses totaling 313,000 square feet on 6.39 acres. The project is located at 2021 Rosecrans Avenue on the northeast corner of Rosecrans Avenue and Village Drive.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopthebeachcities-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopthebeachcities-010518.pdf</a>  Comment Period: 12/8/2017 - 1/6/2018 Public Hearing: 12/18/2017	Notice of Preparation	City of El Segundo	SCAQMD staff commented on 1/5/2018
<i>General Land Use (residential, etc.)</i> <b>LAC171109-04</b> Hidden Creeks Estates (ENV-2005-6657-EIR)	The proposed project consists of construction of 188 residential units on a 109-acre portion of 285 acres. The project will also preserve 131.5 acres of open space. The project is located at 12100 Browns Canyon Road near the northeast corner of Browns Canyon Road and Santini Lane in the community of Chatsworth-Porter Ranch.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirhidden creeks-010918.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirhidden creeks-010918.pdf</a>  Comment Period: 11/9/2017 - 1/10/2018 Public Hearing: N/A	Revised Draft Environmental Impact Report	City of Los Angeles	SCAQMD staff commented on 1/9/2018

# - Project has potential environmental justice concerns due to the nature and/or location of the project.



**ATTACHMENT B**  
**ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS**  
**OR IS CONTINUING TO CONDUCT A CEQA REVIEW**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>General Land Use (residential, etc.)</i> <b>LAC171221-03</b> 1045 Olive Project (ENV-2016-4630-EIR)	The proposed project consists of demolition of four buildings totaling 34,673 square feet, and construction of a 751,777-square-foot building with 794 residential units, 100,652 square feet of open space, and subterranean parking on 41,603 square feet. The project is located on the northwest corner of West 11st Street and South Olive Street in the community of Central City.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nop1045olive-011618.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nop1045olive-011618.pdf</a>  Comment Period: 12/21/2017 - 1/19/2018      Public Hearing: 1/10/2018	Notice of Preparation	City of Los Angeles	SCAQMD staff commented on 1/16/2018
<i>General Land Use (residential, etc.)</i> <b>RVC171226-02</b> 17-TM-02, TM 27357	The proposed project consists of construction of 309 residential units on 106.6 acres. The project is located on the southwest corner of Elm Avenue and Oak Valley Parkway.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/sp17tm02-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/sp17tm02-010518.pdf</a>  Comment Period: 12/21/2017 - 1/11/2018      Public Hearing: N/A	Site Plan	City of Beaumont	SCAQMD staff commented on 1/5/2018
<i>General Land Use (residential, etc.)</i> <b>RVC171226-03</b> Tentative Tract Map No. 37434 - EA 43092	The proposed project consists of subdivision of 214.7 acres for future development of 600 residential units. The project is located on the northeast corner of Jack Ivey Drive and Varner Road in the community of Western Coachella Valley.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/spttm37434-010218.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/spttm37434-010218.pdf</a>  Comment Period: 12/11/2017 - 1/4/2018      Public Hearing: N/A	Site Plan	County of Riverside	SCAQMD staff commented on 1/2/2018

# - Project has potential environmental justice concerns due to the nature and/or location of the project.



**ATTACHMENT C**  
**ACTIVE SCAQMD LEAD AGENCY PROJECTS**  
**THROUGH JANUARY 31, 2018**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
Edgington Oil Company (Edgington) is proposing the following modifications at its existing Edgington Refinery site to allow for additional flexibility in using the site for terminal operations: 1) add 18 offloading arms at its existing rail tank car loading facility to allow for the offloading of distillates, biodiesel, and renewables (diesel and jet fuels), ethanol, naphtha, alkylates, reformate, and isooctane; 2) modify seven truck loading racks to allow distillates, biodiesel, and renewables to be loaded; 3) modify one rack (two arms) to allow unloading of crude oil from trucks; and 4) modify 16 existing fixed-roof asphalt storage tanks to allow storage of distillates, biodiesel, and renewables.	Edgington Oil Company	Initial Study (IS)	An Initial Study has been prepared by the consultant and SCAQMD staff has provided comments. The consultant is in the process of revising the Initial Study.	InterAct
The Phillips 66 (formerly ConocoPhillips) Los Angeles Refinery Ultra Low Sulfur Diesel project was originally proposed to comply with federal, state and SCAQMD requirements to limit the sulfur content of diesel fuels. Litigation against the CEQA document was filed. Ultimately, the California Supreme Court concluded that the SCAQMD had used an inappropriate baseline and directed the SCAQMD to prepare an EIR, even though the project has been built and has been in operation since 2006. The purpose of this CEQA document is to comply with the Supreme Court's direction to prepare an EIR.	Phillips 66 (formerly ConocoPhillips), Los Angeles Refinery	Environmental Impact Report (EIR)	The Notice of Preparation/Initial Study (NOP/IS) was circulated for a 30-day public comment period on March 26, 2012 to April 26, 2012. The consultant submitted the administrative Draft EIR to SCAQMD in late July 2013. The Draft EIR was circulated for a 45-day public review and comment period from September 30, 2014 to November 13, 2014. Two comment letters were received and responses to comments are being prepared.	Environmental Audit, Inc.
Quemetco is proposing an increase in the daily furnace feed rate.	Quemetco	Environmental Impact Report (EIR)	A Notice of Preparation/Initial Study (NOP/IS) has been prepared by the consultant and SCAQMD staff has provided comments. The consultant has provided a revised NOP/IS which is undergoing SCAQMD review.	Trinity Consultants



**ATTACHMENT C**  
**ACTIVE SCAQMD LEAD AGENCY PROJECTS**  
**THROUGH JANUARY 31, 2018**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
Southern California Edison (SCE) is proposing to modify the air pollution control system for the Barre Peaker unit to repair current and prevent future water damage by: 1) decreasing the water-injection rate into the turbine's combustor; 2) replacing the oxidation catalyst and increasing the overall area of catalyst beds in the selective catalytic reduction (SCR) unit; 3) replacing the ammonia injection grid to improve the deliverability of ammonia to the catalyst; and, 4) increasing the concentration of the aqueous ammonia that is delivered to the facility, stored on-site, and injected into the SCR unit from 19% to 29%. In addition, SCE is proposing to revise its SCAQMD Title V Operating Permit to allow the turbine to generate power over its full operating range, from less than one megawatt (MW) to full load (e.g., 45 MW net), while continuing to meet the emission limits in the current permit.	Southern California Edison	Addendum to the April 2007 Final Mitigated Negative Declaration for the Southern California Edison Barre Peaker Project in Stanton	A draft Addendum has been prepared by the consultant and is under review by SCAQMD staff.	Yorke Engineering, LLC
Southern California Edison (SCE) is proposing to modify the air pollution control system for the Mira Loma Peaker unit to repair current and prevent future water damage by: 1) decreasing the water-injection rate into the turbine's combustor; 2) replacing the oxidation catalyst and increasing the overall area of catalyst beds in the Selective Catalytic Reduction (SCR) unit; 3) replacing the ammonia injection grid to improve the deliverability of ammonia to the catalyst; and, 4) increasing the concentration of the aqueous ammonia that is delivered to the facility, stored on-site, and injected into the SCR unit from 19% to 29%. In addition, SCE is proposing to revise its SCAQMD Title V Operating Permit to allow the turbine to generate power over its full operating range, from less than one megawatt (MW) to full load (e.g., 45 MW net), while continuing to meet the emission limits in the current permit.	Southern California Edison	Addendum to the April 2007 Final Mitigated Negative Declaration for the Southern California Edison Mira Loma Peaker Project in Ontario	A draft Addendum has been prepared by the consultant and is under review by SCAQMD staff.	Yorke Engineering, LLC



 [Back to Agenda](#)

BOARD MEETING DATE: March 2, 2018

AGENDA NO. 18

REPORT: Rule and Control Measure Forecast

SYNOPSIS: This report highlights SCAQMD rulemaking activities and public workshops potentially scheduled for 2018.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:  
Receive and file.

Wayne Nastri  
Executive Officer

PMF:SN:AF:RM

---

## 2018 MASTER CALENDAR

The table below summarizes changes to the schedule since last month's Rule and Control Measure Forecast Report. Staff will continue to work with all stakeholders as these projects move forward.

*Symbols have been added to indicate the following:*

- \* This rulemaking is a potentially significant hearing.*
- + 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.*

219	<b>Equipment Not Requiring a Written Permit Pursuant to Regulation II</b>
Rule 219 is moving from TBD to April 2018 to include an administrative amendment coinciding with amendments to Rule 1178.	
120	<b>Credible Evidence Rule</b>
Proposed Rule 120 is being moved from May 2018 to TBD to allow staff additional time to re-evaluate stakeholder comments.	



1146	<b>Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters</b>
1146.1	<b>Emissions of Oxides of Nitrogen from Small Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters</b>
1146.2*+##	<b>Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters</b>
1100*+##	<b>Implementation Schedule for NOx Facilities</b>
Rules 1146, 1146.1, 1146.2 and 1100 are being moved from April 2018 to May 2018 to allow additional time to work with stakeholders and to allow the appropriate time for public review of the CEQA document.	
2001*+##	<b>RECLAIM – Applicability</b>
2002##*	<b>Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx)</b>
Rule 2001 is being moved from April 2018 to September 2018. Rule 2002 is being added to the September Board agenda. Proposed rule amendments will include criteria for facilities to opt-out of RECLAIM and to facilitate the use of compliance plans as part of the transition of RECLAIM facilities to a command-and-control regulatory structure.	
Reg. XIII*#	<b>New Source Review</b>
Regulation XIII – New Source Review is being moved from May 2018 to July 2018 in order to allow additional time to work stakeholders, CARB and U.S. EPA regarding the proposed amendments.	



## 2018 MASTER CALENDAR

April	Title and Description	Type of Rulemaking
1178	<p><b>Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities</b></p> <p>Proposed Amended Rule 1178 will incorporate provisions to allow use of a flexible enclosure option allowed under the U.S. EPA Storage Tank Emission Reduction Partnership Program for floating roof storage tanks equipped with a slotted guide pole.</p> <p><i>David De Boer 909.396.2329 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Other
219	<p><b>Equipment Not Requiring a Written Permit Pursuant to Regulation II</b></p> <p>Amendments to Rule 219 are being proposed as a complement to PAR 1178.</p> <p><i>David De Boer 909.396.2329 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Other
1469*	<p><b>Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations</b></p> <p>Proposed Amended Rule 1469 will further reduce hexavalent chromium emissions by establishing new requirements for certain hexavalent chromium tanks that are currently not regulated, and further address potential fugitive emissions from hexavalent chromium electroplating and chromic acid anodizing operations.</p> <p><i>Jillian Wong 909.396.3176 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Toxics
May		
408*	<p><b>Circumvention</b></p> <p>Proposed Amended Rule 408 would retain the exemption for cases in which the only violation is a nuisance, but limit it to odor nuisances. The proposed amendment would also prohibit temporary alterations to normal business operations or equipment to suppress emissions for the purpose of evading detection or concealing emissions during monitoring or testing.</p> <p><i>Michael Krause 909.396.2706 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Other



## 2018 MASTER CALENDAR (continued)

May (continued)	Title and Description	Type of Rulemaking
<p>1146</p> <p>1146.1</p> <p>1146.2*+ #</p> <p>1100*+ #</p>	<p><b>Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters</b></p> <p><b>Emissions of Oxides of Nitrogen from Small Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters</b></p> <p><b>Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters</b></p> <p>Amendments to Rules 1146, 1146.1, and 1146.2 will incorporate requirements for facilities that are in RECLAIM that are required to meet BARCT emission control levels.</p> <p><b>Implementation Schedule for NO<sub>x</sub> Facilities</b></p> <p>Rule 1100 will establish the implementation schedule for specific NO<sub>x</sub> RECLAIM facilities that are transitioning to command and control.</p> <p><i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	AQMP
Reg. III	<p><b>Fees</b></p> <p>Amendments to Regulation III will incorporate the CPI adjustment to keep pace with inflation, pursuant to Rule 320, and proposed amendments may also make other needed adjustments.</p> <p><i>Jillian Wong 909.396.3176 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Other
June		
<p>1118.1*+ #</p> <p>1100*+ #</p>	<p><b>Control of Emissions from Non-Refinery Flares</b></p> <p>Proposed Rule 1118.1 will seek to reduce emissions from flaring at non-refinery facilities, including alternate uses of gases. The rule would require use of flares that meet Best Available Control Technology at sources such as landfills, wastewater treatment plants, and oil and gas production facilities.</p> <p><i>Michael Krause 909.396.2706 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p> <p><b>Implementation Schedule for NO<sub>x</sub> Facilities</b></p> <p>Rule 1100 will establish the implementation schedule for specific NO<sub>x</sub> RECLAIM facilities that are transitioning to command and control.</p> <p><i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	AQMP
1403	<p><b>Asbestos Emissions from Demolition/Renovation Activities</b></p> <p>Amendments to Rule 1403 will include specific requirements when conducting asbestos-emitting demolition/renovation activities at schools, daycare centers, and possibly establishments that have sensitive populations. Amendments may include other provisions to improve the implementation of the rule.</p> <p><i>Jillian Wong 909.396.3176 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Toxics



## 2018 MASTER CALENDAR (continued)

July	Title and Description	Type of Rulemaking
1110.2*+ <sup>#</sup>	<b>Emissions from Stationary Internal Combustion Engines</b> Rule 1110.2 will be amended to incorporate provisions for facilities that are transitioning from NO <sub>x</sub> RECLAIM to command and control.	AQMP
1100*+ <sup>#</sup>	<b>Implementation Schedule for NO<sub>x</sub> Facilities</b> Rule 1100 will establish the implementation schedule for specific NO <sub>x</sub> RECLAIM facilities that are transitioning to command and control. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	
1410*	<b>Hydrogen Fluoride Use at Refineries</b> Proposed Rule 1410 will establish requirements for use of hydrogen fluoride at refineries. <i>Michael Krause 909.396.2706 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Toxics
Reg. XIII* <sup>#</sup>	<b>New Source Review</b> Amendments to Regulation XIII are needed to address New Source Review provisions for facilities that exit RECLAIM. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
<b>September</b>		
1407* 1407.1*	<b>Control of Emissions of Arsenic, Cadmium and Nickel from Non-Ferrous Metal Operations</b> Proposed Rule 1407 will establish additional requirements to minimize air toxics from metal operations. Staff is analyzing sources subject to Rule 1407 and may develop a separate Rule 1407.1 for the largest sources subject to Rule 1407 and expand the applicability to address ferrous metal operations and hexavalent chromium emissions. <i>David De Boer 909.396.2329 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Toxics
1480*	<b>Toxics Monitoring</b> Proposed Rule 1480 will establish provisions for when ambient monitoring is required and the toxic air contaminants that will be monitored. <i>Jillian Wong 909.396.3176 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Toxics
2001*+ <sup>#</sup> 2002* <sup>#</sup>	<b>RECLAIM – Applicability</b> <b>RECLAIM - Allocations for Oxides of Nitrogen (NO<sub>x</sub>) and Oxides of Sulfur (SO<sub>x</sub>)</b> Proposed Amended Rules 2001 and 2002 will incorporate provisions for facilities that elect to opt-out of RECLAIM and include provisions for facilities that exit RECLAIM through use of a compliance plan. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP



**2018 MASTER CALENDAR (continued)**[illegible]



## 2018 MASTER CALENDAR (continued)

November (continued)	Title and Description	Type of Rulemaking
1435*	<b>Control of Emissions from Metal Heat Treating Processes</b> Proposed Rule 1435 would establish requirements to reduce hexavalent chromium emissions from heat treating processes. <i>Jillian Wong 909.396.3176 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Toxics
<b>December</b>		
1109.1*+ <sup>#</sup>	<b>Refinery Equipment</b> Proposed Rule 1109.1 will establish requirements for refineries that are transitioning from RECLAIM to command and control. <i>Michael Krause 909.396.2706 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP
1100*+ <sup>#</sup>	<b>Implementation Schedule for NO<sub>x</sub> Facilities</b> Rule 1100 will establish the implementation schedule for specific NO <sub>x</sub> RECLAIM facilities that are transitioning to command and control. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	
2202	<b>On-Road Motor Vehicle Mitigation Options</b> Proposed amendments to Rule 2202 would enhance emission reductions obtained from the Employee Commute Reduction Program (ECRP) rule option. <i>Carol Gomez 909.396.3264 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other



**2018 MASTER CALENDAR**  
**2018 To-Be-Determined**

<b>To-Be-Determined</b>	<b>Title and Description</b>	<b>Type of Rulemaking</b>
102	<b>Definition of Terms</b> Staff may propose amendments to Rule 102 to add or revise definitions in order to support amendments to other Regulation XI rules. <i>David De Boer 909.396.2329 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
120	<b>Credible Evidence Rule</b> Proposed Rule 120 will allow any credible evidence to be used for the purpose of establishing that a person has violated or is in violation of any plan, order, permit, rule, regulation, or law. <i>Michael Krause 909.396.2706 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
113*#	<b>Monitoring, Reporting, and Recordkeeping (MRR) Requirements for NOx and SOx Sources</b> Proposed Rule 113 will establish MRR requirements for facilities exiting RECLAIM and transitioning to a command and control regulatory structure. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
218	<b>Continuous Emission Monitoring</b> Amendments to Rule 218 may be needed for facilities exiting RECLAIM and transitioning to a command and control regulatory structure. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
218.1	<b>Continuous Emission Monitoring Performance Specifications</b> Amendments to Rule 218.1 may be needed for facilities exiting RECLAIM and transitioning to a command and control regulatory structure. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
223 <sup>+</sup>	<b>Emission Reduction Permits for Large Confined Animal Facilities</b> Proposed Amended Rule 223 will seek additional emission reductions from large confined animal facilities by lowering the applicability threshold. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP
224 <sup>+</sup>	<b>Incentives for Super-Compliant Technologies</b> Proposed Rule 224 will outline strategies and requirements to incentivize the development, establishment and use of super-compliant technologies. It may be considered as a part of Rule 219 amendments or proposed as a separate incentive rule. <i>Zorik Pirveysian 909.396.3421 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other



**2018 MASTER CALENDAR**  
**2018 To-Be-Determined (continued)**

<b>To-Be-Determined</b>	<b>Title and Description</b>	<b>Type of Rulemaking</b>
416*	<b>Odors from Kitchen Grease Processing</b> Proposed Rule 416 will reduce ambient odors created during kitchen grease processing operations. The proposed rule will establish best management practices, and examine enclosure requirements for wastewater treatment operations and filter cake storage. The proposed rule may also contain requirements for an Odor Mitigation Plan. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
429*+ #	<b>Start-Up and Shutdown Exemption Provisions for Oxides of Nitrogen</b> It may be necessary to amend Rule 429 to address start-up/shutdown provisions related to the transition of NO <sub>x</sub> RECLAIM to a command and control regulatory program and if U.S. EPA requires updates to such provisions. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
430*	<b>Breakdown Provisions</b> This rule will be amended or replaced to address specific issues raised by U.S. EPA regarding start-ups or shutdowns associated with breakdowns. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP
1106 1106.1*+	<b>Marine Coating Operations</b> <b>Pleasure Craft Coating Operations</b> Rule 1106.1 is proposed to be rescinded; Rule 1106 would subsume the requirements of Rule 1106.1, revise VOC content limits for several categories in order to align limits with U.S. EPA Control Techniques Guidelines and other California air districts, and add new categories for several categories. <i>Michael Krause 909.396.2706 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
1107+	<b>Coating of Metal Parts and Products</b> Potential amendments to Rule 1107 would further reduce VOC emissions and improve rule clarity and enforceability. <i>Michael Krause 909.396.2706 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP
1109*+ #	<b>Emissions of Oxides of Nitrogen from Boilers and Process Heaters in Petroleum Refineries</b> Amendments to Rule 1109 may be needed to establish BARCT emission limits for refineries that are exiting RECLAIM and subject to command and control rules. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP



**2018 MASTER CALENDAR**  
**2018 To-Be-Determined (continued)**

<b>To-Be-Determined</b>	<b>Title and Description</b>	<b>Type of Rulemaking</b>
1111.1 <sup>+</sup>	<b>Reduction of NOx Emissions from Natural Gas Fired Commercial Furnaces</b> Proposed Rule 1111.1 will establish equipment-specific NOx emission limits and other requirements for the operation of commercial space heaters. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
1113 <sup>+</sup>	<b>Architectural Coatings</b> Pursuant to guidance from the Stationary Source Committee, staff will amend to remove the tBAC exemption and is evaluating the impact from removing pCBtF as a VOC exempt compound. <i>Michael Krause 909.396.2706 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
1117* <sup>++</sup>	<b>Glass Melting Furnaces</b> Proposed amendments will control NOx emissions from glass melting furnaces. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP
1123* <sup>+</sup>	<b>Refinery Process Turnarounds</b> Proposed amendments will establish procedures that better quantify emission impacts from start-up, shutdown or turnaround activities. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP
1136* <sup>+</sup>	<b>Wood Products Coatings</b> Amendments may be proposed to existing rule limits and other provisions. <i>David De Boer 909.396.2329 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP
1450* <sup>+</sup>	<b>Control of Methylene Chloride Emissions</b> The proposed rule would reduce exposure to methylene chloride from furniture stripping, remove potential regulatory loopholes, achieve emission reductions where possible and cost effective, include reporting requirements, and improve consistency with other SCAQMD VOC rules. <i>David De Boer 909.396.2329 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Toxics
1142*	<b>Marine Tank Vessel Operations</b> Proposed revisions to Rule 1142 would address VOC emissions from marine tank vessel operations and provide clarifications. <i>David De Boer 909.396.2329 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
1147.1* <sup>++</sup>	<b>Large Miscellaneous Combustion</b> Rule 1147.1 will include large miscellaneous combustion sources currently at RECLAIM facilities. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other



**2018 MASTER CALENDAR**  
**2018 To-Be-Determined (continued)**

<b>To-Be-Determined</b>	<b>Title and Description</b>	<b>Type of Rulemaking</b>
1147.2*+ <sup>#</sup>	<b>Metal Melting and Heat Treating Furnaces</b> Proposed Rule 1147.2 will reduce NOx emissions from metal melting and heat treating furnaces. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP
1147.3*+ <sup>#</sup>	<b>Emission Reductions for Equipment at Aggregate Facilities</b> Proposed Rule 1147.3 will reduce NOx emissions from aggregate operations. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP
1148.1 1148.2	<b>Oil and Gas Production Wells</b> <b>Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers</b> Amendments to Rule 1148.2 may be needed to address community notification procedures, the inclusion of water injection wells, and potentially other measures based on an evaluation of information collected since the last rule adoption. <i>Jillian Wong 909.396.3176 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
1148.3*	<b>Requirements for Natural Gas Underground Storage Facilities</b> Proposed Rule 1148.3 will establish requirements to address public nuisance and VOC emissions from underground natural gas storage facilities. <i>Jillian Wong 909.396.3176 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
1150.1	<b>Control of Gaseous Emissions from Municipal Solid Waste Landfills</b> Proposed amendments will address U.S. EPA revisions to the New Source Performance Standards for Municipal Solid Waste Landfills and Existing Guidelines and Compliance Timelines for Municipal Solid Waste Landfills, as well as CARB GHG requirements. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
1151*+ <sup>#</sup>	<b>Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations</b> Pursuant to guidance from the Stationary Source Committee, staff will amend to remove the tBAC exemption and is evaluating the impact from removing pCBtF as a VOC exempt compound. <i>Michael Krause 909.396.2706 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
1153.1*+ <sup>#</sup>	<b>Emissions of Oxides of Nitrogen from Commercial Food Ovens</b> Rule 1153.1 was adopted in November 2014 and established NOx emission limits for various types of existing commercial food ovens on a specified compliance schedule. Amendments may be necessary to address applicability and technological feasibility of low-NOx burner technologies for new commercial food ovens. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other



**2018 MASTER CALENDAR**  
**2018 To-Be-Determined (continued)**

<b>To-Be-Determined</b>	<b>Title and Description</b>	<b>Type of Rulemaking</b>
1159.1*+ <sup>#</sup>	<b>Nitric Acid Units - Oxides of Nitrogen</b> Proposed Rule 1159.1 will address NOx emissions from processes using nitric acid and is needed as part of the transition of RECLAIM to command and control. <i>David De Boer 909.396.2329 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP
1173 <sup>+</sup>	<b>Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants</b> Proposed revisions to Rule 1173 are being considered based on recent U.S. EPA regulations and CARB oil and gas regulations. <i>Michael Krause 909.396.2706 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
1177 <sup>+</sup>	<b>Liquefied Petroleum Gas Transfer and Dispensing</b> Potential amendments may be proposed to include additional sources of emissions from the dispensing and transfer of LPG. <i>Michael Krause 909.396.2706 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP
1188 <sup>+</sup>	<b>VOC Reductions from Vacuum Trucks</b> The proposed rule will establish VOC emission standards and other requirements associated with the operation of vacuum trucks not covered by Rule 1149 – Storage Tank and Pipeline Cleaning and Degassing. <i>David De Boer 909.396.2329 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	AQMP
1190, 1191, 1192, 1193, 1194, 1195, 1196, & 1186.1* <sup>+</sup>	<b>Fleet Vehicle Requirements</b> Amendments to fleet rules may be necessary to improve rule implementation. In addition, the current fleet rules may be expanded to achieve additional air quality and air toxic emission reductions. <i>Zorik Pirveysian 909.396.2431 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other
1304.2*  1304.3*	<b>California Public Utilities Commission Regulated Electrical Local Publicly Owned Electrical Utility Fee for Use of SOx, PM10 and NOx Offsets</b> <b>Local Publicly Owned Electrical Generating Facility Fee for Use of SOx, PM10 and NOx Offsets</b> Proposed Rules 1304.2 and 1304.3 would allow new greenfield facilities and additions to existing electricity generating facilities (EGFs) conditional access to SCAQMD internal offset accounts for a fee, for subsequent funding of qualifying improvement projects consistent with the AQMP. <i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i>	Other  Other



**2018 MASTER CALENDAR**  
**2018 To-Be-Determined (continued)**

<b>To-Be-Determined</b>	<b>Title and Description</b>	<b>Type of Rulemaking</b>
1415 1415.1	<p><b>Reduction of Refrigerant Emissions from Stationary Air Conditioning Systems, and Reduction of Refrigerant Emissions from Stationary Refrigeration Systems</b></p> <p>Amendments will align with proposed CARB Refrigerant Management Program and U.S. EPA's Significant New Alternatives Policy Rule provisions relative to prohibitions on specific hydrofluorocarbons (HFCs).</p> <p><i>David De Boer 909.396.2329 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Other
1426*	<p><b>Emissions from Metal Finishing Operations</b></p> <p>Proposed amendments to Rule 1426 will establish requirements to reduce nickel, cadmium and other air toxics from plating operations.</p> <p><i>Jillian Wong 909.396.3176 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Toxics
1430	<p><b>Control of Emissions from Metal Grinding Operations at Metal Forging Facilities</b></p> <p>Proposed amendments to Rule 1430 may be needed related to reducing emissions from metal forging operations.</p> <p><i>Jillian Wong 909.396.3176 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Toxics
1445*	<p><b>Control of Toxic Emissions from Laser Arc Cutting</b></p> <p>Proposed Rule 1445 will establish requirements to reduce toxic metal particulate emissions from laser arc cutting.</p> <p><i>David De Boer 909.396.2329 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Toxics
1469.1*	<p><b>Spraying Operations Using Coatings Containing Chromium</b></p> <p>Proposed Amended Rule 1469.1 would establish additional requirements for facilities that are conducting spraying using chromium coatings to further reduce hexavalent chromium emissions.</p> <p><i>Jillian Wong 909.396.31 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Other
1470*	<p><b>Requirement for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines at Sensitive Receptors</b></p> <p>The proposal would address new and existing small (<math>\leq 50</math> brake horsepower) diesel engines located near sensitive receptors. Staff is also considering amendments to minimize use of stationary diesel back-up engines that may include use of alternative power sources that are less polluting.</p> <p><i>David De Boer 909.396.2329 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Toxics
1902	<p><b>Transportation Conformity</b></p> <p>Amendments to Rule 1902 may be necessary to align the rule with current U.S. EPA requirements.</p> <p><i>Ian MacMillan 909.396.3244 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Other



**2018 MASTER CALENDAR**  
**2018 To-Be-Determined (continued)**

<b>To-Be-Determined</b>	<b>Title and Description</b>	<b>Type of Rulemaking</b>
1905	<p><b>Pollution Controls for Automotive Tunnel Vents</b></p> <p>This proposed rule would address emissions from proposed roadway tunnel projects that could have air quality impacts.</p> <p><i>Ian MacMillan 909.396.3244 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Other
Reg. XVII	<p><b>Prevention of Significant Deterioration (PSD)</b></p> <p>Proposed amendments to Regulation XVII will align the SCAQMD's Prevention of Significant Deterioration program with federal requirements.</p> <p><i>CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Other
Reg. XX*+ #	<p><b>RECLAIM</b></p> <p>Amendments to rules within Regulation XX will be needed as facilities transition from RECLAIM to a command and control regulatory structure.</p> <p><i>Tracy Goss 909.396.3106 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	AQMP
Reg. XXIII	<p><b>Facility Based Mobile Sources</b></p> <p>Regulation XXIII would contain rules related to reducing emissions from mobile sources that visit certain types of facilities. Facility types could include commercial airports, marine ports, rail yards, warehouses, and new and development projects. Regulation XXIII may include other sources as identified in the 2016 AQMP.</p> <p><i>Ian MacMillan 909.396.3244 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	AQMP
Reg. XXV	<p><b>Intercredit Trading</b></p> <p>Regulation XXV will contain rules to allow generation of criteria pollutant Mobile Source Emission Reduction Credits (MSERCs) from various on-road and off-road sources, such as on-road heavy-duty trucks, off-road equipment, locomotives, and marine vessels. Credits will be generated by retrofitting existing engines or replacing the engines with new lower- emitting or zero-emission engines. The 2016 AQMP includes two measures that seek to accelerate early deployment of near-zero and zero emission on-road heavy-duty trucks and off-road equipment, through generation of MSERCs that could be used for purposes of recognizing mobile source emission reductions at facilities covered in the AQMP Facility-Based Measures.</p> <p><i>Zorik Pirveysian 909.396.2431 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	AQMP
Reg. XXVII	<p><b>Climate Change</b></p> <p>Changes may be needed to Regulation XXVII to add or update protocols for GHG reductions, and other changes.</p> <p><i>Zorik Pirveysian 909.396.2431 CEQA: Michael Krause 909.396.2706 and Socio: Jillian Wong 909.396.3176</i></p>	Other



**2018 MASTER CALENDAR**  
**2018 To-Be-Determined (continued)**

<b>To-Be-Determined</b>	<b>Title and Description</b>	<b>Type of Rulemaking</b>
Reg. II, IV, XI, XIV, XXX and XXXV, XXIV*+ #	Various rule amendments may be needed to meet the requirements of state and federal laws, implement OEHHA's 2015 revised risk assessment guidance, address variance issues/ technology-forcing limits, to abate a substantial endangerment to public health or welfare, address odor nuisance issues, air toxics, or to seek additional reductions to meet the SIP short-term measure commitment. The associated rule development or amendments include, but are not limited to, SCAQMD existing rules, and new or amended rules to implement the 2012 or 2016 AQMP measures. This includes measures in the 2010 Clean Communities Plan (CCP) or 2016 AQMP to reduce toxic air contaminants or reduce exposure to air toxics from stationary, mobile, and area sources. Rule amendments may include updates to provide consistency with CARB Statewide Air Toxic Control Measures or U.S. EPA's National Emission Standards for Hazardous Air Pollutants. Rule amendments, proposed new source-specific, or industry-specific rules within Regulation XI may be needed to meet the requirements of AB 617 and the 2016 AQMP commitment to transition the RECLAIM program to a command and control regulatory structure. Amendments to Regulation XIV may be needed for implementation of AB 617.	Other/AQMP



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 19

PROPOSAL: Report of RFQs Scheduled for Release in March

SYNOPSIS: This report summarizes the RFQs for budgeted services over \$75,000 scheduled to be released for advertisement for the month of March.

COMMITTEE: Administrative, February 9, 2018, Reviewed

RECOMMENDED ACTION:

Approve the release of RFQs for the month of March.

Wayne Natri  
Executive Officer

SJ:av

---

### **Background**

At its September 2015 meeting, the Board approved a revised Procurement Policy and Procedure. Under the revised policy, RFQs for budgeted items over \$75,000, which follow the Procurement Policy and Procedure, no longer require individual Board approval. However, a monthly report of all RFQs over \$75,000 is included as part of the Board agenda package and the Board may, if desired, take individual action on any item. The report provides the title and synopsis of the RFQ, the budgeted funds available, and the name of the Deputy Executive Officer/Asst. Deputy Executive Officer responsible for that item. Further detail including closing dates, contact information, and detailed proposal criteria will be available online at <http://www.aqmd.gov/grants-bids> following Board approval on March 2, 2018.

### **Outreach**

In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the RFQs 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 South Coast Basin.



Additionally, potential bidders may be notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the RFQs will be emailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at SCAQMD's website (<http://www.aqmd.gov>) where it can be viewed by making the selection "Grants & Bids."

**Proposal Evaluation**

Proposals received will be evaluated by applicable diverse panels of technically-qualified individuals familiar with the subject matter of the project or equipment and may include outside public sector, academic or community expertise.

**Attachment**

Report of RFQs Scheduled for Release in March 2018



**March 2, 2018 Board Meeting  
Report on RFQs Scheduled for Release on March 2, 2018**

(For detailed information visit SCAQMD's website at  
<http://www.aqmd.gov/grants-bids> following Board approval on March 2, 2018)

**REQUEST FOR QUOTATION**

RFQ #Q2018-14

Issue RFQ for Standard Task Chairs

JAIN/2804

SCAQMD will be purchasing bulk orders of the Standard Task Chair over the next two years to replace older and worn out staff chairs. SCAQMD intends to purchase standard task chairs from one vendor for a period of two years. Funds for the first year purchase are available in the FY 2017-18 Budget, and will be requested for the subsequent year's purchase under FY 2018-19.



BOARD MEETING DATE: March 2, 2018

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 SCAQMD operations. This action is to provide the monthly status report on major automation contracts and planned projects.

COMMITTEE: Administrative, February 9, 2018, Reviewed

RECOMMENDED ACTION:  
Receive and file.

Wayne Nastri  
Executive Officer

RMM:MAH:OSM:agg

---

### **Background**

Information Management (IM) provides a wide range of information systems and services in support of all SCAQMD operations. IM's primary goal is to provide automated tools and systems to implement Board-approved rules and regulations, and to improve internal efficiencies. The annual Budget specifies projects planned during the fiscal year to develop, acquire, enhance, or maintain mission-critical information systems.

### **Summary of Report**

The attached report identifies each of 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**  
**March 2, 2018 Board Meeting**  
**Information Management Status Report on Major Ongoing and**  
**Upcoming Projects During the Next Six Months**

<b>Project</b>	<b>Brief Description</b>	<b>Budget</b>	<b>Completed Actions</b>	<b>Upcoming Milestones</b>
Website Evaluation & Improvements	Conduct a detailed review of the SCAQMD website to identify improvements/enhancements that can further site usability and implement items approved by Administrative Committee; improvements include new custom Calendar and changes to navigation and content organization	\$121,895	<ul style="list-style-type: none"> <li>• Deployed new website</li> </ul>	<ul style="list-style-type: none"> <li>• Three months of site maintenance</li> </ul>
Implementation of Enterprise Geographic Information System (EGIS)	Support accomplishment of the agency's mission through the effective and cost-efficient implementation of EGIS and related technologies	\$173,255	<ul style="list-style-type: none"> <li>• Board approved purchase of recommended hardware and software</li> <li>• Formed SCAQMD EGIS Governance/Working Group</li> <li>• Created EGIS Governance/Working Group Charter</li> <li>• Created agency-wide catalog of GIS software and staff resources</li> <li>• Developed prioritized project list and schedule</li> </ul>	<ul style="list-style-type: none"> <li>• Continue implementation of the nine prioritized EGIS projects</li> </ul>







<b>Project</b>	<b>Brief Description</b>	<b>Budget</b>	<b>Completed Actions</b>	<b>Upcoming Milestones</b>
Permitting System Automation Phase 2	Enhanced Web application to automate permit application process for Registration Equipment, IC Engines, and Vapor Recovery systems; and implement electronic permit folder and workflow for internal SCAQMD users	\$610,000	<ul style="list-style-type: none"> <li>• Phase 2 task order issued and awarded</li> <li>• Board letter for contract amendment and project approved at December 2017 Board Meeting</li> </ul>	<ul style="list-style-type: none"> <li>• Start of Phase 2 development work scheduled for March 2018</li> </ul>
Information Technology Review	Secure independent firm to perform technology review to help determine opportunities for hardware, system, and software modernization	\$75,000	<ul style="list-style-type: none"> <li>• Work initiated September 2017</li> <li>• Presentation of Findings and Recommendations to Senior Management and Administrative Committee</li> <li>• Draft Findings report delivered</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation Planning</li> </ul>
Permit Application Status and Dashboard Statistics	New Web application to allow engineers to update intermediate status of applications; create dashboard display of status summary with link to FIND for external user review	\$100,000	<ul style="list-style-type: none"> <li>• Task order issued and awarded</li> <li>• Board letter for contract amendment and project approved at December Board Meeting</li> </ul>	<ul style="list-style-type: none"> <li>• Start of detailed project planning</li> </ul>
Agenda Tracking System Replacement	Replace aging custom agenda tracking system with state-of-the-art, cost-effective Enterprise Content Management (ECM) system, which is fully integrated with OnBase, SCAQMD's agency-wide ECM system	\$86,600	<ul style="list-style-type: none"> <li>• Released RFP December 4, 2015</li> <li>• Awarded contract April 1, 2016</li> </ul>	<ul style="list-style-type: none"> <li>• Continue parallel testing</li> <li>• Final acceptance to follow successful testing and training</li> </ul>



<b>Project</b>	<b>Brief Description</b>	<b>Budget</b>	<b>Completed Actions</b>	<b>Upcoming Milestones</b>
Air Quality Index Rewrite and Migration	Develop new Web Service and/or Web API to migrate Air Quality Index function from FORTRAN computer to STA's data management system	\$65,000	<ul style="list-style-type: none"> <li>• AQI Calculation Web Service and Hourly Update development work completed, staged and ready for deployment</li> <li>• Proposal for expanded scope for AQ-Spec</li> </ul>	<ul style="list-style-type: none"> <li>• Deployment pending final user buyoff</li> <li>• Task order approval and initiation of enhancement work</li> </ul>
Replace Your Ride	New Web application to allow residents to apply for incentives to purchase newer, less polluting vehicles	\$211,820	<ul style="list-style-type: none"> <li>• Phase 1 Applicant Filing and Case Manager processing module complete and deployed to production</li> <li>• User Acceptance Testing completed</li> </ul>	<ul style="list-style-type: none"> <li>• Phase 2 Finance and System Administration module deployment</li> </ul>
Fiber Cable Network Infrastructure Upgrade	Replace the existing fiber network cable infrastructure to support core computer networking (interconnect) in the agency; the Fiber Network Cable System will support higher bandwidth (min. 10 Gbps) from current (1 Gbps) to support increasing computing demands	\$311,202	<ul style="list-style-type: none"> <li>• Released RFP November 3, 2017</li> <li>• Awarded contract to Digital Networks Group, Inc.</li> </ul>	<ul style="list-style-type: none"> <li>• Install fiber cable April, 2018</li> </ul>
Prequalify Vendor List for PCs, Network Hardware, etc.	Establish list of prequalified vendors to provide customer, network, and printer hardware and software, and to purchase desktop computer hardware upgrades	\$195,000	<ul style="list-style-type: none"> <li>• Released RFQQ November 3, 2017</li> <li>• Approved vendor list on February 2, 2018</li> </ul>	



<b>Project</b>	<b>Brief Description</b>	<b>Budget</b>	<b>Completed Actions</b>	<b>Upcoming Milestones</b>
Renewal of HP Server Maintenance & Support	Purchase of maintenance and support services for servers and storage devices	\$120,000	<ul style="list-style-type: none"> <li>• HP server maintenance and support approved February 2, 2018</li> </ul>	<ul style="list-style-type: none"> <li>• Execute contract April 6, 2018</li> </ul>
Legal Division New System Development	Develop new web-based case management system for Legal Division to replace existing JWorks System	\$500,000		<ul style="list-style-type: none"> <li>• Board letter for Board consideration March 2, 2018</li> <li>• Task order issuance, evaluation and award</li> </ul>



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 21

REPORT: FY 2017-18 Contract Activity

SYNOPSIS: This report lists the number of contracts let during the first six months of FY 2017-18, the respective dollar amounts, award type, and the authorized contract signatory for the SCAQMD.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:  
Receive and file.

Wayne Nastri  
Executive Officer

SJ:DH:EA:av

---

### **Background**

The Board's Procurement Policy and Procedures requires staff to provide semi-annual reports to the Board on contract activity. This report identifies five categories of contract awards: 1) New Awards – new contracts for professional services and research projects; 2) Other – air monitoring station leases, Board Assistant agreements, or other miscellaneous agreements; 3) Sponsorships – contracts funding public events and technical conferences which provide air quality benefits; 4) Modifications – amendments to existing contracts usually reflecting changes in the project scope and/or schedule; 5) Terminated Contracts – Partial/No Work Performed – modifications to contracts to reflect termination of a portion or all of the work which result in de-obligation of contract funding. The report further specifies under New Awards, which contracts were awarded competitively and which were awarded on a sole-source basis. Within the first four categories, the level of approval (Board or Executive Officer) is indicated.

### **Summary**

The total value of all contracts and contract modifications for this period was \$69,524,950.32, with 100 contracts and contract modifications totaling \$67,717,453.10 (97%) approved by the Board and 148 contracts and contract modifications totaling



\$1,807,497.22 (3%) approved by the Executive Officer. This does not include contract modifications for termination with partial work or no work completed, which is addressed below. Of the 256 contracts and modifications (including terminations) issued during this period, New Awards accounted for 93, Other accounted for 23, Sponsorships accounted for 22, and Modifications accounted for 118. The total value for New Awards was \$63,194,069.81. Of this amount, \$59,862,293.00 or 95% was awarded through the competitive process. Board Member Assistant contracts, as approved by the Board's Administrative Committee, totalled \$862,225.56 (48%) representing 21 contracts and contract modifications; \$345,000 (19%) representing 7 new contracts awarded on a sole source and competitive basis in the areas of technical consulting and litigation/legal services; \$237,390.00 (13%) representing 28 contracts was for sponsorships and outreach events/services; \$68,849.85 (4%) representing 6 contracts was for miscellaneous goods and services; and \$294,031.00 (16%) representing 86 contracts was for contract modifications for extensions of time or additional budgeted services from previously approved vendors. Contract terminations with partial or no work completed numbered 8 during this period and de-obligated a total of \$537,720.18.

<b>CONTRACT CATEGORY</b>	<b>NUMBER</b>	<b>AMOUNT</b>
NEW AWARDS	93	\$63,194,069.81
OTHER	23	\$ 881,057.41
SPONSORSHIPS	22	\$ 139,285.00
MODIFICATIONS	110	\$ 5,340,538.10
TERMINATIONS	8	-\$ 537,720.18

#### **Attachment**

Contract Activity Report for the period July 1, 2017 through December 31, 2017.



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
<b>I. NEW AWARDS</b>							
<b>Competitive - Board Approved</b>							
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17111	32	REPOWER 1 MAIN ENGINE IN A MARINE VESSEL	CRAIG JACOBS	\$87,818.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17116	32	REPOWER 1 AUXILIARY ENGINE IN 1 MARINE VESSEL	SUNDIVER INTERNATIONAL, INC.	\$11,823.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17156	32	REPOWER TWO MAIN ENGINES OF A MARINE VESSEL	NEIL SPLONSKOWSKI	\$286,450.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17187	32	REPOWER 1 MAIN AND 1 AUXILIARY ENGINES OF A MARINE VESSEL	LOC DUY PHAM	\$152,150.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17206	32	REPLACEMENT OF 2 OFF-ROAD AGRICULTURAL EQUIPMENT	GENE RHEINGANS	\$364,927.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17235	32	REPLACE 1 OFF-ROAD AGRICULTURAL EQUIPMENT	TRIPLE B FARMS, INC	\$272,750.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17302	32	REPLACEMENT OF 1 AND REPOWER OF 2 OFF-ROAD EQUIPMENT	EARTH TEK ENGINEERING CORP.	\$261,654.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17307	32	REPOWER 1 ENGINE OF A MARINE VESSEL	DANIEL MELLO	\$56,048.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17321	32	REPOWER 1 MAIN ENGINE OF A MARINE VESSEL	MICHAEL M MARTIN	\$106,250.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17326	81	PROP 1B TRUCK REPLACEMENT PROGRAM	KEEP ON TRUCKING LLC	\$300,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17329	32	REPOWER OF 1 OFF-ROAD EQUIPMENT	TONY R CRISALLI, INC	\$104,197.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17332	32	REPLACEMENT OF 1 OFF-ROAD AGRICULTURAL EQUIPMENT	FRANK FIERRO	\$131,360.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17333	32	REPLACEMENT OF 1 OFF-ROAD AGRICULTURAL EQUIPMENT	JOSE RAMIREZ	\$283,592.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17337	27	LOW-EMISSION LEAF BLOWER EXCHANGE PROGRAM 2017	BLACK & DECKER (US) INC	\$147,200.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17338	27	LOW-EMISSION LEAF BLOWER EXCHANGE PROGRAM	PACIFIC STIHL	\$416,200.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17362	81	PROP 1B TRUCK REPLACEMENT PROGRAM	ANTHONY H. OSTERKAMP JR.	\$3,420,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17368	81	PROP 1B TRUCK REPLACEMENT PROGRAM	CR&R INCORPORATED	\$2,450,000.00	



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17371	81	PROP 1B TRUCK REPLACEMENT PROGRAM	INLINE DISTRIBUTING CO	\$760,000.00	
26	PLANNING RULE DEV & AREA SOURCES	C17372	15	AB2588 CONSULTANT ASSISTANCE	ALTA ENVIRONMENTAL LP	\$85,000.00	
26	PLANNING RULE DEV & AREA SOURCES	C17373	15	AB2588 CONSULTANT ASSISTANCE	ENVIRONMENTAL SCIENCE ASSOCIATES	\$85,000.00	
26	PLANNING RULE DEV & AREA SOURCES	C17374	15	AB2588 CONSULTANT ASSISTANCE	INTEGRA ENVIRONMENTAL CONSULTING, INC.	\$75,000.00	
26	PLANNING RULE DEV & AREA SOURCES	C17375	15	AB2588 CONSULTANT ASSISTANCE	DAVENPORT ENGINEERING, INC.	\$85,000.00	
26	PLANNING RULE DEV & AREA SOURCES	C17376	15	AB2588 CONSULTANT ASSISTANCE	TRINITY CONSULTANTS, INC	\$85,000.00	
26	PLANNING RULE DEV & AREA SOURCES	C17377	15	AB2588 CONSULTANT ASSISTANCE	YORKE ENGINEERING, LLC	\$85,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17379	81	PROP 1B TRUCK REPLACEMENT PROGRAM	FRESH LINK LOGISTICS LLC	\$140,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17381	81	PROP 1B TRUCK REPLACEMENT PROGRAM	GT CARRIERS, INC	\$65,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17382	81	PROP 1B TRUCK REPLACEMENT PROGRAM	WAYNE PERRY INC	\$40,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17384	81	PROP 1B TRUCK REPLACEMENT PROGRAM	CROWN XPRESS TRANSPORT	\$130,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17403	81	PROP 1B TRUCK REPLACEMENT PROGRAM	FENCECORP, INC.	\$800,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17404	81	PROP 1B TRUCK REPLACEMENT PROGRAM	FENCE WORKS INC.	\$280,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18019	31	TECHNICAL ASSISTANCE WITH HEAVY-DUTY VEHICLE EMISSION TESTING, ANALYSES AND ENGINE DEVELOPMENT AND APPLICATIONS	RICARDO INC	\$50,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18020	81	PROP 1B TRUCK REPLACEMENT PROGRAM	UNITED PARCEL SERVICE, INC	\$14,900,000.00	
17	CLERK OF THE BOARD	C18024	01	LEGAL REPRESENTATION FOR THE HEARING BOARD	STRUMWASSER & WOOCHEER LLP	\$45,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18033	81	PROP 1B TRUCK REPLACEMENT PROGRAM	ROBERTSON'S READY MIX	\$9,300,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18037	81	PROP 1B TRUCK REPLACEMENT PROGRAM - OPERATION ONLY	FLOUR TRANSPORT INC	\$0.00	1



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18041	59	VIP PROGRAM APPROVED DISMANTLER	JAPANESE UNIQUE TRUCKS	\$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18042	59	VIP PROGRAM APPROVED DEALERSHIP	PORTSIDE USED TRUCK SALES INC	\$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18043	32	REPOWER 1 MAIN & 1 AUX ENGINE OF MARINE VESSEL - OPERATION ONLY	SEAWAVE CORPORATION	\$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18068	32	REPOWER 1 ENGINE OF MARINE VESSEL - OPERATION ONLY	ERIC F SMITH	\$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18070	81	PROP 1B TRUCK REPLACEMENT PROGRAM	SUPERIOR READY MIX CONCRETE, L.P.	\$15,300,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18071	81	PROP 1B TRUCK REPLACEMENT PROGRAM	OVERSEAS FREIGHT, INC.	\$2,300,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18074	32	REPOWER OF 1 MAIN ENGINE OF MARINE VESSEL - OPERATION ONLY	GIACOMO F. DAMATO	\$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18080	81	PROP 1B TRUCK REPLACEMENT PROGRAM	SPRAGUES' ROCK AND SAND CO.	\$100,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18081	81	PROP 1B CARGO HANDLING EQUIPMENT REPLACEMENT PROJECTS	DARGUS LEASING CORP.	\$200,000.00	
16	ADMINISTRATIVE & HUMAN RESOURCES	C18085	01	INSURANCE BROKERAGE SERVICES	ALLIANT INSURANCE SERVICES INC	\$149,950.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18091	81	PROP 1B TRUCK AND TRU REPLACEMENT AND INFRASTRUCTURE PROJECTS	GELSON'S MARKETS	\$587,000.00	
08	LEGAL	C18104	01	PROVIDE EMPLOYMENT AND LABOR LAW SERVICES	FISHER & PHILLIPS, LLP	\$50,000.00	
08	LEGAL	C18114	01	PROVIDE ENVIRONMENTAL LAW SERVICES	WOODRUFF SPRADLIN & SMART	\$175,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18137	01	SACRAMENTO LEGISLTATIVE REPRESENTATION	THE QUINTANA CRUZ COMPANY LLC	\$103,500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18138	01	SACRAMENTO LEGISLATIVE REPRESENTATION	CALIFORNIA ADVISORS LLC	\$103,500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18139	01	SACRAMENTO LEGISLATIVE REPRESENTATION	JOE A GONSALVES & SON	\$143,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G17298	80	REPLACE 8 CNG TANKS ON SCHOOL BUSES	BELLFLOWER UNIFIED SCHOOL DISTRICT	\$160,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G17300	80	REPLACEMENT OF 4 CNG TANKS ON SCHOOL BUSES	MONTEBELLO UNIFIED SCHOOL DISTRICT	\$80,000.00	



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G17360	80	REPLACE 7 CNG TANKS ON SCHOOL BUSES	JURUPA UNIFIED SCHOOL DISTRICT	\$140,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G17361	80	REPLACE 2 CNG TANKS ON SCHOOL BUSES	CHINO VALLEY UNIFIED SCHOOL DISTRICT	\$40,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G18023	80	REPLACE 2 CNG TANKS ON SCHOOL BUSES	FULLERTON JOINT UNION HIGH SCHOOL DIST	\$40,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G18044	32	PURCHASE 8 LPG SCHOOL BUSES WITH FIRE SUPPRESSANT SYSTEMS	LOS ANGELES UNIFIED SCHOOL DISTRICT	\$1,036,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G18046	80	PURCHASE 2 ELECTRIC SCHOOL BUSES WITH ASSOCIATED INFRASTRUCTURE	ANAHEIM ELEMENTARY SCHOOL DISTRICT	\$536,000.00	
44	MSRC	ML14060	23	INSTALLATION OF EV CHARGING STATIONS	COUNTY OF LOS ANGELES	\$104,400.00	
44	MSRC	MS16110	23	EXPAND EXISTING NATURAL GAS FUELING STATIONS AND MODIFY MAINTENANCE FACILITY	CITY OF RIVERSIDE	\$300,000.00	
44	MSRC	MS16121	23	PURCHASE 40 HEAVY-DUTY NEAR-ZERO VEHICLES	LONG BEACH TRANSIT	\$600,000.00	
44	MSRC	MS18001	23	IMPLEMENT TRANSIT SERVICE TO DODGER STADIUM	LOS ANGELES COUNTY METROPOLITAN	\$771,855.00	
44	MSRC	MS18004	23	IMPLEMENT SPECIAL TRAIN SERVICE TO ANGEL STADIUM	ORANGE CO TRANSPORTATION AUTHORITY	\$503,272.00	
44	MSRC	MS18006	23	IMPLEMENT ANAHEIM CIRCULATOR SERVICE	ANAHEIM TRANSPORTATION NETWORK	\$219,564.00	
44	MSRC	MS18007	23	TECHNICAL ADVISOR FOR MSRC	RAYMOND GORSKI	\$350,000.00	
						<b>Subtotal</b>	<b>\$59,955,460.00</b>
<b>Competitive-Executive Officer Approved</b>							
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18075	01	LEASE 2 CHEVROLET BOLTS	SELMAN CHEVROLET COMPANY	\$26,823.00	
						<b>Subtotal</b>	<b>\$26,823.00</b>
<b>Sole Source - Board Approved</b>							
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17029	31	DEMONSTRATION AND EVALUATION OF PLUG-IN SMART CHARGING AT MULTIPLE ELECTRIC GRID SCALES	UNIVERSITY OF CALIFORNIA - IRVINE	\$250,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17276	31	DEVELOPMENT OF ECO-ITS STRATEGIES FOR CARGO CONTAINERS	UNIVERSITY OF CALIFORNIA RIVERSIDE	\$543,000.00	



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17277	31	CONDUCT MARKET ANALYSIS FOR ZERO-EMISSION HEAVY-DUTY TRUCKS IN GOODS MOVEMENT	UNIVERSITY OF SOUTHERN CALIFORNIA	\$350,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17278	31	TO DEVELOP FREIGHT LOADING STRATEGIES FOR ZERO-EMISSION HEAVY-DUTY TRUCKS IN GOODS MOVEMENT	UNIVERSITY OF SOUTHERN CALIFORNIA	\$200,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17331	31	CONDUCT IN-USE PARTICULATE MATTER EMISSIONS STUDY FOR GASOLINE DIRECT INJECTION ENGINES	UNIVERSITY OF CALIFORNIA RIVERSIDE	\$222,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17345	75	INSTALLATION OF AIR FILTRATION SYSTEMS	IQAIR NORTH AMERICA, INC.	\$593,750.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17349	31	ESTABLISH RENEWABLE NATURAL GAS CENTER	UNIVERSITY OF CALIFORNIA RIVERSIDE	\$100,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17352	31	DEVELOP AND DEMONSTRATE VESSEL PERFORMANCE MANAGEMENT SOFTWARE & EQUIPMENT	CA STATE UNIVERSITY, MARITIME ACADEMY	\$50,086.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17394	31	PROVIDE ANALYSIS OF RENEWABLE HYDROGEN PATHWAYS, ECONOMICS AND INCENTIVES	ENERGY INDEPENDENCE NOW COALITION	\$25,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18089	75	INSTALLATION OF AIR FILTRATION SYSTEMS AT SCHOOLS	IQAIR NORTH AMERICA, INC.	\$285,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18090	31	SECONDARY ORGANIC AEROSOL (SOA) FORMATION FROM HEAVY-DUTY DIESEL AND NATURAL GAS VEHICLES	UNIVERSITY OF CALIFORNIA RIVERSIDE	\$85,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18097	75	INSTALLATION OF AIR FILTRATION SYSTEMS AT SCHOOLS	IQAIR NORTH AMERICA, INC.	\$25,650.00	
<b>Subtotal</b>						<b>\$2,729,486.00</b>	
<b>Sole Source - Executive Officer Approved</b>							
16	ADMINISTRATIVE & HUMAN RESOURCES	C17350	01	HUMAN RESOURCES CONSULTING	SHAW HR CONSULTING, INC.	\$10,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C17391	01	PUBLICATION OF A FOUR-PAGE BROADSHEET FULL-COLOR NEWSPAPER WRAP	LOS ANGELES SENTINEL, INC	\$50,000.00	
08	LEGAL	C17407	01	LEGAL ADVICE REGARDING THE CALIFORNIA COASTAL ACT AND RELATED MATTERS AS WELL AS REPRESENTATION OF THE SCAQMD BEFORE THE CALIFORNIA COASTAL COMMISSION	GAINES & STACEY, LLP	\$10,000.00	



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
16	ADMINISTRATIVE & HUMAN RESOURCES	C18021	01	WEST INLAND EMPIRE EMPLOYMENT RELATIONS CONSORTIUM	LIEBERT CASSIDY WHITMORE	\$4,195.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18032	01	PROVIDE VENUE AND CATERING SERVICES FOR 2018 MARTIN LUTHER KING DAY OF SERVICE FORUM	LEVY PREMIUM FOODSERVICE PARTNERSHIP	\$27,000.00	
16	ADMINISTRATIVE & HUMAN RESOURCES	C18035	01	COUNSEL: LIABILITY LITIGATION	DUNBAR & ASSOCIATES, A PROFESSIONAL LAW	\$25,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18064	01	CALIFORNIA LEGISLATIVE LATINO CAUCUS OUTREACH	LEE ANDREWS GROUP INC	\$75,000.00	
16	ADMINISTRATIVE & HUMAN RESOURCES	C18066	01	HUMAN RESOURCES TEST RENTAL	CPS HUMAN RESOURCE CONSULTING	\$5,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18076	01	PUBLIC OPINION RESEARCH	FAIRBANK MASLIN MAULLIN & ASSOCIATES	\$75,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18101	01	DR. MARTIN LUTHER KING JR. DAY OF PUBLIC SERVICE	LEE ANDREWS GROUP INC	\$75,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18130	01	EMCEE SERVICES FOR SCAQMD ENVIRONMENTAL CONFERENCE	THE COACHING FACTORY LLC	\$1,500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18131	01	PROVIDE SCAQMD ENVIRONMENTAL CONFERENCE PANELIST SERVICES	HIP HOP CAUCUS EDUCATION FUND, INC.	\$1,200.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18132	01	2018 CESAR CHAVEZ DAY EVENT	LEE ANDREWS GROUP INC	\$75,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18142	01	2018 REV. MARTIN LUTHER KING, JR. DAY OF SERVICE FORUM MUSIC SERVICES	GREGORY JONES	\$1,500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18143	01	2018 REV. MARTIN LUTHER KING, JR. DAY OF SERVICE FORUM VENUE AND CATERING	RUNWAY TWO-FIVE CORPORATION	\$16,905.81	
<b>Subtotal</b>						<b>\$452,300.81</b>	

**II. OTHER**

**Board Assistant**

**Board Administrative Committee Reviewed/Executive Officer Approved**

02	GOVERNING BOARD	C18000	01	BOARD ASSISTANT SERVICES FOR DR. WILLIAM BURKE	P & L CONSULTING, LLC	\$118,872.00	
02	GOVERNING BOARD	C18004	01	BOARD ASSISTANT SERVICES FOR BEN BENOIT	RUTHANNE TAYLOR BERGER	\$86,000.00	
02	GOVERNING BOARD	C18005	01	BOARD ASSISTANT SERVICES FOR DR. JOSEPH LYOU	MARK ABRAMOWITZ	\$42,966.00	
02	GOVERNING BOARD	C18006	01	BOARD ASSISTANT SERVICES FOR MARION ASHLEY	BUFORD A CRITES	\$39,624.00	



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
02	GOVERNING BOARD	C18007	01	BOARD ASSISTANT SERVICES FOR JOE BUSCAINO	JACOB LEE HAIK	\$62,109.00	
02	GOVERNING BOARD	C18008	01	BOARD ASSISTANT SERVICES FOR SHAWN NELSON	INFRASTRUCTURE GROUP, INC	\$48,872.00	
02	GOVERNING BOARD	C18009	01	BOARD ASSISTANT SERVICES FOR DR. CLARK E. PARKER	MARIA INIGUEZ	\$38,750.00	
02	GOVERNING BOARD	C18010	01	BOARD ASSISTANT SERVICES FOR DR. JOSEPH LYOU	NICOLE NISHIMURA	\$38,997.00	
02	GOVERNING BOARD	C18011	01	BOARD ASSISTANT SERVICES FOR JUDY MITCHELL	MARISA KRISTINE PEREZ	\$63,589.00	
02	GOVERNING BOARD	C18012	01	BOARD ASSISTANT SERVICES FOR JANICE RUTHERFORD	COUNTY OF SAN BERNARDINO	\$63,636.00	
02	GOVERNING BOARD	C18013	01	BOARD ASSISTANT SERVICES FOR LARRY MCCALLON	RONALD KETCHAM	\$39,040.56	
02	GOVERNING BOARD	C18014	01	BOARD ASSISTANT SERVICES FOR DWIGHT ROBINSON	MATTHEW AUGUST HOLDER	\$39,624.00	
02	GOVERNING BOARD	C18015	01	BOARD ASSISTANT SERVICES FOR BEN BENOIT	CITY OF WILDOMAR	\$32,872.00	
02	GOVERNING BOARD	C18016	01	BOARD ASSISTANT SERVICES FOR JANICE RUTHERFORD	COUNTY OF SAN BERNARDINO	\$0.00	1
02	GOVERNING BOARD	C18017	01	BOARD ASSISTANT SERVICES FOR SHEILA KUEHL	DIANE MOSS	\$65,163.00	
02	GOVERNING BOARD	C18025	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	DAVID CZAMANSKE	\$8,400.00	
02	GOVERNING BOARD	C18026	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	JAMES GLEN DUNCAN	\$8,484.00	
02	GOVERNING BOARD	C18028	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	SHO TAY	\$4,800.00	
02	GOVERNING BOARD	C18029	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	BENJAMIN S WONG	\$5,250.00	
02	GOVERNING BOARD	C18079	01	BOARD ASSISTANT SERVICES FOR DR. CLARK E. PARKER	KANA MIYAMOTO	\$41,177.00	
<b>Subtotal</b>						<b>\$848,225.56</b>	
<b>Other - Executive Officer Approved</b>							
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17385	01	LEASE 2017 HONDA CLARITY VEHICLES	AMERICAN HONDA MOTOR COMPANY INC	\$17,303.85	
16	ADMINISTRATIVE & HUMAN RESOURCES	C18002	01	LICENSE AGREEMENT FOR AIR MONITORING STATION IN COMPTON	TERESA CARTER	\$1,200.00	



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
16	ADMINISTRATIVE & HUMAN RESOURCES	C18128	01	LICENSE AGREEMENT FOR AIR MONITORING STATION IN PARAMOUNT	MOBILE RELAY ASSOCIATES	\$14,328.00	
<b>Subtotal</b>						<b>\$32,831.85</b>	
<b>III. SPONSORSHIPS</b>							
<b>Sponsorship -Executive Officer Approved</b>							
35	LEGISLATIVE & PUBLIC AFFAIRS	C17392	01	COSPONSOR 41ST ASSEMBLY DISTRICT COMMUNITY RESOURCE FAIR AND BLOCK PARTY	FLINTRIDGE CENTER	\$2,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18001	01	COSPONSOR LGC SPONSORSHIP EVENTS IN 2018	LOCAL GOVERNMENT COMMISSION	\$10,000.00	
49	SCIENCE & TECHNOLOGY ADVANCEMENT	C18003	01	COSPONSOR 2017 LOS ANGELES ENVIRONMENTAL FORUM	SOUTHERN CALIFORNIA CHINESE-AMERICAN	\$2,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18030	01	COSPONSOR 2017 SANTA MONICA ALTCAR EXPO & CONFERENCE	PLATIA PRODUCTIONS	\$20,785.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18036	01	COSPONSOR 2017 CLEAN AIR CAR SHOW AND GREEN LIVING EXPO	CITY OF SOUTH PASADENA	\$3,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18039	01	COSPONSOR THE 2017 WOMEN IN GREEN FORUM	THREE SQUARES INC.	\$10,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18040	01	COSPONSOR THE LEGACY CONTINUES: BLACK TIE GALA	THE CALIFORNIA LEGISLATIVE BLACK CAUCUS	\$10,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18045	01	COSPONSOR 2ND ANNUAL SOUTH LOS ANGELES YOUTH SUSTAINABILITY AND EMPOWERMENT SUMMIT	CALIFORNIA GREENWORKS, INC.	\$1,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18069	01	COSPONSOR THE LOS ANGELES NATIONAL DRIVE ELECTRIC WEEK 2017	PLUG IN AMERICA	\$1,500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18077	01	COSPONOR LUNG FORCE WALK	AMERICAN LUNG ASSOCIATION	\$5,000.00	
50	ENGINEERING AND PERMITTING	C18078	01	COSPONSORSHIP OF THE A&WMA 2017 AIR QUALITY MEASUREMENT METHODS AND TECHNOLOGY CONFERENCE	AIR & WASTE MANAGEMENT ASSOCIATION	\$3,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18087	01	COSPONSOR WATERFEST 2017 EVENT	UPPER SAN GABRIEL VALLEY MUNICIPAL	\$500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18088	01	COSPONSOR RENDEVOUS TO ROUTE 66 EVENT	SAN BERNARDINO AREA CHAMBER OF COMMERCE	\$3,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18092	01	COSPONSOR THE CALETC 2017 LOS ANGELES AUTO SHOW EVENTS	CALIFORNIA ELECTRIC TRANSP. COALITION	\$8,500.00	



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
35	LEGISLATIVE & PUBLIC AFFAIRS	C18099	01	COSPONSOR 8TH ENVIRONMENTAL HEALTH LEADERSHIP SUMMIT	COMITE CIVICO DEL VALLE, INC	\$2,500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18100	01	COSPONSOR CALIFORNIA AIR RESOURCES BOARD LUNCHEON EVENT	GREATER RIVERSIDE CHAMBERS OF COMMERCE	\$5,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18120	01	COSPONSOR THE SOUTHERN CALIFORNIA ENERGY WATER + GREEN LIVING 2018 SUMMIT	BURKE RIX COMMUNICATIONS, LLC	\$5,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18123	01	COSPONSOR CAL STATE SAN MARCOS 2017 QUALITY SYMPOSIUM	CALIFORNIA STATE UNIVERSITY SAN MARCOS	\$5,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18125	01	COSPONSOR 2018 SBCCOG GENERAL ASSEMBLY	SOUTH BAY CITIES	\$2,500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18126	01	COSPONSOR PIONEER OF AFRICAN AMERICAN ACHIEVEMENT AWARD DINNER	LOS ANGELES BROTHERHOOD CRUSADE	\$6,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C18133	01	COSPONSOR CHBC'S HYDROGEN AND FUEL CELLS IN THE PORTS BRIEFING	CALIFORNIA HYDROGEN BUSINESS COUNCIL	\$2,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17401	01	CO-SPONSOR THE ASILOMAR 2017 CONFERENCE ON TRANSPORTATION & ENERGY POLICY	UNIVERSITY OF CALIFORNIA-DAVIS	\$30,000.00	
<b>Subtotal</b>						<b>\$139,285.00</b>	
<b>IV. MODIFICATIONS</b>							
<b>Board Approved</b>							
08	LEGAL	C10052	01	PROVIDE EMPLOYEE RELATIONS LITIGATION SERVICES	LIEBERT CASSIDY WHITMORE	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14027	58	COACHELLA VALLEY WEATHERIZATION PROJECT	QUALITY INTERIORS, INC.	\$21,308.10	
04	FINANCE	C14150	57	CITY OF EL MONTE LAMBERT PARK PROJECT	CITY OF EL MONTE	\$11,298.00	
08	LEGAL	C14191	01	PROVIDE LEGAL SERVICES CONCERNING EXIDE BANKRUPTCY PROCEEDINGS	KLEE, TUCHIN, BOGDANOFF & STERN LLP	\$75,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14219	31	UPGRADE CNG STATION AT CITY YARD	CITY OF WEST COVINA	\$0.00	11
27	INFORMATION MANAGEMENT	C15446	01	SHORT AND LONG-TERM SYSTEMS DEVELOPMENT, MAINTENANCE AND SUPPORT SERVICES	SIERRA CYBERNETICS INC	\$220,000.00	
27	INFORMATION MANAGEMENT	C15468	01	SHORT AND LONG-TERM SYSTEMS DEVELOPMENT, MAINTENANCE AND SUPPORT SERVICES	VARUN ETECHNOLOGIES GROUP, INC	\$350,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C15541	56	ENHANCED FLEET MODERNIZATION PROGRAM	FOUNDATION FOR CALIF COMMUNITY COLLEGES	\$200,000.00	



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C15586	56	ENHANCED FLEET MODERNIZATION PROGRAM	OPUS INSPECTION INC	\$200,000.00	
27	INFORMATION MANAGEMENT	C15587	01	SHORT AND LONG-TERM SYSTEMS DEVELOPMENT, MAINTENANCE AND SUPPORT SERVICES	PRELUDE SYSTEMS, INC.	\$145,000.00	
20	MEDIA OFFICE	C16190	46	GOOGLE AD CAMPAIGN	GOOGLE, INC	\$250,000.00	
20	MEDIA OFFICE	C16190	01	GOOGLE AD CAMPAIGN	GOOGLE, INC	\$250,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C16205	31	DEVELOP, INTEGRATE & DEMO ULTRA-LOW EMISSION 12L NATURAL GAS ENGINES FOR ON-ROAD HEAVY-DUTY VEHICLES	CUMMINS WESTPORT INC	\$2,500,000.00	
20	MEDIA OFFICE	C17023	36	MEDIA, ADVERTISING AND PUBLIC OUTREACH CAMPAIGN FOR CHECK BEFORE YOU BURN PROGRAM	WESTBOUND COMMUNICATIONS INC	\$246,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17097	31	TECHNICAL ASSISTANCE WITH ALTERNATIVE FUELS AND FUELING INFRASTRUCTURE, EMISSIONS ANALYSIS AND ON-ROAD SOURCES	GLADSTEIN, NEANDROSS & ASSOCIATES	\$50,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17169	32,17	REPOWER 2 MAIN ENGINES ON A MARINE VESSEL	MATTHEW POTTER	\$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17212	32	REPLACEMENT OF 2 OFF-ROAD AGRICULTURAL EQUIPMENT	ORGANIC DEPOT LLC	\$0.00	4
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17230	32	REPLACEMENT OF 3 OFF-ROAD AGRICULTURAL EQUIPMENT	MARVO HOLSTEINS	\$115,003.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17255	32	REPLACE 6 OFF-ROAD AGRICULTURAL VEHICLES	AMAZING COACHELLA INC	\$222,995.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17358	31	TECHNICAL ASSISTANCE WITH HEAVY-DUTY VEHICLE EMISSIONS TESTING, ANALYSES & ENGINE DEVELOPMENT	AEE SOLUTIONS LLC	\$50,000.00	
44	MSRC	MS14059	23	SIGNAL SYNCHRONIZATION PARTNERSHIP PROGRAM	RIVERSIDE COUNTY TRANSPORTATION COMM	\$0.00	11
44	MSRC	MS16030	23	PROGRAMMATIC OUTREACH SERVICES ON BEHALF OF THE MSRC	THE BETTER WORLD GROUP, INC	\$125,903.00	
44	MSRC	MS16120	23	PURCHASE 39 AND REPOWER 24 NEAR-ZERO CNG VEHICLES	OMNITRANS	\$0.00	11
<b>Subtotal</b>						<b>\$5,032,507.10</b>	



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
<b>Board Assistant</b>							
<b>Board Administrative Committee Reviewed/Executive Officer Approved</b>							
02	GOVERNING BOARD	C18079	01	BOARD ASSISTANT SERVICES FOR DR. CLARK E. PARKER	KANA MIYAMOTO	\$14,000.00	
<b>Subtotal</b>						<b>\$14,000.00</b>	
<b>Executive Officer Approved</b>							
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C08063	31	DEVELOP AND DEMONSTRATION OF 20 PLUG-IN HYBRID ELECTRIC VEHICLES	QUANTUM FUEL SYSTEMS LLC	\$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C09430	59	VOUCHER INCENTIVE PROGRAM	PICK YOUR PART AUTO WRECKING	\$0.00	6
08	LEGAL	C10060	01	PROVIDE EMPLOYEE LITIGATION SERVICES	WILEY PRICE & RADULOVICH	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C10722	01	RE-ESTABLISH TESTING FACILITY & QUANTIFY PM EMISSION REDUCTIONS FROM CHARBROILING OPERATIONS	UNIVERSITY OF CALIFORNIA, RIVERSIDE	\$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C11607	01	NATURAL GAS PURCHASE AGREEMENT	STATE OF CALIFORNIA	\$27,000.00	
26	PLANNING RULE DEV & AREA SOURCES	C11613	49	GREENHOUSE REDUCTION PROJECT	LOS ANGELES CONSERVATION CORPS	\$0.00	6
08	LEGAL	C12702	01	LEGAL ADVICE FOR LAWSUITS AND ADMINISTRATIVE PROCEEDINGS	SHUTE MIHALY & WEINBERGER LLP	\$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12871	81	PROP 1B TRUCK REPLACEMENT PROGRAM	KEENEY TRUCK LINES, INC.	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13056	27	INSTALLATION OF UP TO 2MW SOLAR PV, UP TO 2MWh OF LITHIUM BATTERY STORAGE SYSTEMS AND ELECTRIC TROLLEY	UNIVERSITY OF CALIFORNIA RIVERSIDE	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13058	31	DEVELOPMENT OF MICROTURBINE SERIES HYBRID SYSTEM FOR CLASS 7 HEAVY-DUTY VEHICLE APPLICATION	CAPSTONE TURBINE CORPORATION	\$0.00	6
08	LEGAL	C13060	01	LITIGATION COUNSEL	PAUL HASTINGS LLP	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13417	58	PURCHASE 15 NATURAL GAS VEHICLES AND UPGRADE EXISTING CNG FUELING STATION	CITY OF DESERT HOT SPRINGS	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13425	58	TRAFFIC SIGNAL SYNCHRONIZATION PROJECT	CITY OF COACHELLA	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13431	27	DEMONSTRATE STAGED COMBUSTION HYDROGEN ASSISTED EMISSION CONTROL SYSTEM	GAS TECHNOLOGY INSTITUTE	\$0.00	6



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13433	31,61	DEVELOP AND DEMONSTRATE TWO CLAS 8 ZERO-EMISSION ELECTRIC TRUCKS	US HYBRID CORPORATION	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13441	80	REPLACE UP TO 20 DIESEL LOCOMOTIVES	SO CALIFORNIA REGIONAL RAIL AUTHORITY	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14031	58	INSTALLATION OF SOLAR PHOTOVOLTAIC GROUND MOUNT SYSTEM	PALM SPRINGS UNIFIED SCHOOL DISTRICT	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14035	58	INSTALLATION OF SOLAR PHOTOVOLTAIC GROUND MOUNT SYSTEM	MISSION SPRINGS WATER DISTRICT	\$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14037	58	INSTALLATION OF SOLAR PHOTOVOLTAIC ROOF AND PARKING CANOPY SYSTEM	CITY OF PALM SPRINGS	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14039	58	MITIGATION FEE EMISSION REDUCTION PROJECT TO CONSTRUCT NEW CNG STATION	COACHELLA VALLEY UNIFIED SCHOOL DISTRICT	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14042	58	CONSTRUCT NEW CNG STATION, PROCURE VEHICLES, AND INSTALL SOLAR PV PARKING CANOPY SYSTEM	CITY OF COACHELLA	\$0.00	6
08	LEGAL	C14191	01	PROVIDE LEGAL SERVICES CONCERNING EXIDE BANKRUPTCY PROCEEDINGS	KLEE, TUCHIN, BOGDANOFF & STERN LLP	\$25,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14193	58	WEATHERIZATION PROPERTY INSPECTIONS	KLIEWER & ASSOCIATES	\$0.00	6
08	LEGAL	C14681	01	OFFICE OF GENERAL COUNSEL CASE MANAGEMENT SYSTEM	COURTVIEW JUSTICE SOLUTIONS, INC	\$27,155.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14684	31	CONDUCT HYDROGEN STATION SITE EVALUATIONS FOR SITE CERTIFICATION FOR COMMERCIAL SALE OF HYDROGEN	CALIFORNIA DEPARTMENT OF FOOD & AGRIC.	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C15366	31	LICENSE AGREEMENT FOR HYDROGEN FUELING	ENGINEERING, PROCUREMENT & CONSTRUCTION	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C15382	31	INSTALL ELECTRIC CHARGING INFRASTRUCTURE	CHARGEPOINT, INC	\$0.00	6
27	INFORMATION MANAGEMENT	C15446	01	SHORT AND LONG-TERM SYSTEMS DEVELOPMENT, MAINTENANCE AND SUPPORT SERVICES	SIERRA CYBERNETICS INC	\$0.00	6
08	LEGAL	C15485	01	OUTSIDE COUNSEL - CONFLICT OF INTEREST	OLSON, HAGEL & FISHBURN LLP	\$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C15503		CAFETERIA SERVICES AT SCAQMD HEADQUARTERS	CALIFORNIA DINING SERVICES	\$0.00	6



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

<b>DEPT ID</b>	<b>DEPT NAME</b>	<b>CONTRACT NUMBER</b>	<b>FUND CODE</b>	<b>DESCRIPTION</b>	<b>VENDOR NAME</b>	<b>CONTRACT AMOUNT</b>	<b>FOOT NOTE</b>
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C15636	31	EVALUATE PEV UTILIZATION THROUGH ADVANCED CHARGING STRATEGIES IN A SMART GRID SYSTEM	UNIVERSITY OF CALIFORNIA RIVERSIDE	\$0.00	6
08	LEGAL	C15658	01	PROVIDE EXPERTING CONSULTING SERVICES WITH REGARD TO TESORO REFINERY PROJECT	PETROTECH CONSULTANTS LLC	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C15680	01	DEVELOP A DETAILED TECHNOLOGY AND ECONOMICS BASED ROADMAP FOR THE ADOPTION OF ADVANCED COMMERCIAL VEHICLE TECHNOLOGIES TO REDUCE NITROGEN OXIDES (NOx) AND GREENHOUSE GAS (GHG) EMISSIONS THROUGH 2050 WITH EMPHASIS ON THE YEARS 2023 AND 2032.	NATIONAL RENEWABLE ENERGY LAB	\$20,000.00	
26	PLANNING RULE DEV & AREA SOURCES	C16033	01	EVALUATION OF POTENTIAL HEALTH EFFECTS FROM AIR POLLUTION	JOHN R FROINES	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C16046	61,31	ZECT - DEVELOP 2 CLASS 8 PLUG-IN HYBRID ELECTRIC TRUCKS WITH ZERO EMISSION	TRANSPORTATION POWER, INC.	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C16047	31,61	ZECT - DEVELOP AND DEMONSTRATE THREE CLASS 8 LNG PLUG-IN HYBRID ELECTRIC DRAYAGE TRUCKS	US HYBRID CORPORATION	\$0.00	6
08	LEGAL	C16063	01	SPECIALIZED LEGAL SERVICES	HOGAN LOVELLS US LLP	\$0.00	6
27	INFORMATION MANAGEMENT	C16155	01	PROVIDE SCAQMD WEBSITE EVALUATION AND IMPROVEMENT SERVICES	XIVIC INC	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C16181	80	ONLINE APPLICATION SYSTEM FOR CARL MOYER PROGRAM	TRINITY TECHNOLOGY GROUP, INC.	\$0.00	6
27	INFORMATION MANAGEMENT	C16204	01	PHONE SYSTEM MAINTENANCE SERVICES	EPOCH UNIVERSAL, INC	\$16,676.00	
26	PLANNING RULE DEV & AREA SOURCES	C16214	01	PROVIDE ASSISTANCE WITH CEQA SERVICES FOR SCAQMD RULE PROJECTS	PLACEWORKS INC	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C16254	31	EVALUATE OZONE AND SECONDARY AEROSOL FORMATION FROM DIESEL FUELS	UNIVERSITY OF CALIFORNIA-BERKELEY	\$0.00	6
08	LEGAL	C16392	01	LEGAL ADVICE AND REPRESENTATION FOR SO CAL GAS LITIGATION	HUANG YBARRA GELBERG & MAY LLP	\$50,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C16396	32	REPLACEMENT OF 1 OFF-ROAD VEHICLE AND REPOWER OF 1 OFF-ROAD VEHICLE	TINA MCMINN EQUIPMENT RENTALS, INC.	\$0.00	6



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17037	01	PROVIDE TECHNICAL ASSISTANCE WITH ALTERNATIVE FUELS, ELECTRIC VEHICLES, CHARGING AND FUELING INFRASTRUCTURE AND RENEWABLE ENERGY	CLEAN FUEL CONNECTION INC	\$50,000.00	
16	ADMINISTRATIVE & HUMAN RESOURCES	C17077	01	EXECUTIVE SEARCH AND RECRUITMENT SERVICES	CPS HUMAN RESOURCE CONSULTING	\$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17097	01	TECHNICAL ASSISTANCE WITH ALTERNATIVE FUELS AND FUELING INFRASTRUCTURE, EMISSIONS ANALYSIS AND ON-ROAD SOURCES	GLADSTEIN, NEANDROSS & ASSOCIATES	\$50,000.00	
04	FINANCE	C17104	22,23	AUDIT OF AB2766 FEE REVENUE RECIPIENTS FOR FISCAL YEARS 2013-14 & 2014-15	SIMPSON & SIMPSON, CPAs	\$0.00	6
08	LEGAL	C17131	01	CONSULTING EXPERT	KENNETH A. MANASTER	\$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17181	32	REPLACEMENT OF ONE OFF-ROAD AGRICULTURAL EQUIPMENT	BAUTISTA CREEK RANCHES, INC	\$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17200	32	REPLACE 6 OFF-ROAD AGRICULTURAL VEHICLES	COTTONWOOD DAIRY	\$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17218	80,32	REPLACE 9 OFF-ROAD AGRICULTURAL VEHICLES	AGRI-EMPIRE	\$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17220	32	REPLACE 7 OFF-ROAD AGRICULTURAL EQUIPMENT	WEST COAST TURF	\$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17242	32	REPLACEMENT OF 5 OFF-ROAD AGRICULTURAL EQUIPMENT	CLEVELAND FARMS, INC.	\$0.00	6
35	LEGISLATIVE & PUBLIC AFFAIRS	C17250	01	MEDIA SKILLS TRAINING	MILAGRO STRATEGY GROUP INC	\$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17255	32	REPLACE 6 OFF-ROAD AGRICULTURAL VEHICLES	AMAZING COACHELLA INC	\$0.00	6
08	LEGAL	C17264	01	EXPERT WITNESS IN EVALUATING THE HEALTH RISK POSED BY FACILITIES EMITTING AIR TOXICS INCLUDING HEXAVALENT CHROME	JOSEPH RICHARD LANDOLPH, JR.	\$0.00	6
08	LEGAL	C17273	01	PUBLIC/GOVERNMENTAL LEGAL SERVICES	JONES & MAYER	\$2,500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C17308	01	IMPROVEMENT TO THE "INTRODUCTION TO SCAQMD" BROCHURE	CURRAN & CONNORS, INC.	\$0.00	6
35	LEGISLATIVE & PUBLIC AFFAIRS	C17308	01	IMPROVEMENT TO THE "INTRODUCTION TO SCAQMD" BROCHURE	CURRAN & CONNORS, INC.	\$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17316	31	DEVELOP AND DEMONSTRATE 10 ZERO-EMISSION FUEL CELL ELECTRIC BUSES	CENTER FOR TRANSPORTATION AND	\$0.00	6
08	LEGAL	C17387	01	LEGAL ADVICE AND REPRESENTATION	JENKINS & HOGIN LLP	\$0.00	6



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
16	ADMINISTRATIVE & HUMAN RESOURCES	C17395	01	LABOR AND EMPLOYMENT LAW	SELTZER CAPLAN MCMAHON VITEK	\$25,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C18045	01	COSPONOR 2ND ANNUAL SOUTH LOS ANGELES YOUTH SUSTAINABILITY AND EMPOWERMENT SUMMIT	CALIFORNIA GREENWORKS, INC.	\$0.00	11
35	LEGISLATIVE & PUBLIC AFFAIRS	C18130	01	EMCEE SERVICES FOR SCAQMD ENVIRONMENTAL CONFERENCE	THE COACHING FACTORY LLC	\$700.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G16087	80	LOWER EMISSION SCHOOL BUS REPLACEMENT PROGRAM	ANAHEIM UNION HIGH SCHOOL DISTRICT	\$0.00	6
44	MSRC	ML11045	23	PURCHASE 1 HEAVY-DUTY CNG VEHICLE	CITY OF NEWPORT BEACH	\$0.00	6
44	MSRC	ML12018	23	EXPAND CNG STATION	CITY OF WEST COVINA	\$0.00	6
44	MSRC	ML12045	23	INSTALL CNG STATION	CITY OF BALDWIN PARK	\$0.00	6
44	MSRC	ML14019	23	INSTALL EV CHARGING AND BICYCLE INFRASTRUCTURE	CITY OF CORONA	\$0.00	6
44	MSRC	ML14023	23	UPGRADE VEHICLE MAINTENANCE FACILITY IN WESTCHESTER	COUNTY OF LOS ANGELES	\$0.00	6
44	MSRC	ML14024	23	UPGRADE MAINTENANCE FACILITY IN BALDWIN PARK	COUNTY OF LOS ANGELES	\$0.00	11
44	MSRC	ML14056	23	INSTALL 15.9 MILES OF CLASS II BICYCLE LANE IMPROVEMENTS	CITY OF REDLANDS	\$0.00	6
44	MSRC	ML14066	23	INSTALL SEGMENT OF SOUTH PASADENA BIKEWAY	CITY OF SOUTH PASADENA	\$0.00	6
44	MSRC	ML16013	23	PURCHASE OF 3 HEAVY-DUTY CNG VEHICLES	CITY OF MONTEREY PARK	\$0.00	6
44	MSRC	ML16020	23	INSTALL BICYCLE DETECTION SYSTEMS	CITY OF POMONA	\$0.00	6
44	MSRC	ML16032	23	IMPLEMENT FOOTHILL AND ALOSTA "COMPLETE STREETS" PROJECT	CITY OF AZUSA	\$0.00	6
44	MSRC	ML16041	23	INSTALL EV CHARGING STATIONS	CITY OF MORENO VALLEY	\$0.00	6
44	MSRC	ML16042	23	INSTALL EV CHARGING STATIONS	CITY OF SAN DIMAS	\$0.00	6
44	MSRC	ML16046	23	INSTALL EV CHARGING STATIONS-DOWNTOWN PARKING LOT	CITY OF EL MONTE	\$0.00	6
44	MSRC	ML16050	23	INSTALL EV CHARGING STATIONS	CITY OF WESTMINSTER	\$0.00	6
44	MSRC	ML16072	23	INSTALL EV CHARGING STATION	CITY OF PALM DESERT	\$0.00	6
44	MSRC	ML16078	23	INSTALL BICYCLE INFRASTRUCTURE AND IMPLEMENT BICYCLE EDUCATION	CITY OF MORENO VALLEY	\$0.00	6
44	MSRC	ML16083	23	INSTALL EV CHARGING STATIONS-CITY HALL AND METROLINK	CITY OF EL MONTE	\$0.00	6
44	MSRC	MS12060	23	IMPLEMENT WESTSIDE BIKESHARE PROGRAM	CITY OF SANTA MONICA	\$0.00	11



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	MSRC	MS16030	23	PROGRAMMATIC OUTREACH SERVICES ON BEHALF OF THE MSRC	THE BETTER WORLD GROUP, INC	\$0.00	11
<b>Subtotal</b>						<b>\$294,031.00</b>	
<b>V. TERMINATED CONTRACTS-PARTIAL/NO WORK PERFORMED</b>							
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14267	81	PROP 1B TRUCK REPLACEMENT PROGRAM	VFT INC.	-\$5,000.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C15650	17	DEVELOPMENT AND DEMONSTRATION OF WAREHOUSE ROOFTOP SOLAR SYSTEM WITH STORAGE AND EV CHARGING	UNIVERSITY OF CALIFORNIA, SAN DIEGO	-\$3,300.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C16184	32	REPLACEMENT OF 3 OFF-ROAD VEHICLES	VIRAMONTES EXPRESS INC	-\$59,873.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17200	32	REPLACE 6 OFF-ROAD AGRICULTURAL VEHICLES	COTTONWOOD DAIRY	-\$67,451.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C17237	01	ENGAGE, EDUCATE, AND EMPOWER CALIFORNIA COMMUNITIES ON THE USE AND APPLICATIONS OF "LOW-COST" AIR MONITORING SERVICES	CENTER FOR COMMUNITY ACTION & ENVIRONMENTAL JUSTICE	-\$32,000.00	7
44	MSRC	ML11020	23	RETROFIT 1 ON-ROAD DIESEL VEHICLE AND REPOWER 1 OFF-ROAD HEAVY-DUTY VEHICLE	CITY OF INDIO	-\$15,000.00	7
44	MSRC	ML16062	23	INSTALL EV CHARGING STATIONS	CITY OF COLTON	-\$3,996.18	7
44	MSRC	MS12033	23	PURCHASE 20 MEDIUM-DUTY CNG VEHICLES	PHACE MANAGEMENT SERVICES LLC	-\$351,100.00	
<b>Subtotal</b>						<b>-\$537,720.18</b>	



**South Coast Air Quality Management District**  
**Contract Activity Report**  
**July 1, 2017 - December 31, 2017**

**SPECIAL FUNDS**

17 ADV. TECH, OUTREACH & EDU FUND  
 22 AIR QUALITY IMPROVEMENT FUND  
 23 MSRC FUND  
 27 AIR QUALITY INVESTMENT FUND  
 31 CLEAN FUELS FUND  
 32 CARL MOYER FUND - SB1107 ACCOUNT  
 33 SCHOOL BUS REPLACEMENT PROGRAM  
 34 ZERO EMISSION VEHICLE INCENTIVE PROGRAM  
 35 AES SETTLEMENT PROJECTS FUND  
 36 RULE 1309.1 PRIORITY RESERVE FUND  
 37 CARB ERC BANK FUND  
 38 LADWP SETTLEMENT PROJECTS FUND  
 39 STATE EMISSIONS MITIGATION FUND  
 40 NATURAL GAS VEHICLE PARTNERSHIP FUND  
 45 CBE/CBO SETTLEMENT AGREEMENT FUND  
 46 BP ARCO SETTLEMENT FUND  
 48 HEALTH EFFECTS RESEARCH FUND  
 49 CEQA GHG MITIGATION FUND  
 50 DOE ARRA-PLUG-IN HYBRID ELECTRIC VEHICLES  
 51 DOE ARRA-LNG CORRIDOR EXPANSION  
 52 TRAPAC SCHOOL AIR FILTRATION  
 53 EMISSION REDUCTION AND OUTREACH FUND  
 54 RULE 1118 MITIGATION FUND  
 56 HEROS II PROGRAM FUND  
 58 AB1318 MITIGATION FEES FUND  
 61 ADVANCED TECHNOLOGY GOODS MOVEMENT FUND  
 63 HYDROGEN FUELING INFRASTRUCTURE NETWORK FUND  
 71 CNG FUELING STATION ENTERPRISE FUND  
 80 CARL MOYER FUND - AB923 ACCOUNT  
 81 PROPOSITION 1B - GOODS MOVEMENT FUND  
 82 PROPOSITION 1B - LOWER EMISSION SCHOOL BUS

**FOOTNOTES**

1 NO FIXED VALUE  
 2 RATES VARY - NO FIXED VALUE  
 3 REVENUE CONTRACT - NO AMOUNT SHOWN  
 4 NO COST - COST REALLOCATION  
 5 CHANGED TO EMPLOYEE STATUS  
 6 NO COST- TIME EXTENSION  
 7 DE-OBLIGATION OF FUNDING  
 8 COMPETITIVE SOLICITATION ISSUED BY ANOTHER  
 GOVERNMENT AGENCY  
 9 NO COST - AIR MONITORING/LICENSE AGR  
 10 CNG VEHICLE PARTNERSHIP SELECTION  
 11 NO COST - CHANGE IN TERMS  
 12 FEDERAL GOVERNMENT PASS-THRU  
 13 AT DIRECTION OF LEGISLATIVE COMMITTEE  
 14 OPTIONAL YEAR RENEWAL/MULTI-YR CONTRACT  
 15 TRUCK GRANT PAID TO CASCADE SIERRA SOLUTIONS  
 THROUGH LEASE-TO-OWN PROGRAM. THIS CONTRACT  
 IS FOR OPERATION AND REPORTING ONLY.  
 16 AMOUNT UTILIZED MAY BE LESS THAN CONTRACT  
 AMOUNT.



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 23

REPORT: Administrative Committee

SYNOPSIS: The Administrative Committee held a meeting on Friday, February 9, 2018. The following is a summary of the meeting.

RECOMMENDED ACTION:  
Receive and file.

Dr. William A. Burke, Chair  
Administrative Committee

nv

---

### **Committee Members**

Present: Dr. William A. Burke/Chair (videoconference), Mayor Pro Tem Judith Mitchell, and Dr. Clark E. Parker, Sr. (videoconference).

Absent: Mayor Ben Benoit/Vice Chair

### **Call to Order**

Chair Burke called the meeting to order at 10:20 a.m.

### **DISCUSSION ITEMS:**

1. **Board Members' Concerns:** None to report.
2. **Chairman's Report of Approved Travel:** As noted on the travel report, Council Member Dwight Robinson attended the 2018 Rethink Methane Symposium in Sacramento, February 5-6, 2018. Council Member Joe Buscaino will attend the National League of Cities, Energy, Environment & Natural Resources Committee in Washington, D.C., March 9-14, 2018. Dr. Joseph Lyou will make a presentation at the American Bar Association 47<sup>th</sup> Spring Conference in Orlando FL, April 18-21, 2018.
3. **Report of Approved Out-of-Country Travel:** None to report.



4. **Review March 2, 2018 Governing Board Agenda:** Mr. Wayne Nastri, Executive Officer, reported that a contract for the residential consumer rebate program, a companion to Proposed Rule 1111, was inadvertently left off of the March Board agenda. A report on this item will be provided at the February 16, 2018 Stationary Source Committee meeting, and will be added to the March Board agenda for Board consideration. Dr. Burke approved.
5. **Approval of Compensation for Board Member Assistant(s)/Consultant(s):** None to report.
6. **Status Report on Major Ongoing and Upcoming Projects for Information Management:** Ron Moskowitz, Assistant Deputy Executive Officer/Information Management, reported that the new website has been deployed and is continuing to be fine-tuned. Upgraded hardware and the E-GIS project are ahead of schedule. The Information Technology (IT) Review prioritization and implementation plan is being finalized.

#### **ACTION ITEMS:**

7. **Transfer and Appropriate Funds and Execute Contracts for Short- and Long-Term Systems Development, Maintenance and Support Services:** Mr. Moskowitz reported that in November 2017, the Board approved the release of an RFP to solicit bids for software development and support. This item is to execute selected contracts from that competitively bid process. The funds are available in the current fiscal year budget.

Moved by Mitchell; seconded by Parker, unanimously approved.

Ayes: Burke, Mitchell, Parker  
Noes: None  
Absent: Benoit

8. **Amend Contracts to Provide Systems Development Services for Legal Division Case Management System Development and Implementation:** Mr. Moskowitz reported that the Legal Division requires a case management system and this item is to put a process in place to potentially replace the current legal case management system if the vendor cannot fulfill their obligations. Mayor Pro Tem Mitchell inquired about possible remedies if the obligations are not met. Mr. Nastri responded that a letter has been sent indicating that corrections are necessary, but if they are not able to meet their obligations, remedies to correct the issues include a refund or potential litigation. Mayor Pro Tem Mitchell inquired whether there will be a new program if the issues are not corrected. Mr. Moskowitz responded yes, the data from the existing system will be transferred over to the new system. Dr. Parker inquired if there are currently problems with



the existing vendor, why continue with the same vendor? Mr. Moskowitz reported that SCAQMD has a current license with the existing vendor and they will be given an opportunity to correct the issues. Barbara Baird, Chief Deputy Counsel, provided clarification that the requested funding will be used in the event that the existing vendor cannot cure the deficiencies.

Moved by Mitchell; seconded by Parker, unanimously approved.

Ayes: Burke, Mitchell, Parker  
Noes: None  
Absent: Benoit

9. **Issue RFPs to Implement Recommendations to Enhance Socioeconomic Assessments for AQMP:** Dr. Philip Fine, Deputy Executive Officer/Planning, Rule Development & Area Sources, reported that approximately four years ago there was an assessment of the method SCAQMD used for socioeconomic assessments of rules and the AQMP. To date, more than 10 of 14 key recommendations have been implemented. This request is to issue two RFPs: 1) for literature review and development of methodologies on quantification and valuation of visibility benefits for future AQMPs; and 2) literature review of the benefits to agriculture, ecology, building, and materials from improved air quality and recommendations on analyzing these benefits for future AQMPs. Funding for both projects are included in this fiscal year budget. Mayor Pro Tem Mitchell inquired about residential visibility. Dr. Fine responded that there are primary benefits such as cleaning the air and secondary benefits that affect agriculture and materials, since ozone will degrade rubber, paints and ecosystems, as well as the welfare of visibility.

Moved by Mitchell; seconded by Parker, unanimously approved.

Ayes: Burke, Mitchell, Parker  
Noes: None  
Absent: Benoit

10. **Recommendation to Appoint Member to SCAQMD Home Rule Advisory Group (No Written Material):** Dr. Fine reported that this item is a recommendation to appoint Dr. Parker to the Home Rule Advisory Group.

Moved by Mitchell; seconded by Parker, unanimously approved.

Ayes: Burke, Mitchell, Parker  
Noes: None  
Absent: Benoit



- 11. Appropriate Funds and Execute Contract for Strategic Consulting Services:** Derrick Alatorre, Deputy Executive Officer/Legislative, Public Affairs & Media, reported that this item is to approve contracting consultant services with Double Nickel Advisors. They have provided strategic advice and counsel on AQMP funding, as well as other legislature-related issues. Dr. Parker inquired about the amount of the contract. Mr. Alatorre responded it is a one-year contract in the amount of \$120,000. Mayor Pro Tem Mitchell inquired if this was a sole source contract and has there been good service from this firm? Mr. Alatorre responded that it is a sole source contract and they have provided exceptional strategic advice.

Moved by Parker; seconded by Mitchell, unanimously approved.

Ayes: Burke, Mitchell, Parker  
Noes: None  
Absent: Benoit

- 12. Issue Purchase Order to Promote “The Right to Breathe” Video:** Mr. Alatorre reported that this item is to add an additional \$250,000 to the Right to Breathe campaign for an updated video.

Moved by Mitchell; seconded by Parker, unanimously approved.

Ayes: Burke, Mitchell, Parker  
Noes: None  
Absent: Benoit

- 13. Report of RFQs Scheduled for Release in March:** Sujata Jain, Assistant Deputy Executive Officer/Finance, reported that this is a standard item to release RFQs, and sufficient funds are available in the current fiscal year budget.

Moved by Parker; seconded by Mitchell, unanimously approved.

Ayes: Burke, Mitchell, Parker  
Noes: None  
Absent: Benoit



**OTHER MATTERS:**

14. **Other Business**

There was no other business.

15. **Public Comment**

There were no public comments.

16. **Next Meeting Date**

The next regular Administrative Committee meeting is scheduled for March 9, 2018 at 10:00 a.m.

**Adjournment**

The meeting adjourned at 10:38 a.m.



 [Back to Agenda](#)

BOARD MEETING DATE: March 2, 2018

AGENDA NO. 24

REPORT: Investment Oversight Committee

SYNOPSIS: The Investment Oversight Committee held a meeting on Friday, February 16, 2018. The following is a summary of the meeting.

RECOMMENDED ACTION:  
Receive and file.

Dr. Joseph K. Lyou, Acting Chair  
Investment Oversight Committee

SJ:av

---

### **Committee Members**

Present: Dr. Joseph K. Lyou/Acting Chair, Committee Member Richard Dixon, Committee Member Brent Mason, and Supervisor Shawn Nelson (teleconference)

Absent: Council Member Michael Cacciotti/Chair, Dr. William A. Burke/Vice Chair, and Committee Member Gary Burton

### **DISCUSSION ITEMS:**

1. Quarterly Report of Investments: The Committee reviewed the quarterly investment report that was provided to the Board. For the month of December 2017, the SCAQMD's weighted average yield on total investments of \$680,169,845.45 from all sources was 1.47%. The allocation by investment type was 86.81% in the Los Angeles County Pooled Surplus Investment Fund (PSI) and 13.19% in the State of California Local Agency Investment Fund (LAIF) and Special Purpose Investments (SPI). The one-year Treasury Bill rate as of December 31, 2017 was 1.76%.



2. *Financial Market Update*: Richard Babbe from PFM Asset Management provided the Committee with information on current investment markets, economic conditions, and the overall outlook. He presented market information on increased short-term Treasury yields following the Federal Reserve's decision to increase rates several times in 2017 and three more expected increases in 2018. Long-term yield curves are expected to go down and inflation is not expected to increase significantly in the near future. Economic indicators were also presented showing an increase in GDP at an annualized rate of 2.6% in the fourth quarter, increased consumer confidence, continued growth in the labor market, and a national unemployment rate of 4.1%. Inflation is expected to slowly increase in the medium term to 2.0%.

### **ACTION ITEM:**

3. *Approval of Annual Investment Policy and Delegation of Authority to Los Angeles County Treasurer to Invest SCAQMD funds*: The Committee reviewed the Annual Investment Policy for 2018 and SCAQMD's renewal of its delegation of authority to its treasurer. The Annual Investment Policy is being updated to reflect the change in title of the Chief Administrative Officer to the Assistant Deputy Executive Officer of Finance.

Moved by Dixon; seconded by Nelson; unanimously approved.

Ayes: Dixon, Lyou, Mason, Nelson  
Noes: None  
Absent: Burke, Burton, Cacciotti

### **OTHER MATTERS:**

#### **4. Other Business**

There was no other business.

#### **5. Public Comment**

There were no public comments.

#### **6. Next Meeting Date**

The next regular meeting of the Investment Oversight Committee is scheduled for May 18, 2018 at noon.



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 25A

REPORT: Legislative Committee

SYNOPSIS: The Legislative Committee held a meeting on Friday, February 9, 2018. The following is a summary of the meeting.

Agenda Item	Recommendation/Action
Proposed Sales Tax Increase Legislative Concept for Approval	Continue This Item Until a Future Meeting; Pending Approval of a Draft Public Survey
Proposed Public Fleet Rule Legislative Proposal and Draft Language for Approval	Sponsor in Concept With Amendments to Draft Language
Proposed Amendments to 2018 SCAQMD State and Federal Legislative Goals and Objectives	Continue This Item Until Next Meeting
Proposed Public Notice Requirements Modernization Draft Bill Language for Approval	Approve

**RECOMMENDED ACTION:**

Receive and file this report, and approve agenda items as specified in this letter.

Judith Mitchell, Chair  
Legislative Committee

DJA:PFC:MJK:jns

**Committee Members**

Present: Mayor Pro-Tem Judith Mitchell/Chair, Dr. William A. Burke (videoconference), Supervisor Shawn Nelson (videoconference), Dr. Clarke E. Parker, Sr. (videoconference), and Supervisor Janice Rutherford (videoconference).

Absent: Council Member Joe Buscaino/Vice Chair

**Call to Order**

Chair Mitchell called the meeting to order at 9:05 a.m.



## **DISCUSSION ITEMS:**

### **1. Update on Federal Legislative Issues**

SCAQMD's federal legislative consultants (Carmen Group, Cassidy & Associates, and Kadesh & Associates) each provided a written report on various key Washington, D.C. issues. Mr. Gary Hoitsma of the Carmen Group, Ms. Amelia Jenkins of Cassidy & Associates and Mr. Mark Kadesh of Kadesh & Associates gave verbal updates as well.

Mr. Hoitsma reported that the federal government averted another governmental shutdown because Congress passed a continuing resolution that would allow for appropriations through March 23. There was also a large two-year budget deal agreed to, which increases spending cap authorizations for defense and non-defense items, and has a lengthy list of tax extenders including energy-related items, such as electric vehicles, bio-fuels, fuel cells, alternative fuels, and renewables.

Mr. Hoitsma stated that the Administration is likely going to come out with its overall budget proposal, which earmarks \$20 billion dollars for infrastructure over the next two years.

Mr. Hoitsma also informed the Committee that he had attended a presentation by Mr. Bill Wehrum, the Assistant Administrator for the Office of Air and Radiation at the U.S. EPA. Mr. Wehrum's position on the California waiver was that he preferred one policy for the nation, but that currently, he had no plans to modify the waiver.

Mr. Hoitsma reported that there is still no chairperson for the White House Council on Environmental Quality. Ms. Kathleen Hartnett White had been previously nominated, but had to withdraw her name from consideration due to political opposition. Overall, the slow progress of nominations for positions within the Administration is still a concern.

In response to an inquiry from Dr. Burke, Mr. Wayne Nastri, Executive Officer, stated that any U.S. Senator can hold up a nomination unless a special dispensation is passed that allows for a nomination to be confirmed solely by a majority vote, which the U.S. Senate is reluctant to do.

Ms. Jenkins stated that the Senate Energy and Natural Resources Committee will take up energy legislation in the next Congressional work period. The Vehicle Innovation Act is included within that legislation, and is of interest to SCAQMD.

Mr. Kadesh reported that the FY19 budget is expected to be released by President Trump next week, and that will start the FY19 appropriations process, during which SCAQMD will be working to protect and promote its policy priorities, such as



Diesel Emission Reduction Act (DERA) Program funding, Sections 103 and 105 grants, and Targeted Airshed Grants.

## **2. Update on State Legislative Issues**

SCAQMD's state legislative consultants (The Quintana Cruz Company, California Advisors, LLC, and Joe A. Gonsalves & Son) provided written reports on various key issues in Sacramento.

Mr. Paul Gonsalves of Joe A. Gonsalves & Son, Mr. Will Gonzalez of California Advisors, LLC, and Ms. Caity Maple of The Quintana Cruz Company also gave verbal updates at the meeting.

Mr. Gonsalves reported that the deadline to introduce new legislation is Friday, February 16, and that all new bills must be in print for 30 days prior to being heard in committee. Consequently, most newly introduced bills will be eligible to be heard in policy committees around March 16. However, March 22 through April 2 is spring recess for the Legislature; thus, most bills will not be heard in committee until the beginning of April.

Mr. Gonzalez reported on meetings occurring almost weekly by SCAQMD staff and consultants with Assembly and Senate leadership, as well as the Governor's Office regarding funding sources that could help fund the implementation of the AQMP, including the Greenhouse Gas Reduction Fund (GGRF). Also of note, Assembly Member Rudy Salas introduced a bill, AB 2008, which would exempt Carl Moyer Program grants from being counted as state taxable income to the recipient.

Ms. Maple reported that Mr. Quintana met with the environmental staff person for incoming Senate President Pro Tem Toni Atkins and that various SCAQMD policy priorities were discussed, including the need for ongoing AB 617 funding for air districts.

## **ACTION ITEMS:**

### **3. Proposed Sales Tax Increase Legislative Concept for Approval**

Mr. Philip Crabbe, Community Relations Manager, presented this proposed legislative concept. The South Coast Air Basin has among the worst air quality in the nation and is in extreme nonattainment for ozone. The AQMP addresses this problem, but requires substantial and sustainable funding in order to improve air quality to levels that meet federal rules and reduce significant public health risks. This bill proposal would seek authorization from the Legislature to put a quarter-cent sales tax increase proposal on the ballot for voter approval within the South Coast Air District. Mr. Crabbe noted that the bill would not directly create a ballot



measure, and that it would only be an authorization bill to allow either Board action or the voter-driven initiative process to put this proposal on the ballot. Ultimately, this proposal could generate a significant amount of funding for air quality efforts, in support of the AQMP. A large portion of this funding would go to providing incentives to promote the development and deployment of clean technology, and facilitate fleet turnover from dirty, heavy-duty diesel trucks and other vehicles, to cleaner alternatives.

In response to an inquiry from Dr. Parker, Mr. Nastri stated that the measure would likely be in effect for 20 to 40 years.

Supervisor Nelson expressed concerns over a sales tax increase within the South Coast district, the sales tax cap in SCAQMD's counties, how sales tax increases would affect low-income households, and whether Los Angeles County could out-vote other counties if this measure was ultimately placed on the ballot. A discussion regarding these issues ensued.

In response to a question by Supervisor Nelson regarding polling the residents of the South Coast region on this issue, Mr. Nastri responded that staff is working on a draft survey regarding the sales tax authorization measure, and residents within SCAQMD's four-county jurisdiction will be contacted and polled as part of this process. Supervisor Nelson requested that this draft survey be reviewed by the Legislative Committee for discussion and approval at its next meeting. Once the public survey results are received, the Legislative Committee can further consider this legislative proposal.

A discussion followed regarding concerns over meeting the new bill introduction deadline in the state Legislature and possible legislative options for moving forward after that deadline.

The Committee recommended bringing the draft public survey relating to the proposed sales tax measure before the Legislative Committee at its next meeting for review and approval, in order to subsequently move forward with implementing the polling of the public on this issue, and to consider this bill proposal at a later time. Supervisor Nelson also expressed his desire that this issue come before the full Board for a thorough discussion before further action.

#### **4. Proposed Public Fleet Rule Legislative Proposal and Draft Language for Approval**

Mr. Crabbe presented this legislative proposal and draft language to the Committee. As part of the 2016 AQMP, the Board directed staff to seek legislative authority to authorize SCAQMD to require the accelerated purchase and use of near-zero and zero emission heavy-duty on-road vehicles for public fleets within the South Coast.



This bill would not directly create a rule, but would simply secure legislative authorization for SCAQMD to go through the local rulemaking process on this issue, taking into account stakeholder comment and input.

Supervisor Rutherford requested changes to the proposed bill language that would consider operational needs and vehicle life. A discussion ensued regarding Supervisor Rutherford's requested changes and possible modifications to the requested changes.

**The Committee recommended a position of SPONSOR IN CONCEPT WITH AMENDMENTS TO DRAFT LANGUAGE on this item.**

Moved by Burke; seconded by Nelson; unanimously approved

Ayes: Burke, Mitchell, Nelson, Parker, Rutherford

Noes: None

Abstain: None

Absent: Buscaino

**5. Proposed Amendments to 2018 SCAQMD State and Federal Legislative Goals and Objectives**

The Legislative Committee continued this item until its next regular meeting.

**6. Proposed Public Notice Requirements Modernization Draft Bill Language for Approval**

Ms. Monika Kim, Legislative Assistant, presented the proposed public notice requirements modernization draft bill language to the Committee. Last month, the Legislative Committee approved a legislative proposal regarding the modernization of current public notice requirements for the South Coast region. Staff drafted legislative language, including amendments to three different code sections, for Committee approval.

**Staff recommended a position of APPROVE on this item.**

Moved by Parker; seconded by Nelson; unanimously approved

Ayes: Burke, Mitchell, Nelson, Parker, Rutherford

Noes: None

Abstain: None

Absent: Buscaino



## **OTHER MATTERS:**

### **7. Other Business**

There was no other business.

### **8. Public Comment Period**

There were no public comments.

### **9. Next Meeting Date**

The next regular Legislative Committee meeting is scheduled for Friday, March 9, 2018 at 9:00 a.m.

## **Adjournment**

The meeting adjourned at 10:15 a.m.

## **Attachments**

1. Attendance Record
2. Update on Federal Legislative Issues – Written Reports
3. Update on State Legislative Issues – Written Reports
4. Proposed Sales Tax Increase Legislative Concept for Approval
5. Proposed Public Fleet Rule Legislative Proposal and Draft Language for Approval
6. Proposed Amendments to 2018 SCAQMD State and Federal Legislative Goals and Objectives
7. Proposed Public Notice Requirements Modernization Draft Bill Language for Approval



## **ATTACHMENT 1**

### **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT LEGISLATIVE COMMITTEE**

**Attendance – February 9, 2018**

Dr. William A. Burke (videoconference) .....	SCAQMD Board Member
Supervisor Shawn Nelson (videoconference) .....	SCAQMD Board Member
Mayor Pro Tem Judith Mitchell .....	SCAQMD Board Member
Dr. Clark E. Parker, Sr. (videoconference) .....	SCAQMD Board Member
Supervisor Janice Rutherford (videoconference) .....	SCAQMD Board Member
Mark Abramowitz .....	Board Consultant (Lyou)
David Czamanske .....	Board Consultant (Cacciotti)
Ron Ketcham .....	Board Consultant (McCallon)
Andrew Silva .....	Board Consultant (Rutherford)
Gary Hoitsma (teleconference) .....	The Carmen Group
Amelia Jenkins (teleconference) .....	Cassidy & Associates
Kaleb Froehlich (teleconference) .....	Cassidy & Associates
Mark Kadesh (teleconference) .....	Kadesh & Associates
Paul Gonsalves (teleconference) .....	Joe A. Gonsalves & Son
Will Gonzalez (teleconference) .....	California Advisors, LLC
Caity Maple (teleconference) .....	The Quintana Cruz Company
Tom Gross .....	Southern California Edison
Bill LaMarr .....	California Small Business Alliance
Rita Loof .....	RadTech
David Rothbart .....	Los Angeles County Sanitation Districts
Susan Stark .....	Andeavor
Peter Whittingham .....	Whittingham PAA
Derrick Alatorre .....	SCAQMD Staff
Leeor Alpern .....	SCAQMD Staff
Debra Ashby .....	SCAQMD Staff
Philip Barroca .....	SCAQMD Staff
Barbara Baird .....	SCAQMD Staff
Philip Crabbe .....	SCAQMD Staff
Philip Fine .....	SCAQMD Staff
Gloria Garcia .....	SCAQMD Staff
Monika Kim .....	SCAQMD Staff
Megan Lorenz .....	SCAQMD Staff
Ian McMillan .....	SCAQMD Staff
Matt Miyasato .....	SCAQMD Staff
Ron Moskowitz .....	SCAQMD Staff
Wayne Natri .....	SCAQMD Staff
Robert Paud .....	SCAQMD Staff
Zorik Pirveysian .....	SCAQMD Staff
Mary Reichert .....	SCAQMD Staff
Jeanette Short .....	SCAQMD Staff
Danielle Soto .....	SCAQMD Staff
Lisa Tanaka O'Malley .....	SCAQMD Staff
Laki Tisopulos .....	SCAQMD Staff
Todd Warden .....	SCAQMD Staff
Kim White .....	SCAQMD Staff
Jill Whynot .....	SCAQMD Staff



## **ATTACHMENT 2**

### **MEMORANDUM**

**TO:** South Coast AQMD Legislative Committee

**FROM:** Carmen Group

**Date:** January 25, 2018

**Re:** Federal Update – Executive Branch

---

**Infrastructure Update:** The Trump Administration continues to work on preparing its final draft infrastructure plan for public release which is now expected to be sometime in mid-February in conjunction with the unveiling of the President’s annual budget proposal. In January, a six-page outline of infrastructure “funding principles” was leaked to the media, but it lacked the kind of details and specificity that key members of Congress and others are looking for, only adding to a sense of frustration that many Members feel, not knowing what the core proposal on direct federal spending will look like. Meantime in offhand remarks to some local officials, Trump suggested his final plan might spark up to \$1.7 trillion in infrastructure investment over ten years, a number significantly higher than the \$1 trillion he has talked about before, only further raising speculation about how he will propose to pay for it. In addition, Trump in January again opened the door to a possible restoration of Congressional project earmarks, a suggestion that gets mixed reviews on Capitol Hill...but might win some support as a proven mechanism to help secure needed votes difficult issues.

**Department of Energy Issues Fuel Cell Technologies Market Report 2016:** “For fuels cells and hydrogen, 2016 was a notable year on many fronts. Fuel cells and hydrogen continue to expand in existing markets and made inroads into new areas. Ongoing research, development and demonstration projects examined additional uses for fuels cells and hydrogen, such as ground support equipment, drayage trucks, and energy storage.”

**Depart of Energy Appointment:** Chanette Armstrong was named to serve as the Director of the Office of Technology Transitions, overseeing the DOE’s Energy Investor Center, the Technology Commercialization Fund, and the coordination of technology transfer activities across the DOE complex. She will implement DOE’s efforts to spur innovation and to advance the commercialization of early stage energy technologies from the lab to the marketplace. A patent attorney, she holds a BS in electrical engineering from Carnegie-Mellon University, a MBA from Long Island University, and a JD from New Jersey-Rutgers School of Law.

###



**To:** South Coast Air Quality Management District

**From:** Cassidy & Associates

**Date:** January 25, 2018

**Re:** Federal Update – U.S. House of Representatives

---

### **Issues of Interest to SCAQMD**

#### **General Update:**

The beginning of the 2<sup>nd</sup> Session of the 115<sup>th</sup> Congress was marked by government shutdown. The government shutdown lasted three days, with lawmakers reaching a deal to pass a short term continuing resolution through February 8<sup>th</sup>. Integral to the deal was a commitment between Sen. McConnell and Sen. Schumer to hold a vote on DACA.

The staff of the Senate Energy and Natural Resources Committee have been speaking about the possibility of the Senate considering a broad energy and natural resource policy bill. The energy bill is an offshoot of a nearly identical measure that flopped at the finish line of the last Congress. Senator McConnell, via Rule XIV, placed this measure directly on the Senate's legislative calendar in June 2017. To get the legislation to the floor and through the House, however, would be a heavy lift. House lawmakers have so far seemed reluctant to pull together a comprehensive bipartisan energy package, choosing instead to advance some individual policies that for the most part drew only GOP votes.

The 2018 midterm election is looming over all aspects of policy on Capitol Hill.. With control of both chambers at stake in the midterm elections, Republicans will use their unified control of the federal government to make a pitch to voters to keep them in office. The closer you get to the election, the harder it will become for Trump and congressional Republicans to make any deals with congressional Democrats.

#### **Budget and Appropriations Update**

As mentioned above, Congress began the year with a failure to reach agreement on a temporary spending bill which resulted in a short government shutdown. Now the government is operating under another continuing resolution until February 8<sup>th</sup>. The President is expected to release his Fiscal Year 2019 budget on Monday, February 12, which was delayed for one week (originally scheduled for February 5<sup>th</sup>) by the lapse in appropriations. We currently expect OMB Director Mulvaney to testify on February 13<sup>th</sup>.



After the Fiscal Year 2018 spending bills are finished, the House and Senate Budget Committees are still expected to consider a Fiscal Year 2019 budget resolution which sets the conditions for the next round of appropriation bills as well as new reconciliation instructions. However the addition of Doug Jones (D-Alabama) in the Senate could make Senator McConnell's task in corraling the votes for the budget resolution an enormous task.

### **Comprehensive Energy Bill Update:**

As noted above, Chairman Lisa Murkowski (R-AK) continues to look for opportunities to advance the bipartisan energy package, S. 1460, that largely mirrors the bill that passed the Senate last Congress. The legislation has been pending on the Senate floor for months, but can be brought up at anytime by Majority Leader Mitch McConnell.

Senator Murkowski has indicated that she would push for the legislation to come forward in late January or February as it remains a broadly supported piece of legislation. The prospect of moving energy legislation has been clouded by a recent proposal by the Trump Administration to open coastal areas in California and other states for oil and gas drilling. Immediately following this announcement, Interior Secretary Zinke met with Florida Governor Scott to announce that Florida would be exempted from the drilling proposal. This leaves other states seeking legislative vehicles, like an energy bill, to ban drilling from their coastal areas.

### **Infrastructure Legislation:**

A leaked six-page summary of the Administration's infrastructure plan provided the first glimpse of the Trump Administration's priorities for an infrastructure package. Much of the six-page draft focused on creating incentives for private funding of highway, transit, water, and air infrastructure. There was no mention or reference to air quality consideration in the six-page summary. It is our understanding that there are ongoing discussions in the Administration regarding targeted waivers of the Clean Air Act that might be included in the package. This is the first in many steps towards an enacted bill. We expect Congress to hold extensive hearing on this proposal and other policies proposed by individual members in the House and Senate.

### **Bill Wehrum & California Waiver:**

On January 25<sup>th</sup> at the Washington Auto Show, Bill Wehrum (head of the Environmental Protection Agency's Office of Air and Radiation) made remarks on fuel economy/emissions standard for automobiles. Wehrum stated that while he has "no interest whatsoever in withdrawing California's authority to regulate" that they have "heard loud and clear that having one national program is really important." This seems to indicate the desire/hope of the EPA to have California's concurrence on a proposal which would harmonize the EPA and NHTSA standards.



SCAQMD  
February 2018 Legislative Committee Board Meeting Report covering January 2018  
**Kadesh & Associates**

**Overview:**

January was dominated with a budget impasse leading to the expiration of the Continuing Resolution on January 20 and a three-day federal government shutdown. Budget negotiations broke down over the issues of how to resolve the DACA issue and questions over the amount of funding for and nature of border security features. The government is operating on another CR which will expire on February 8, 2018. The Omnibus remains unresolved (the Senate and House did not establish a joint overall budget topline so cannot commence/complete their FY18 appropriations business), thus leaving the Omnibus open as a potential vehicle for language on the Glider issue as well as containing the funding levels that we seek on DERA and TAS.

The other relevant event in January was the release/leak of a six-page outline of the Administration's Infrastructure package. Quick analysis found much promising programmatic potential, but no specific funding sources were identified. The proposal was lacking in the specific mention of mitigation, DERA and air issues generally. Clearly, whatever the Administration proposes, how Congress disposes of it will be critical to achieving AQMD's goals for the Infrastructure package.

Finally, development and delivery of joint letters of invitation to Rep. Ken Calvert and EPA Administrator Scott Pruitt was achieved and follow-on contact with Rep. Calvert's office as to scheduling was made.

**Activities summary:**

- In conjunction with AQMD staff, developed and delivered letters of invitation to Rep. Ken Calvert and EPA Administrator Scott Pruitt for a joint visit to the Port of LA and Long Beach and AQMD in the first or second quarter of 2018.
- In conjunction with AQMD staff (and in response to Senate EPW staff), we are finalizing a list of infrastructure-related projects and technologies which can achieve AQMD goals and also work within legislative/executive authorizing/appropriating formats and programs.
- Continued to monitor the EPA "Glider" regulatory issue as it relates to the DERA Program and diesel truck retrofit. The Senate Interior Appropriations "Chairman's mark" legislation included language related to the Glider issue.
- Identify and seek out cosponsors for H.R. 3682, the Blue Whales and Blue Skies Act by Rep. Lowenthal (D-CA) and H.R. 3107, the Diesel Emissions Reduction Act of 2017 by Rep. Poe (R-TX).
- Continued to monitor and pass on relevant legislation of interest to AQMD.
- Participated in regular conference call with subsequent follow up assignments.
- Answered specific questions from AQMD staff.
- Kept staff updated as to legislative changes, committee assignments and confirmations.
- Monitored and shared updates on Administration regarding budget, appropriations, Interior, EPA, transportation, and environmental policies and personnel.

INFRASTRUCTURE (As of 1-26-18, per published sources):

Trump to mention issue during State of the Union speech, but release plan later; Top White House adviser signals openness to negotiate with Congress on details; Plan won't detail how infrastructure will be paid for, adviser says.



The president will mention the issue in the Jan. 30 State of the Union address and then release the full plan to Congress “one to two weeks” later, per DJ Gribbin, a special assistant to President Donald Trump for infrastructure policy. The administration’s goal with the plan is to kickstart \$1 trillion in infrastructure projects and to reduce the time required for the average federal permitting process for these projects to two years, Gribbin said Jan. 25 at a meeting of the U.S. Conference of Mayors in Washington.

The plan will contain a list of suggestions for achieving these two goals, but ultimately the White House would be open to signing off on measures Congress chooses as long as they would accomplish these two aims, he said. “We want to create opportunities for states and local governments to receive federal funding when they’re doing what is politically hard,” Gribbin told the assembled mayors. “We want to fund infrastructure, you decide what to spend it on.”

Funding --

However, the plan will not contain any details about how to pay for the infrastructure. That issue will instead be left up to lawmakers. Gribbin did say the White House would not support funding the plan by cutting any core federal infrastructure programs that already exist, such as the Transportation Department’s highway trust fund or the EPA’s state revolving loan funds. The federal government would provide limited new matching funds for infrastructure projects under a draft infrastructure plan obtained by Bloomberg Government and other media outlets on Jan. 22. The plan also proposes new funding for rural infrastructure, expansion of federal credit programs, and enhancements to private activity bonds. President Donald Trump promised to invest \$1 trillion in infrastructure. His fiscal 2018 budget request proposed spending \$200 billion in federal funds over a decade, which would leverage state, local, and private dollars for a total of \$1 trillion. The document doesn’t specify a proposed amount or source of funding. Most of the new programs would be subject to appropriation.

It also doesn’t address the Highway Trust Fund’s long-term insolvency. The fund’s outlays for roads and transit exceed the revenue it collects, primarily from the motor fuels tax. It’s projected to run out of money in fiscal 2021, after being boosted by a five-year infusion from the general fund in the 2015 FAST Act (Public Law 114-94). House Transportation and Infrastructure Committee Chairman Bill Shuster (R-Pa.) said infrastructure will be his top priority for 2018.

Almost half of the plan’s proposed new appropriation would be for an “infrastructure incentives initiative” that would cover as much as 20 percent of the cost of a wide variety of projects, including hydropower, flood control, and contaminated site cleanup. The non-federal partner -- which could include a public utility or non-profit in addition to a state or local government -- would be responsible for finding the rest of the funding. The program would prioritize projects with a new, non-federal, long-term funding source. Another 10 percent would be available for grants -- ranging from 30 percent to 80 percent of eligible costs based on the project stage -- for “transformative” projects, including commercial space, telecommunications, energy, and water in addition to standard infrastructure. Projects would have to include private or nonprofit investors. A quarter of the appropriation would be available for rural infrastructure, including broadband. Projects would have to be in areas with a population of less than 50,000. The plan proposes additional appropriations to expand existing credit programs, and a new account to manage federal infrastructure.

In addition to new programs that would require appropriations, the plan proposes creating an “interior maintenance fund” that would support public lands infrastructure using revenue from drilling and mineral exploration on federal lands and waters. It also proposes an executive order that would let the



federal government dispose of real property, which would “improve the overall allocation of economic resources in infrastructure investment.”

The plan would provide additional funds for existing lending programs for transportation, railroads, water, and rural utilities, which would remain available until 2028. If the plan’s total appropriation was \$200 billion over a decade, it would boost the lending programs’ capacity by \$15 billion. It would expand the potential uses of private activity bonds, which are issued by state and local governments to finance projects conducted with a private partner. It would also lift issuance caps and allow the bonds to be used for advanced refunding, in which issuers take advantage of lower interest rates by refinancing an existing bond issue with a new one. A refunding bond is considered “advance” if it is issued more than 90 days before the redemption of the refunded bond. It’s not clear how the change would work in light of the 2017 tax overhaul law (Public Law 115-97), which eliminated advance refunding bonds’ tax advantages. The document lists additional “principles” for infrastructure, which include a variety of suggested modifications to, or expansions of, existing programs. Legislative or regulatory action would likely be required for many of the changes.

**GAS TAX:** One potential funding solution putting Republicans in Congress and conservative interest groups at odds is a gas tax. The motor fuels tax -- 18.4 cents per gallon on gasoline and 24.4 cents on diesel -- hasn’t been increased since 1993. Interest groups are hoping to sway the president on the fuels charge, but congressional Republicans are waiting to see where the administration falls on the issue.

**CALIFORNIA GAS TAX:** Gas tax proponents will find an ally in California Gov. Jerry Brown (D), who said he’ll fight an effort to ask voters in November to repeal a recent gas tax increase. In his final State of the State address, Brown said the 2017 vote in the Legislature to boost the tax was essential to maintaining and improving roads and transit. “Fighting a gas tax may appear to be good politics, but it isn’t,” he said. “I will do everything in my power to defeat any repeal effort that gets on the ballot. You can count on that.” Increased diesel and gas taxes, and new fees on vehicles, are expected to raise \$52.4 billion in new transportation funding over 10 years.

**EMISSIONS:** California’s authority to craft its own greenhouse gas limits for cars may be preserved -- if the state can find agreement with federal regulators on the future of the standards, U.S. EPA’s top air official says. “I have no interest whatsoever in withdrawing California’s authority to regulate,” Bill Wehrum, head of the EPA’s Office of Air and Radiation, said in remarks yesterday at the Washington Auto Show. “What I want is one national program. If we can all agree on what needs to be done, then we can all go forward.” Wehrum’s remarks came as the EPA nears an April 1 deadline to decide the future of greenhouse gas limits for passenger vehicles. Officials from the Transportation Department and the EPA, including Wehrum, are in talks with California regulators in hopes of reaching a solution amenable to all parties.

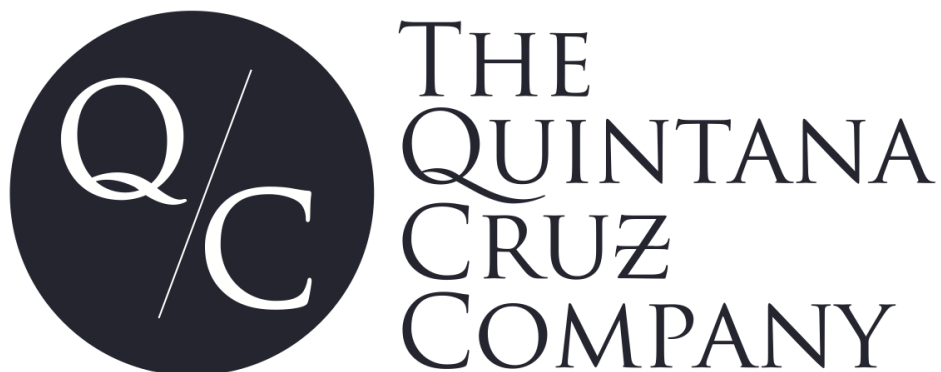
*Looking ahead ...*

Congressional leaders pursuing a deal to lift budget limits on defense and domestic spending and address the DACA issue face a February 8, 2018 deadline that may force them to seek yet another a stopgap funding measure to avert a second election-year government shutdown.

President Trump’s FY19 budget will be sent to Congress one week later than initially planned due to recent govt shutdown. The new expected date of release is February 12.



## ATTACHMENT 3



---

January 25, 2018

**TO:** South Coast Air Quality Management District

**FROM:** The Quintana Cruz Company

**RE:** January 2018 Report

---

**GENERAL UPDATE:**

- The Legislature reconvened on Wednesday, January 3, 2018, beginning the second year of the two-year Session.
- Two-year bills must be passed out of their House of Origin by Wednesday, January 31<sup>st</sup>.
- The deadline for bills to be introduced is Friday, February 16<sup>th</sup>.
- This year's Session will wrap up on Friday, August 31<sup>st</sup>, ending the second year of the two-year Session.
- The General Election is set for November 6, 2018.

**POLITICAL ITEMS OF NOTE:**

- The atmosphere in the Capitol has palpably changed in recent months due to the #MeToo campaign and to several elected officials being accused of sexual harassment. At this time, two Assemblymembers have resigned due to accusations/charges: Raul Bocanegra and Matt Dababneh. Meanwhile in the Senate, Senator Tony Mendoza took a temporary leave of absence in January while an investigation about accusations of his sexual harassment is being conducted. The Senator is threatening to return to work in the Capitol before the investigation is complete, prompting pro Tem Kevin de Leon to author and the Senate to approve today SR 79, a Resolution allowing the Senate Rules Committee to suspend the Senator with pay.
- Assemblymember Sebastian Ridley-Thomas also resigned due to undisclosed health issues.
- These resignations drastically changes the makeup of the Assembly, as all Assemblymembers are democrats, with Bocanegra and Dababneh categorized as strong moderate democrats. The Assembly democrats have lost the supermajority, and the "mod caucus" will likely be less



influential without two of their most vocal members. Additionally, there has been a shuffle in the membership of Assembly Committees, with members of the Assembly leadership filling in open slots – we believe this to be a temporary holding pattern until new members are elected and then replace those slots in the spring.

- The initiative to recall Senator Josh Newman due to his vote on the gas tax qualified, and the recall election has been set for June 5<sup>th</sup>, the same day as the statewide primary. June 5<sup>th</sup> is also the date for special elections to replace the three resigned democratic Assemblymembers, with the primary election set for April 3<sup>rd</sup>. Governor Brown intentionally set the election date prior to the budget deadline, so that the Assembly democrats will re-achieve super-majority status in time for the impending budget vote.
- Assemblymember Wendy Carrillo began in January, filling the seat of Jimmy Gomez, who is now the congressional representative of California's 34<sup>th</sup> district. A former journalist, Carrillo's priorities include environmental justice, healthcare, and education. Her district covers the areas of East Los Angeles, Highland Park, Montecito, and Silverlake.
- There is a leadership change in the Senate this year, due to pro Tem Kevin de Leon's run for U.S. Senate as his term in the California State Legislature comes to an end. Pro Tem Kevin de Leon has officially announced that Senator Toni Atkins will take his post in March.

#### **POLICY ITEMS OF NOTE:**

- Today Governor Jerry Brown delivered his 16<sup>th</sup> and final State of the State address. It was extremely optimistic with regard to CA's economy, the progress he has made over the last 8 years and the future for California. True to form, Governor Brown did spend time talking about the environment. Below are excerpts of note:

*Here in California, we follow a different path. Enlightened by top scientists at the University of California, Stanford and Caltech, among others, our state has led the way:*

- *Building and appliance efficiency standards;*
- *Renewable electricity —reaching 50 percent in just a few years;*
- *A powerful low-carbon fuel standard; Incentives for zero-emission vehicles;*
- *Ambitious policies to reduce short-lived climate pollutants like methane and black carbon;*
- *A UN sponsored climate summit this September in San Francisco; and*
- *The nation's only functioning cap-and-trade system.*

*I will shortly provide an expenditure plan for the revenues that the cap-and-trade auctions have generated. Your renewing this program on a bipartisan basis was a major achievement and will ensure that we will have substantial sums to invest in communities all across the state — both urban and agricultural.*

*The goal is to make our neighborhoods and farms healthier, our vehicles cleaner — zero emission the sooner the better — and all our technologies increasingly lowering their carbon output. To meet our ambitious goals, we will need five million zero-emission vehicles on the road by 2030. Think of all the jobs that will create and how much cleaner our air will be.*



*When you passed cap-and-trade legislation, you also passed a far-reaching air pollution measure that for the first time focuses on pollutants that disproportionately affect specific neighborhoods. Instead of just measuring pollutants over vast swaths of land, regulators will zero in on those communities which are particularly disadvantaged by trains, trucks or factories.*

**QUINTANA CRUZ COMPANY ACTION ITEMS:**

- We orchestrated a meeting with incoming Senate pro Tem Toni Atkins on Tuesday, January 23<sup>rd</sup>. We were able to sit down face-to-face with Senator Atkins, introduce Executive Office Wayne Nastri directly to the Senator, establishing an introductory dialog surrounding environmental quality and environmental justice issues. During that meeting, Senator Atkins divulged that Deanna Spehn in her District Office was her expert and her “go-to” on all issues that will impact SCAQMD. Our office has preemptively reached out to Deanna, let her know that we represent SCAQMD, and begun establishing a relationship with her.





---

# CALIFORNIA ADVISORS, LLC

---

SCAQMD Report  
California Advisors, LLC  
February 9, 2018 Legislative Committee Hearing

## **General Update**

On January 10<sup>th</sup>, the Governor released his proposed 2018-19 budget. Notably absent was a Greenhouse Gas Reduction Fund (GGRF) spending plan. On January 26<sup>th</sup>, 2018, Governor Brown issued Executive Order B-48-18 which directs the state to work with private entities to put five million electric vehicles on the road by 2030 and significantly expand vehicle charging infrastructure.

In the Legislature, January 31, 2018 was the last day for two-year bills to be passed out of their houses of origin. After a small flurry of activity leading up to this deadline, there will be a bit of a lull until the final bill introduction deadline of February 17<sup>th</sup>, 2018. Prior to this deadline we will be solidifying authors and strategy for this year's legislative priorities.

## **2018-19 Budget Release**

On January 10<sup>th</sup>, 2018 the Governor released his proposed 2018-19 budget. Perhaps to put a finer point on his fiscal success as Governor, he made the point that in 2011 California was facing a budget deficit of \$27 billion. Now, in Governor Brown's final year, California enjoys a budget surplus with the ability to fill the Rainy Day Fund to nearly \$13.5 billion.

## **AB 617 Implementation Funding**

Conspicuously absent from the Governor's proposed budget was a repeat of the \$27 million appropriation to air districts for implementation of the Community Action Plans as directed in last year's AB 617 (C. Garcia). Negotiations with key legislators and the Governor's office regarding this funding are ongoing.

## **2018 Legislative Priorities**

We submitted numerous placeholder bills to the Legislative Counsel's office by the January deadline, on behalf of the District. These "spot bills" were developed in order to provide flexibility to implement the District's 2018 legislative strategy, once it is finalized.

## **GGRF Spending Plan**

Cap and Trade auctions seem to be stabilizing. Many projections consider last year's revenues of approximately \$1.25 billion available for appropriation to be similar to revenues we can expect going forward. In addition to the spending plan in the chart below, the Administration is proposing a new eight-year initiative to continue the state's clean



vehicle rebates and to spur more infrastructure investments. This \$2.5 billion GGRF initiative will help bring 250,000 vehicle charging stations and 200 hydrogen fueling stations to California by 2025.

This year's GGRF spending plan is as follows:

<b>2018-19 Cap and Trade Expenditure Plan</b> (Dollars in Millions)			
<i>Investment Category</i>	<i>Department</i>	<i>Program</i>	<i>Amount</i>
Air Toxic and Criteria Air Pollutants	Air Resources Board	AB 617 - Community Air Protection	\$250
		Technical Assistance to Community Groups	\$5
Low Carbon Transportation	Air Resources Board	Clean Vehicle Rebate Project	\$175
		Clean Trucks, Buses, & Off-Road Freight Equipment	\$160
		Enhanced Fleet Modernization Program, School Buses & Transportation Equity Projects	\$100
	Energy Commission	Low Carbon Fuel Production	\$25
Climate Smart Agriculture	Air Resources Board	Agricultural Diesel Engine Replacement & Upgrades	\$102
	Energy Commission	Energy Efficiency	\$34
	Department of Food and Agriculture	Healthy Soils	\$5
	Energy Commission	Renewable Energy	\$4
Healthy Forests	CAL FIRE	Healthy & Resilient Forests	\$160
	CalOES	Local Fire Response	\$25
Short-Lived Climate Pollutants	Department of Food and Agriculture	Methane Reduction	\$99
	CalRecycle	Waste Diversion	\$20
Integrated Climate Action: Mitigation & Resilience	Strategic Growth Council	Transformative Climate Communities	\$25
	IBank	California Integrated Climate Investment Program	\$20
	California Conservation Corps	Energy Corps	\$6
Climate and Clean Energy Research	Strategic Growth Council	California Climate Change Technology and Solutions Initiative	\$35
<b>Total</b>			<b>\$1,250</b>





## **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

916 441-0697 • FAX 916 441-5061

Email: gonsalves@gonsalvi.com

**TO:** South Coast Air Quality Management District

**FROM:** Anthony, Jason & Paul Gonsalves

**SUBJECT:** Legislative Update – January 2018

**DATE:** Tuesday, January 30, 2018

---

As you know, the Legislature reconvened the 2018 legislative session on Wednesday, January 3, 2018. During the first month back, the Legislature had more than 1,600 2-year bills to consider from the 2017 legislative session.

### **BUDGET**

On January 10, 2018, Governor Brown proposed a \$131.7 billion General Fund budget for 2018-19 that fills the state's Rainy-Day Fund to its constitutional target, fully implements the state's K-12 school funding formula 2-years ahead of schedule, and provides \$4.6 billion for the first year of a 10-year transportation improvement plan.

Proposition 2, approved by California voters in 2014, established a constitutional goal of reserving 10% of tax revenues in a Rainy-Day Fund. By the end of the fiscal year, the state's Rainy-Day Fund will have a total balance of \$8.4 billion, or 65% of the constitutional target. The budget proposes a \$3.5 billion supplemental payment in addition to the constitutionally required transfer to the Rainy-Day Fund for 2018-19. The 2 payments would bring the total Rainy-Day Fund to \$13.5 billion.

The proposed budget also includes the first full year of funding under the Road Repair and Accountability Act of 2017 (SB 1), which provides funding for both State and local transportation infrastructure. This act provides \$55 billion in new funding over the next 10 years, split evenly between state and local projects. The budget includes \$4.6 billion in new transportation funding, which includes:



- A focus on “fix-it-first” investments to repair neighborhood roads, state highways and bridges (\$2.8 billion).
- Making key investments in trade and commute corridors to support continued economic growth and implement a sustainable freight strategy (\$556 million).
- Matching locally generated funds for high-priority transportation projects (\$200 million).
- Investing in local passenger rail and public transit modernization and improvement (\$721 million).

California continues to work towards a state goal to reduce GHG emissions 40% below 1990 levels by 2030. In July of 2017, Governor Brown signed legislation to extend California’s landmark cap-and-trade program through 2030. Since then, auction proceeds have stabilized and revenues have increased, resulting in \$1.25 billion in cap-and-trade funds available for appropriation in 2018-19. The plan for these funds were announced in conjunction with the Governor’s State of the State Address.

## **STATE OF THE STATE**

On January 25, 2018, Governor Brown delivered his 16<sup>th</sup>, and final, State of the State address proclaiming that the “bolder path is still our way forward” on climate change, infrastructure investment, health care, education and criminal justice.

The Governor returned repeatedly to themes of broader cooperation and bipartisanship to cure the one-sidedness surging through politics. Governor Brown thanked President Trump for delivering “substantial assistance” following devastating wildfires and other natural disasters. He nodded to Republican U.S. Sens. John McCain, Lisa Murkowski and Susan Collins for voting against a GOP-led effort to repeal the Affordable Care Act. In addition, he praised Republican lawmakers in California for joining him in overhauling the pension and workers’ compensation systems, and for putting up votes to secure a rainy-day budget reserve, a \$7.5 billion water bond, and the extension of the cap-and-trade climate auction program.

To the 8 Republicans who crossed party lines to back his cap-and-trade deal, Governor Brown promised, to applause from the mostly Democratic chamber: “Don’t worry. I got your back.”

Governor Brown was defensive of last year’s \$52 billion gas tax and vehicle license fee increase to pay for road and transit repairs, saying he would do everything in his power to defeat any repeal that qualifies for the November ballot.

Governor Brown is the longest serving governor in California history, having been elected 4 times. It’s a record that can never be broken under term limits. By the end of 2018, Pat or Jerry Brown will have been Governor for 24 of the previous 60 years.



## **GOVERNOR'S EXECUTIVE ORDER FOR ZERO EMISSION VEHICLES**

On January 26, 2018, Governor Brown took action to further California's climate leadership by signing an executive order to boost the supply of zero-emission vehicles and charging and refueling stations in California. The Governor also detailed the new plan for investing \$1.25 billion in cap-and-trade auction proceeds to reduce carbon pollution and improve public health and the environment.

California is taking action to dramatically reduce carbon emissions from transportation. To continue to meet California's climate goals and clean air standards, the State must go even further to accelerate the market for zero-emission vehicles. The Governor's executive order implements a new target of 5 million ZEVs in California by 2030, and will help significantly expand vehicle charging infrastructure.

The Administration is also proposing a new 8-year initiative to continue the state's clean vehicle rebates and spur more infrastructure investments. This \$2.5 billion initiative will help bring 250,000 vehicle charging stations and 200 hydrogen fueling stations to California by 2025.

The Executive Order builds on past efforts to boost zero-emission vehicles, including: adopting the 2016 Zero-Emission Vehicle Plan and the Advanced Clean Cars program; hosting a Zero-Emission Vehicle Summit; launching a multi-state ZEV Action Plan; co-founding the International ZEV Alliance; and issuing Executive Order B-16-12 in 2012 to help bring 1.5 million zero-emission vehicles to California by 2025.

In addition to the Governor's executive order, the Governor also released the 2018 plan for California's Climate Investments, a statewide initiative that puts billions of cap-and-trade dollars to work reducing greenhouse gas emissions, strengthening the economy and improving public health and the environment.

California Climate Investments projects include affordable housing, renewable energy, public transportation, zero-emission vehicles, environmental restoration, and more sustainable agriculture and recycling. At least 35% of these investments are made in disadvantaged and low-income communities.

## **2018 LEGISLATIVE DEADLINES**

**Jan. 3** Legislature reconvenes.

**Jan. 10** Budget must be submitted by Governor.

**Jan. 12** Last day for **policy committees** to hear and report to **fiscal committees** fiscal bills introduced in their house in the odd-numbered year.

**Jan. 19** Last day for any committee to hear and report to the **Floor** bills introduced in that house in the odd-numbered year. Last day to submit **bill requests** to the Office of Legislative Counsel.

**Jan. 31** Last day for each house to pass **bills** introduced in that house in the odd-numbered year.

**Feb. 16** Last day for bills to be **introduced**.



**Apr. 27** Last day for **policy committees** to hear and report to fiscal committees **fiscal bills** introduced in their house.

**May 11** Last day for **policy committees** to hear and report to the Floor **nonfiscal** bills introduced in their house.

**May 18** Last day for **policy committees** to meet prior to June 4.

**May 25** 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 4.

**May 29-June 1 Floor session only.** No committee may meet for any purpose except for Rules Committee, bills referred pursuant to Assembly Rule 77.2, and Conference Committees.

**June 1** Last day for each house to pass bills introduced in that house.

**June 4** Committee meetings may resume.

**June 15** Budget Bill must be passed by midnight.

**June 28** Last day for a legislative measure to qualify for the Nov. 6 General Election ballot.

**June 29** Last day for **policy committees** to hear and report **fiscal bills** to fiscal committees.

**July 6** Last day for **policy committees** to meet and report bills.

**Aug. 17** Last day for **fiscal committees** to meet and report bills.

**Aug. 20-31 Floor session only.** No committee may meet for any purpose except Rules Committee.

**Aug. 24** Last day to **amend** on Floor.

**Aug. 31** Last day for each house to pass bills. **Final Recess** begins on adjournment.



# **ATTACHMENT 4**

## **SCAQMD Draft Legislative Proposal to Authorize a Potential Local Sales Tax Increase Ballot Measure in the South Coast Air District**

**Problem:** The South Coast Air Basin has among the worst air quality in the nation and is in extreme nonattainment for ozone, based on federal air quality standards. Our 2016 Air Quality Management Plan (AQMP) addresses this daunting problem, however, it requires substantial and sustainable funding over the next 15 years in order to improve air quality to levels that meet federal air quality standards and reduce the existing significant public health risk.

**Summary:** This bill proposal would seek authorization from the Legislature, to, either through South Coast Board direction or through the voter initiative process, put a quarter-cent sales tax increase proposal on the ballot within the South Coast Air District, for voter approval, in order to raise funds to facilitate the significant reduction of air pollution in the South Coast region, in support of the 2016 AQMP.

This would only be an authorization bill to allow either SCAQMD Governing Board action or a voter driven petition ballot initiative to put this proposal on the ballot. This bill would not directly create a ballot measure.

The key focus of this proposal would be to help raise the needed funds, \$1 billion per year for the next 15 years, required to support the 2016 AQMP. It is still being explored as to whether this proposal could be expanded to include other large local air districts throughout the state as well.

This proposal could generate up to \$700 million on an annual basis for air pollution reduction within the South Coast region, which would go a long way towards solving the air pollution problem. A large portion of this funding would go to providing incentives to businesses to promote the development and deployment of clean technology and facilitate fleet turnover from dirty, heavy-duty diesel trucks and other vehicles to cleaner alternatives.

The goal would be for this proposal to go on the ballot in 2020.



# ATTACHMENT 5

## PROPOSED Public Fleet Rule Legislative Proposal and Draft Language

### AS AMENDED BY LEGISLATIVE COMMITTEE\*

#### Introduction

Existing law authorizes the governing board of the South Coast Air Quality Management District to adopt rules and regulations that require specified operators of public and commercial fleet vehicles consisting of 15 or more vehicles, when adding vehicles or replacing vehicles in an existing fleet or forming a new fleet, to purchase vehicles that are capable of operating on methanol or other equivalently clean-burning alternative fuel and that require these vehicles to be operated, to the maximum extent feasible, on the alternative fuel when operating in the south coast district.

This bill would authorize the governing board of the south coast district to adopt rules and regulations that require specified operators of public and commercial fleet vehicles consisting of 15 or more vehicles to purchase the cleanest commercially available vehicles, as defined, and require those vehicles to be operated, to the maximum extent feasible, in the south coast district.

This bill would make legislative findings and declarations as to the necessity of a special statute for the south coast district.

#### Legislative Language

*SECTION 1. Section 40447.5 of the Health and Safety Code is amended to read:*

*40447.5. ~~Notwithstanding~~ (a) For purposes of this section, "cleanest commercially available" vehicle means a vehicle operated by a fuel or technology that substantially reduces emissions of oxides of nitrogen and is technically feasible, as defined by the governing board of the south coast district.*

*(b) Notwithstanding any other provision of law, the south coast district board may adopt rules and regulations that do all of the following:*

*(a)*

*(1) Require operators of public and commercial fleet vehicles, consisting of 15 or more vehicles under a single owner or lessee and operating substantially in the south coast district, ~~when adding vehicles to or replacing vehicles in an existing fleet or purchasing vehicles to form a new fleet, to purchase vehicles which are capable of operating on methanol or other equivalently clean burning alternative fuel to purchase the cleanest commercially available vehicles~~ that will meet operational needs and require the replacement of no more than fifteen percent of existing vehicles per calendar year, with due consideration of vehicle useful life. The south coast district board may ~~and to require that these vehicles be operated, to the maximum extent feasible, on the alternative fuel when operating in the south coast district.~~ Notwithstanding Section 39021, as used in this subdivision, the term "commercial fleet vehicles" is not limited to vehicles that are operated for hire, compensation, or profit. ~~No A rule or regulation adopted pursuant to this paragraph shall not apply to emergency vehicles operated by local law enforcement agencies, fire departments, or to paramedic and rescue vehicles until the south coast district board finds and determines that cleanest commercially available vehicles will not impair the alternative fuel is available at sufficient locations so that the emergency response capabilities of those vehicles is not impaired.~~*

*(2) Encourage and facilitate ridesharing for commuter trips into, out of, and within the south coast district.*

*(3) Prohibit or restrict the operation of heavy-duty trucks during hours of heaviest commuter traffic on freeways and other high traffic volumes highways. In adopting the regulations pursuant to this paragraph, the south coast district shall consult with the Department of Transportation and the*

*\*Amendments by the Legislative Committee are denoted with a double underline.*



Department of the California Highway Patrol and the transportation commission of each county in the south coast district. No regulation adopted pursuant to this paragraph shall, however, prohibit or restrict the operation of any heavy-duty truck engaged in hauling solid or hazardous waste or a toxic substance if that truck is required to be operated at certain times of day pursuant to an ordinance adopted for the protection of public health or safety by a city or county or any heavy-duty truck required to be operated at certain times of the day pursuant Section 25633 of the Business and Professions Code.

*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 needs of the South Coast Air Basin, which is designated as a federal extreme nonattainment area for ozone.*



# **ATTACHMENT 6**

## **Dr. Joseph Lyou's Proposed Amendments to SCAQMD's 2018 Federal and State Legislative Goals and Objectives**

Dr. Joseph Lyou: Would staff support including the additional goal of: “opposing tax laws or other financial incentive legislation that disproportionately benefits those who manufacture, sell, or use products that significantly increase air pollution within the district”?

Response: Staff has concerns that this goal may have too broad of an application and thus be difficult to properly implement. As an alternative, staff suggests:

### ***Clean Air Act, National Ambient Air Quality Standards (NAAQS) and SIP (Existing Language as modified)***

“Oppose legislation that conflicts with the District’s attainment goals.” Further,

Support policies, legislation and/or administrative efforts to:

- Ensure adequate SCAQMD authority under the federal Clean Air Act (CAA);
- Extend or enhance SCAQMD’s subvention funding under CAA Sections 103 and 105;
- Increase funding and incentive programs to help states and local regions meet attainment for clean air standards under the CAA; and
- Protect science-driven and health-based determinations of national ambient air quality standards, and efforts to streamline and provide flexible implementation of SIP requirements, as needed, to ensure feasibility of attainment.

Dr. Joseph Lyou: Would staff support this change to the “Clean Energy” goal? Support legislation that advances the Board’s Energy Policy which promotes energy efficiency, demand reduction and reliable, cost effective and clean energy for all consumers . . .”

Response: Staff is Supportive

### ***Clean Energy (Existing Language as modified)***

Support legislation that advances the Board’s Energy Policy which promotes energy efficiency, demand reduction and reliable, cost effective and clean energy for all consumers in the District while facilitating attainment of clean air standards and support for a healthy economy. In particular, support policies and funding that promote the development and deployment of zero and near-zero emission infrastructure, equipment and vehicles.





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

# DRAFT

## SCAQMD's Federal Legislative Goals & Objectives for 2018

*The following goals and objectives are identified to facilitate attainment of federal clean air standards within the South Coast region by statutory deadlines, while working with Congress, the White House, federal, state and local agencies, business, environmental and community groups, and other stakeholders:*

### ***Federal Support***

Work to ensure that the federal government does its fair share to reduce air pollution by:

- Providing funding or regulatory authority adequate for nonattainment areas to attain National Ambient Air Quality Standards (NAAQS) for upcoming federal deadlines, and in particular, the South Coast Air Quality Management District (SCAQMD) to implement the 2016 Air Quality Management Plan (AQMP) and attain federal ozone and particulate matter standards by upcoming federal deadlines;
- Reauthorizing and expanding funding for the Diesel Emission Reduction Act (DERA);
- Increasing funding for the Targeted Air Shed Grant program;
- Authorizing and funding new programs which will reduce air pollution through the adoption and deployment of zero and near-zero emission technologies, fuels and recharging/refueling infrastructure;
- Establishing programs or policies that incentivize the federal government to purchase and use advanced clean technologies and eliminate the use of technologies generating NOx and particulate matter emissions; and
- Incentivizing individuals, businesses, states, and local governments to purchase and use advanced clean technologies and eliminate the use of technologies generating NOx and particulate matter emissions.

### ***Technology Advancement***

Expand funding opportunities and federal tax incentives for advanced clean technology research, development, demonstration and deployment programs, including those related to:

- Zero and near-zero emission technologies;
- Clean vehicles (such as light-, medium- and heavy-duty vehicles, locomotives, marine vessels, and aircraft technologies);
- Clean fuels and refueling/recharging technologies and infrastructure;
- Clean energy sources;
- Technologies, systems and/or processes which reduce ambient concentrations of air pollutants and/or toxic air emissions; and
- The implementation of the 2016 Air Quality Management Plan (AQMP).

### ***Marine Vessels***

Pursue legislative and/or administrative policies that will further reduce marine vessel emissions and will ensure, through regulatory and/or incentive-based policies that the cleanest vessels come to U.S. ports.



## SCAQMD's Federal Legislative Goals & Objectives for 2018

### ***Surface Transportation & Goods Movement***

Pursue the adoption of legislation and/or policies which will reduce or eliminate air quality impacts from the freight sector (for both medium-duty and heavy duty vehicles), as well as off-road vehicles (such as agricultural vehicles, cargo handling equipment, freight handling equipment, and construction equipment).

### ***Locomotives***

Pursue efforts to reduce locomotive emissions, through regulatory and/or incentive-based policies.

### ***Reduction of Toxic Emissions***

Pursue efforts through legislative and administrative programs, to reduce toxic emissions, and the public's exposure to toxic emissions, within the South Coast region.

### ***Environmental Justice***

Support legislation which promotes environmental justice initiatives that will reduce localized health risks, develop clean air technologies that directly benefit disproportionately impacted communities, and enhance community participation in decision-making.

### ***Business/Jobs Climate***

Support legislation, policies or administrative actions that support and assist the regulated community to comply with rules and regulations in the most efficient and cost-effective manner that protects and encourages job retention and creation, and promotes economic growth, while working toward attainment of clean air standards.

### ***Clean Air Act, National Ambient Air Quality Standards (NAAQS) and SIP***

"Oppose legislation that conflicts with the District's attainment goals." Further, ~~s~~Support policies, legislation and/or administrative efforts to:

- Ensure adequate SCAQMD authority under the federal Clean Air Act (CAA);
- Extend or enhance SCAQMD's subvention funding under CAA Sections 103 and 105;
- Increase funding and incentive programs to help states and local regions meet attainment for clean air standards under the CAA; and
- Protect science-driven and health-based determinations of national ambient air quality standards, and efforts to streamline and provide flexible implementation of SIP requirements, as needed, to ensure feasibility of attainment.

### ***Climate Change***

Seek to influence climate change initiatives and facilitate their implementation at local levels, to promote co-benefits with NAAQS and air toxics reduction, consistent with the Board's policy.

### ***New Source Review Offsets***

Modernize federal New Source Review offset requirements for areas where the supply of offsets is inadequate, while furthering the pursuit of clean air objectives.





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

# DRAFT

## SCAQMD's State Legislative Goals & Objectives for 2018

*The following goals and objectives are identified to protect public health and facilitate attainment of clean air standards within the South Coast region by statutory deadlines, while working with and serving as a resource to state legislators and the Governor; federal, state, and local agencies; business, environmental and community groups; and other stakeholders:*

### ***Air Quality Funding***

Increase existing and identify new funding sources for clean air programs that protect public health and ensure attainment of state and federal air quality standards, particularly incentive programs and research and development projects that support the 2016 Air Quality Management Plan (AQMP) and create opportunities to partner with local businesses, communities and residents.

### ***SCAQMD Authority / Policy Implementation***

Protect and ensure adequate SCAQMD authority for implementation of the Board's clean air policies and programs, as required by state and federal law, including the 2016 AQMP.

### ***State Support***

Work to ensure that the state government does its fair share to reduce air pollution in order for the South Coast region to meet national ambient air quality standards, and provides legislative and administrative support to SCAQMD to implement the 2016 AQMP and attain federal ozone and particulate matter standards by upcoming federal deadlines.

### ***Environmental Justice***

Support legislation and funding to promote and sustain environmental justice initiatives that: reduce localized health risks resulting from criteria pollutant and toxic air contaminant emissions, develop and expand access to clean air technology that directly benefits disproportionately impacted communities, enhance community participation in decision-making, and provide the resources necessary to fully implement local air districts' new responsibilities and programs created through Assembly Bill 617 (C. Garcia, Chapter 136, Statutes of 2017).

### ***Climate Change***

Seek to influence climate change initiatives and facilitate their implementation consistent with Board policy. In particular, support efforts directing that Greenhouse Gas Reduction Fund investments maximize criteria and toxics emission reduction co-benefits, promote near-zero and zero-emission vehicles, and address air quality and public health impacts.



## SCAQMD's State Legislative Goals & Objectives for 2018

### ***Clean Energy***

Support legislation that advances the Board's Energy Policy which promotes energy efficiency, demand reduction and reliable, cost effective and clean energy for all consumers in the District while facilitating attainment of clean air standards and support for a healthy economy. In particular, support policies and funding that promote the development and deployment of zero and near-zero emission infrastructure, equipment and vehicles.

### ***Business/Jobs Climate***

Support legislation, policies and/or administrative actions that protect and encourage job retention and creation and promote economic growth, while working toward attainment of clean air standards; and that support and assist the regulated community in complying with rules and regulations in the most efficient and cost-effective manner.

### ***Surface Transportation & Goods Movement***

Support and expand air quality policy and funding considerations relating to the implementation of state and federal surface transportation and goods movement policies and programs, including those relating to the FAST Act.



# **ATTACHMENT 7**

SECTION 1. Section 40440.5 of the Health and Safety Code is amended to read:

40440.5. (a) Notice of the time and place of a public hearing of the south coast district board to adopt, amend, or repeal any rule or regulation relating to an air quality objective shall be given not less than 30 days prior thereto and, notwithstanding subdivision (b) of Section 40725, shall be published in each county in the south coast district in accordance with the requirements of Section 6061 of the Government Code. The period of notice shall commence on the first day of publication.

(b) In addition to the requirements of subdivision (b) of Section 40725, notice shall be mailed to every person who filed a written request for notice of proposed regulatory action with the south coast district, every person who requested notice for, or registered at, the workshop, if any, held in connection with the development of the proposed rule or regulation, and any person the south coast district believes to be interested in the proposed rule or regulation. In lieu of mailed notice, notice may be sent electronically to any such person for whom the south coast district has obtained an electronic address unless the person has requested mailed notice in connection with a particular notice or for all notices. The south coast district shall establish and maintain procedures for requesting mailed notice and for updating electronic addresses. The south coast district shall publish the notice on its website not less than 30 days prior to the public hearing. The inadvertent failure to mail or provide notice to any particular person as provided in this subdivision shall not invalidate any action taken by the south coast district board.

(c) In addition to the summary description of the effect of the proposal, as required by subdivision (b) of Section 40725, the notice shall include the following:

(1) A description of the air quality objective that the proposed rule or regulation is intended to achieve and the reason or reasons for the proposed rule or regulation.

(2) A list of supporting information, documents, and other materials relevant to the proposed rule or regulation, prepared by the south coast district or at its direction, any environmental assessment, and the name, address, and telephone number of the district officer or employee from whom copies of the materials may be obtained.

(3) A statement that a staff report on the proposed rule or regulation has been prepared, and the name, address, and telephone number of the district officer or employee from whom a copy of the report may be obtained. Whenever the proposed rule or regulation will significantly affect air quality or emissions limitations, the staff report shall include the full text of the proposed rule or regulation, an analysis of alternative control measures, a list of reference materials used in developing the proposed rule or regulation, an environmental assessment, exhibits, and draft findings for consideration by the south coast district board pursuant to Section 40727. Further, if an environmental assessment is prepared, the staff report shall also include social, economic, and public health analyses.



(d) Regardless of whether a workshop was previously conducted on the subject of the proposed rule or regulation, the south coast district may conduct one or more supplemental workshops prior to the public hearing on the proposed rule or regulation.

(e) If the south coast district board makes changes in the text of the proposed rule or regulation that was the subject of notice given pursuant to this section, further consideration of the rule or regulation shall be governed by Section 40726.

(f) This section is not intended to change, and shall not be construed as changing, any entitlement or protection conferred by the California Public Records Act (Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code).



§ 40440.7. Public workshops

(a) Whenever the south coast district intends to propose the adoption, amendment, or repeal of a rule or regulation that will significantly affect air quality or emissions limitations, the south coast district shall conduct one or more public workshops.

(b) Notice of the time and place of the first workshop shall be given no less than 75 days prior to the meeting at which the south coast district board will consider the Proposed rule or regulation by publication in each county in the south coast district pursuant to Section 6061 of the Government Code and by mail to every person who filed a written request for notice of proposed regulatory action with the south coast district and any person the south coast district believes to be interested in attending the workshop. In lieu of mailed notice, notice may be sent electronically to any such person for whom the south coast district has obtained an electronic address unless the person has requested mailed notice in connection with a particular notice or for all notices. The south coast district shall establish and maintain procedures for requesting mailed notice and for updating electronic addresses. The south coast district shall publish the notice on its website not less than 75 days prior to the meeting.

\*\*\*\*\* (no changes to remainder of section)



CODE TEXT

**HEALTH AND SAFETY CODE - HSC**

**DIVISION 26. AIR RESOURCES [39000 - 44474]**

*( Division 26 repealed and added by Stats. 1975, Ch. 957. )*

**PART 4. NONVEHICULAR AIR POLLUTION CONTROL [41500 - 42710]**

*( Part 4 added by Stats. 1975, Ch. 957. )*

**CHAPTER 4. Enforcement [42300 - 42454]**

*( Chapter 4 added by Stats. 1975, Ch. 957. )*

**ARTICLE 1. Permits [42300 - 42316]**

*( Article 1 added by Stats. 1975, Ch. 957. )*

**42301.6.**

(a) Prior to approving an application for a permit to construct or modify a source which emits hazardous air emissions, which source is located within 1,000 feet from the outer boundary of a school site, the air pollution control officer shall prepare a public notice in which the proposed project or modification for which the application for a permit is made is fully described. The notice may be prepared whether or not the material is or would be subject to subdivision (a) of Section 25536, if the air pollution control officer determines and the administering agency concurs that hazardous air emissions of the material may result from an air release, as defined by Section 44303. The notice may be combined with any other notice on the project or permit which is required by law.

(b) The air pollution control officer shall, at the permit applicant's expense, distribute ~~by mail~~ or send by electronic mail the public notice to the parents or guardians of children enrolled in any school that is located within one-quarter mile of the source and to each address (or by electronic mail to the occupant of any such address) within a radius of 1,000 feet of the proposed new or modified source at least 30 days prior to the date final action on the application is to be taken by the officer. The officer shall review and consider all comments received during the 30 days after the notice is distributed, and shall include written responses to the comments in the permit application file prior to taking final action on the application.

(1) Notwithstanding Section 49073 of the Education Code, or any other provision of law, the information necessary to mail or send by electronic mail the notices required by this section shall be made available by the school district to the air pollution control officer.

(2) Nothing in this subdivision precludes, at the discretion of the air pollution control officer and with permission of the school, the distribution of the notices to the children to be given to their parents or guardians.



(c) Notwithstanding subdivision (b), an air pollution control officer may require the applicant to distribute the notice if the district had such a rule in effect prior to January 1, 1989.

(d) The requirements for public notice pursuant to subdivision (b) or a district rule in effect prior to January 1, 1989, are fulfilled if the air pollution control officer or applicant responsible for giving the notice makes a good faith effort to follow the procedures prescribed by law for giving the notice, and, in these circumstances, failure of any person to receive the notice shall not affect the validity of any permit subsequently issued by the officer.

(e) Nothing in this section shall be deemed to limit any existing authority of any district.

(f) An applicant for a permit shall certify whether the proposed source or modification is located within 1,000 feet of a schoolsite. Misrepresentation of this fact may result in the denial of a permit.

(g) The notice requirements of this section shall not apply if the air pollution control officer determines that the application to construct or modify a source will result in a reduction or equivalent amount of air contaminants, as defined in Section 39013, or which are hazardous air emissions.

(h) As used in this section:

(1) "Hazardous air emissions" means emissions into the ambient air of air contaminants which have been identified as a toxic air contaminant by the state board or by the air pollution control officer for the jurisdiction in which the project is located. As determined by the air pollution control officer, hazardous air emissions also means emissions into the ambient air from any substances identified in subdivisions (a) to (f), inclusive, of Section 44321 of the Health and Safety Code.

(2) "Acutely hazardous material" means any material defined pursuant to subdivision (a) of Section 25532.

*(Amended by Stats. 1991, Ch. 1183, Sec. 14.)*



 [Back to Agenda](#)

BOARD MEETING DATE: March 2, 2018

AGENDA NO. 25B

REPORT: Special Legislative Committee

SYNOPSIS: The Legislative Committee held a Special meeting on Monday, February 12, 2018. The following is a summary of the meeting.

Agenda Item	Recommendation/Action
Proposed Sales Tax Increase Legislative Concept and Related Public Survey for Approval	Approve Survey and Sponsor in Concept if Positive Feedback from Public Survey

**RECOMMENDED ACTION:**

Receive and file this report, and approve agenda items as specified in this letter.

Judith Mitchell, Chair  
Legislative Committee

DJA:PFC:MJK:jns

---

**Committee Members**

Present: Mayor Pro Tem Judith Mitchell/Chair (videoconference), Dr. William A. Burke (teleconference), Supervisor Shawn Nelson (teleconference), Dr. Clark E. Parker, Sr. (teleconference), and Supervisor Janice Rutherford (videoconference).

Absent: Council Member Joe Buscaino/Vice Chair

**Call to Order**

Chair Mitchell called the meeting to order at 8:35 a.m.



## **ACTION ITEM:**

### **1. Proposed Sales Tax Increase Legislative Concept and Related Public Survey for Approval**

Derrick Alatorre, Deputy Executive Officer/Legislative, Public Affairs & Media, presented this item. As a follow-up to an item on the Legislative Committee meeting agenda on Friday, February 9, staff seeks approval for the release of a public survey relating to a bill proposal seeking to obtain authorization from the Legislature to put a quarter-cent sales tax increase measure on the 2019 ballot for voter approval within the South Coast Air District, either through Board action or through a voter initiative. Staff also seeks approval for the bill proposal itself, on the condition that positive feedback from the public survey is received, in hopes of possibly introducing the bill by the February 16 state legislative bill introduction deadline.

The key focus of this bill proposal is to help raise funds to support the 2016 AQMP. The public survey will be administered throughout the four counties of the South Coast region to a representative spectrum of the public. The survey will assess awareness of SCAQMD and solicit input on a potential sales tax increase to support clean air efforts. The bill proposal would only authorize, and not directly create, a ballot measure.

Estimates are that this proposal could generate up to \$700 million per year for the South Coast region, largely for incentives to promote the development and deployment of clean technology, and facilitate heavy-duty diesel truck and other vehicle turnover to cleaner alternatives.

Mayor Pro Tem Mitchell explained that the purpose of considering a conditional approval of the legislative concept is to meet the bill introduction deadline of February 16. This is based on new information that the survey could be completed in time to meet this deadline. If survey results are negative, staff would not move forward with the bill; if the survey results are positive, then staff would move forward, but could still pull back as needed depending on the full Governing Board's decision.

Supervisor Nelson expressed concern over moving forward without first getting survey results, and without full Board approval. A discussion ensued regarding moving forward with the bill depending on survey results. The discussion included comments that the bill would only move forward if there are positive survey results, and that the full Board would be able to review the decision of whether or not to continue moving forward with the bill at the upcoming March Board meeting.



Supervisor Nelson raised additional concerns regarding the wording of some of the survey questions and asked how “favorable results” is defined. A discussion regarding the wording of the survey questions followed. Additionally, it was clarified that staff would look to recommendations by the polling company in order to interpret the survey results.

**Staff recommended that the Committee APPROVE the survey and SPONSOR THE BILL IN CONCEPT IF POSITIVE FEEDBACK IS RECEIVED FROM THE PUBLIC SURVEY.**

Moved by Burke; seconded by Parker; approved as recommended by the following vote.

Ayes: Burke, Mitchell, Parker

Noes: Nelson, Rutherford

Abstain: None

Absent: Buscaino

### **OTHER MATTERS:**

#### **2. Public Comment Period**

There were no public comments.

#### **3. Next Meeting Date**

The next regular Legislative Committee meeting is scheduled for Friday, March 9, 2018 at 9:00 a.m.

### **Adjournment**

The meeting adjourned at 9:01 a.m.

### **Attachments**

1. Attendance Record
2. Proposed Sales Tax Increase Legislative Concept for Approval and Related Draft Public Survey



## **ATTACHMENT 1**

### **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT SPECIAL LEGISLATIVE COMMITTEE Attendance Record – February 12, 2018**

Dr. William A. Burke (teleconference).....	SCAQMD Board Member
Supervisor Shawn Nelson (teleconference).....	SCAQMD Board Member
Mayor Pro Tem Judith Mitchell (videoconference) .....	SCAQMD Board Member
Dr. Clark E. Parker, Sr. (teleconference).....	SCAQMD Board Member
Supervisor Janice Rutherford (videoconference) .....	SCAQMD Board Member
Derrick Alatorre .....	SCAQMD Staff
Barbara Baird .....	SCAQMD Staff
Philip Crabbe .....	SCAQMD Staff
Wayne Natri .....	SCAQMD Staff
Jeanette Short.....	SCAQMD Staff
Anthony Tang .....	SCAQMD Staff
Jill Whynot.....	SCAQMD Staff
Paul Wright .....	SCAQMD Staff



# **ATTACHMENT 2**

## **SCAQMD Draft Legislative Proposal to Authorize a Potential Local Sales Tax Increase Ballot Measure in the South Coast Air District**

**Problem:** The South Coast Air Basin has among the worst air quality in the nation and is in extreme nonattainment for ozone, based on federal air quality standards. Our 2016 Air Quality Management Plan (AQMP) addresses this daunting problem, however, it requires substantial and sustainable funding over the next 15 years in order to improve air quality to levels that meet federal air quality standards and reduce the existing significant public health risk.

**Summary:** This bill proposal would seek authorization from the Legislature, to, either through South Coast Board direction or through the voter initiative process, put a quarter-cent sales tax increase proposal on the ballot within the South Coast Air District, for voter approval, in order to raise funds to facilitate the significant reduction of air pollution in the South Coast region, in support of the 2016 AQMP.

This would only be an authorization bill to allow either SCAQMD Governing Board action or a voter driven petition ballot initiative to put this proposal on the ballot. This bill would not directly create a ballot measure.

The key focus of this proposal would be to help raise the needed funds, \$1 billion per year for the next 15 years, required to support the 2016 AQMP. It is still being explored as to whether this proposal could be expanded to include other large local air districts throughout the state as well.

This proposal could generate up to \$700 million on an annual basis for air pollution reduction within the South Coast region, which would go a long way towards solving the air pollution problem. A large portion of this funding would go to providing incentives to businesses to promote the development and deployment of clean technology and facilitate fleet turnover from dirty, heavy-duty diesel trucks and other vehicles to cleaner alternatives.

The goal would be for this proposal to go on the ballot in 2020.



*Fairbank,  
Maslin,  
Maullin,  
Metz &  
Associates*

FM3

# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

## **ISSUES SURVEY**

**220-4853**

**DRAFT 3**

**CONSULTANT WORKING DRAFT. NOT FOR PUBLICATION. CA GOVT CODE 6254.**

Hello, I'm \_\_\_\_\_ from \_\_\_\_\_, a public opinion research company. I am definitely NOT trying to sell you anything or ask for a donation. We are conducting an opinion survey about issues that interest people living in Southern California, and we would like to include your opinions. May I speak to \_\_\_\_\_? **(YOU MUST SPEAK TO THE VOTER LISTED. VERIFY THAT THE VOTER LIVES AT THE ADDRESS LISTED, OTHERWISE TERMINATE.)**

- A. Before we begin, I need to know if I have reached you on a cell phone, and if so, are you in a place where you can talk safely without endangering yourself or others? **(IF NOT ON A CELL PHONE, ASK: Do you own a cell phone?)**

Yes, cell and can talk safely ----- 1  
 Yes, cell but cannot talk safely ----- **TERMINATE**  
 No, not on cell, but own one ----- 2  
 No, not on cell and do not own one ----- 3  
**(DON'T READ) DK/NA/REFUSED ----- TERMINATE**

1. **(T)** Generally speaking, how would you rate Southern California as a place to live: is it an excellent place to live, a good place, only fair, or a poor place to live?

Excellent ----- 1  
 Good ----- 2  
 Just fair ----- 3  
 Poor ----- 4  
**(DON'T KNOW/NA) ----- 5**

2. Now, I would like to ask your impressions of some people and organizations active in public life. As I read each name, please tell me whether your impression of that person or organization is generally favorable or unfavorable. If you don't recognize a name just say so. Here's the first one... **(IF FAVORABLE/UNFAVORABLE, ASK: "Is that very (FAVORABLE/UNFAVORABLE) or just somewhat?") (RANDOMIZE)**

	VERY FAV	SMWT FAV	SMWT UNFAV	VERY UNFAV	(CAN'T RATE)	NEVER HEARD OF/DK
--	-------------	-------------	---------------	---------------	-----------------	-------------------------

- [ ]a. South Coast Air Quality Management District ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6

**(ASK SPLIT SAMPLE A ONLY)**

- [ ]b. Your County Board of Supervisors ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6  
 [ ]c. The California Air Resources Board ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6  
 [ ]d. The Sierra Club ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6



	VERY FAV	SMWT FAV	SMWT UNFAV	VERY UNFAV	(CAN'T RATE)	NEVER HEARD OF/DK
<b>(ASK SPLIT SAMPLE B ONLY)</b>						
[ ]e. A-Q-M-D -----	1	2	3	4	5	6
[ ]f. U.S. Environmental Protection Agency -----	1	2	3	4	5	6
[ ]g. Metrolink -----	1	2	3	4	5	6

**(RESUME ASKING ALL RESPONDENTS)**

3. Now I am going to mention some things we have heard some people say are problems for the residents of Southern California. As I mention each one, please tell me whether you think it is a very serious problem, somewhat serious, not too serious, or not at all a serious problem in southern California today.  
**(RANDOMIZE)**

	VERY SER PROB	SMWT SER PROB	NOT TOO SER PROB	NOT SER PROB	(DK/ NO OPIN.)
[ ]a. <b>(T)</b> The amount of taxes people have to pay for government services -----	1	2	3	4	5
[ ]b. <b>(T)</b> Traffic congestion on the area's freeways -----	1	2	3	4	5
[ ]c. Climate change -----	1	2	3	4	5
[ ]d. Air quality in my community -----	1	2	3	4	5

**(ASK SPLIT SAMPLE A ONLY)**

[ ]e. <b>(T)</b> Unemployment among people who usually have jobs -----	1	2	3	4	5
[ ]f. <b>(T)</b> Air pollution, what we usually call smog -----	1	2	3	4	5
[ ]g. <b>(T)</b> Contamination of the soil with toxic materials due to use by industry -----	1	2	3	4	5
[ ]h. The cost of housing -----	1	2	3	4	5
[ ]i. <b>Air pollution</b> from cars, trucks, trains and other vehicles -----	1	2	3	4	5

**(ASK SPLIT SAMPLE B ONLY)**

[ ]j. <b>(T)</b> Air pollution from diesel engines -----	1	2	3	4	5
[ ]k. <b>(T)</b> Crime, including gangs and drugs -----	1	2	3	4	5
[ ]l. <b>(T)</b> Pollution of drinking water -----	1	2	3	4	5
[ ]m. The cost of health care -----	1	2	3	4	5
[ ]n. Greenhouse gases that cause climate change -----	1	2	3	4	5



**(RESUME ASKING ALL RESPONDENTS)****NOW LET ME TURN YOUR ATTENTION TO THE ISSUE OF AIR QUALITY IN SOUTHERN CALIFORNIA.**

4. **(T)** First, in your personal opinion, has the air we breathe in the southern California region become cleaner in recent years, stayed about the same, or become dirtier? **(IF CLEANER/DIRTIER, ASK: "Is that a lot or just somewhat?")**

A lot cleaner ----- 1  
Just somewhat cleaner ----- 2  
Stayed the same ----- 3  
Just somewhat dirtier ----- 4  
A lot dirtier ----- 5  
**(DON'T KNOW/NA)** ----- 6

5. **(PT)** Thinking ahead to the year 2030, do you think the air we breathe in the Southern California region will be cleaner, about the same as it is today, or dirtier? **(IF CLEANER/DIRTIER, ASK: "Is that a lot or just somewhat?")**

A lot cleaner ----- 1  
Just somewhat cleaner ----- 2  
Stayed the same ----- 3  
Just somewhat dirtier ----- 4  
A lot dirtier ----- 5  
**(DON'T KNOW/NA)** ----- 6

6. Now let me ask you about the particular community in which you live. Has the air people breathe in your own community become cleaner in recent years, stayed about the same, or become dirtier? **(IF CLEANER/DIRTIER, ASK: "Is that a lot or just somewhat?")**

A lot cleaner ----- 1  
Just somewhat cleaner ----- 2  
Stayed the same ----- 3  
Just somewhat dirtier ----- 4  
A lot dirtier ----- 5  
**(DON'T KNOW/NA)** ----- 6

7. **(PT)** And, thinking ahead to the year 2030, do you think the air people breathe in your own community will be cleaner; about the same as it is today or dirtier? **(IF CLEANER/DIRTIER, ASK: "Is that a lot or just somewhat?")**

A lot cleaner ----- 1  
Just somewhat cleaner ----- 2  
Stay the same ----- 3  
Just somewhat dirtier ----- 4  
A lot dirtier ----- 5  
**(DON'T KNOW/NA)** ----- 6



8. In your personal opinion, is the air quality today in southern California better, about the same or worse than in...?

(DK/  
NA)

BETTER      SAME      WORSE

**(ASK SPLIT SAMPLE A ONLY)**

[ ]a. (T) The San Francisco Bay area ----- 1 ----- 2 ----- 3 ----- 4

**(ASK SPLIT SAMPLE B ONLY)**

[ ]b. (T) The New York City-New Jersey area--- 1 ----- 2 ----- 3 ----- 4

**(RESUME ASKING ALL RESPONDENTS)**

9. Nobody likes air pollution or smog, but people may have different ideas about what is bad about it. From the items I mention, please tell me which do you think is the worst thing about air pollution. **(READ LIST AND RECORD ONE ITEM. THEN ASK: "And what is the second worst thing about smog?" (RANDOMIZE))**

	<u>WORST</u>	<u>SECOND WORST</u>	<u>(DON'T READ) DK/NA</u>
[ ]a. (T) Sharply reducing visibility with a dirty brown haze-----	1 -----	2 -----	3 -----
[ ]b. (T) Damaging plant life throughout the region -----	1 -----	2 -----	3 -----
[ ]c. Creating public health problems, including childhood asthma, respiratory problems for the elderly and cancer-----	1 -----	2 -----	3 -----
[ ]d. Contributing to climate change-----	1 -----	2 -----	3 -----

10. Now I would like to have your opinions about what causes air pollution or smog in southern California. As I mention different sources of air pollution, please tell me whether it is a major or minor contributor to smog. **(RANDOMIZE)**

	<u>MAJOR</u>	<u>MINOR</u>	<u>(DON'T READ) DK/NA</u>
[ ]a. (T) Emissions from the area's diesel trucks and buses-----	1 -----	2 -----	3 -----
[ ]b. (T) Tailpipe emissions from the area's cars -----	1 -----	2 -----	3 -----

**(ASK SPLIT SAMPLE A ONLY)**

[ ]c. (T) Emissions from the area's electric power plants ----- 1 ----- 2 ----- 3

[ ]d. (PT) Emissions from sources such as dry-cleaning plants, auto  
paint shops, film processors, and furniture finishers ----- 1 ----- 2 ----- 3

[ ]e. Air pollution from household paints, cleaners and other consumer  
products ----- 1 ----- 2 ----- 3

**(ASK SPLIT SAMPLE B ONLY)**

[ ]f. (T) Emissions from the area's oil and chemical refineries ----- 1 ----- 2 ----- 3

[ ]g. (T) Blowing dust from road work, construction, agriculture  
and other operations that break the soil ----- 1 ----- 2 ----- 3

[ ]h. (T) Emissions from small, two cycle gasoline engines such as  
motorcycles, scooters, lawnmowers and leaf blowers----- 1 ----- 2 ----- 3



**(ASK SPLIT SAMPLE A ONLY)**

11. Do you know the name of the government agency responsible for protecting air quality in your area?  
(OPEN-END; RECORD VERBATIM RESPONSE)
- 

**(ASK SPLIT SAMPLE B ONLY)**

12. How much do you know about the South Coast Air Quality Management District, or A-Q-M-D, the government agency that is responsible for protecting air quality in your area? Would you say you know a lot about the A-Q-M-D, some, a little or nothing at all?

A lot----- 1  
 Some----- 2  
 A little ----- 3  
 Nothing at all ----- 4  
 (DON'T KNOW/NA)----- 5

**(RESUME ASKING ALL RESPONDENTS)**

NOW LET ME GIVE YOU SOME BACKGROUND INFORMATION. ONE OF THE GOVERNMENT AGENCIES MOST INVOLVED IN DEALING WITH AIR POLLUTION IN SOUTHERN CALIFORNIA IS THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT —THE A-Q-M-D. THE A-Q-M-D IS RESPONSIBLE FOR REGULATING AND REDUCING EMISSIONS FROM STATIONARY SOURCES LIKE POWER PLANTS, REFINERIES, FACTORIES, AND MANUFACTURING SITES IN THE SOUTH COAST AIR BASIN THAT INCLUDES LOS ANGELES, ORANGE, SAN BERNARDINO AND RIVERSIDE COUNTIES.

THE A-Q-M-D IS ALSO RESPONSIBLE FOR CREATING AN AIR QUALITY PLAN TO REDUCE EMISSIONS FROM MOBILE SOURCES OF AIR POLLUTION LIKE CARS, TRUCKS, TRAINS, PLANES, BOATS AND CONSTRUCTION EQUIPMENT. HOWEVER, ONLY THE STATE AND FEDERAL GOVERNMENT CAN REGULATE EMISSIONS FROM VEHICLES AND OTHER MOBILE SOURCES OF AIR POLLUTION. THUS, TO REDUCE EMISSIONS FROM MOBILE SOURCES OF AIR POLLUTION, THE A-Q-M-D MUST WORK WITH THE STATE AND FEDERAL GOVERNMENT TO CREATE REGULATIONS AND FUNDING SOURCES TO PROVIDE GRANTS AND OTHER FINANCIAL INCENTIVES TO ENCOURAGE THE DEVELOPMENT AND USE OF CLEAN TECHNOLOGIES LIKE ZERO AND NEAR-ZERO EMISSION VEHICLES.

13. In general, do you favor or oppose the A-Q-M-D providing grants and other financial incentives to encourage the development and use of zero and near-zero emission vehicles to reduce emissions from cars, heavy-duty diesel trucks and other mobile sources of air pollution? (IF FAVOR/OPPOSE, ASK: "Is that strongly (FAVOR/OPPOSE) or just somewhat?") (RANDOMIZE)

Strongly favor ----- 1  
 Somewhat favor ----- 2  
 Somewhat oppose ----- 3  
 Strongly oppose ----- 4  
 (DON'T KNOW/NA)----- 5



LET ME GIVE YOU SOME ADDITIONAL INFORMATION. EVERY 4 YEARS THE A-Q-M-D MUST APPROVE A **CLEAN AIR** PLAN TO SHOW HOW IT WILL MEET HEALTH-BASED FEDERAL CLEAN AIR STANDARDS. THE NEXT PLAN IS DUE IN 2020. THE A-Q-M-D HAS ESTIMATED IT WILL NEED AN ADDITIONAL ONE BILLION DOLLARS PER YEAR FOR THE NEXT 15 YEARS TO FUND PROGRAMS THAT WILL INCENTIVIZE THE USE OF CLEANER TECHNOLOGIES TO REDUCE EMISSIONS FROM CARS, HEAVY-DUTY DIESEL TRUCKS AND OTHER MOBILE SOURCES OF AIR POLLUTION **TO MEET FEDERAL STANDARDS**. LAST YEAR THE STATE LEGISLATURE ALLOCATED 300 MILLION DOLLARS TO SUPPORT A-Q-M-D MOBILE EMISSION REDUCTION PROGRAMS, BUT THERE IS NO GUARANTEE THAT THIS FUNDING WILL CONTINUE IN FUTURE YEARS.

14. Having heard this, would you favor or oppose the state legislature giving the A-Q-M-D the authority to seek voter approval of a ballot measure to raise funds at the local level in order to fund grants and other financial incentives to encourage the development and use of zero and near-zero emission vehicles to reduce emissions from cars, heavy-duty diesel trucks and other mobile sources of air pollution? (IF FAVOR/OPPOSE, ASK: "Is that strongly (FAVOR/OPPOSE) or just somewhat?")

Strongly favor ----- 1  
 Somewhat favor ----- 2  
 Somewhat oppose ----- 3  
 Strongly oppose ----- 4  
 (DON'T KNOW/NA) ----- 5

15. Would you support or oppose raising the local sales tax by (SPLIT SAMPLE A READ: "one-quarter cent") (SPLIT SAMPLE B READ: "one-tenth of one cent") to fund grants and other financial incentives to encourage the development and use of zero and near-zero emission vehicles to reduce emissions from cars, heavy-duty diesel trucks and other mobile sources of air pollution? (IF SUPPORT/OPPOSE, ASK: "Is that strongly (SUPPORT/OPPOSE) or just somewhat?")

Strongly support ----- 1  
 Somewhat support ----- 2  
 Somewhat oppose ----- 3  
 Strongly oppose ----- 4  
 (DON'T KNOW/NA) ----- 5

16. Next, I am going to read some of the different ways the A-Q-M-D uses funds to incentivize businesses to develop clean technologies and increase the use of zero and near-zero emission vehicles in order to reduce air pollution and emissions from mobile sources. For each one, please tell me whether you support or oppose it. (IF SUPPORT/OPPOSE, ASK: "Is that strongly (SUPPORT/OPPOSE) or just somewhat?") (RANDOMIZE)

				(DON'T READ) DK/NA
STRG	SMWT	SMWT	STRG	
SUPP	SUPP	OPP	OPP	

(ASK SPLIT SAMPLE A ONLY)

- [ ]a. Converting Port of L.A. and Long Beach  
 equipment and vehicles to near-zero and zero  
 emission technology -----

1 ----- 2 ----- 3 ----- 4 ----- 5



	<u>STRG</u> <u>SUPP</u>	<u>SMWT</u> <u>SUPP</u>	<u>SMWT</u> <u>OPP</u>	<u>STRG</u> <u>OPP</u>	(DON'T READ) <u>DK/NA</u>
--	----------------------------	----------------------------	---------------------------	---------------------------	---------------------------------

**(ASK SPLIT SAMPLE A ONLY CON'T)**

- |       |   |   |        |        |        |        |
|-------|---|---|--------|--------|--------|--------|
| [ ]b. | Retrofitting ships with emission control systems to reduce air pollution while in the Ports of L.A. and Long Beach-----                             | 1 | -----2 | -----3 | -----4 | -----5 |
| [ ]c. | Replacing medium-duty diesel delivery trucks with new, fully-electric battery-powered zero emission medium-duty vehicles-----                       | 1 | -----2 | -----3 | -----4 | -----5 |
| [ ]d. | Providing incentives for single truck owners to buy the cleanest truck equipment and vehicles available-----  | 1 | -----2 | -----3 | -----4 | -----5 |
| [ ]e. | Replacing heavy-duty diesel school buses with zero-emission battery electric buses, and model year 2010 or newer compressed natural gas buses-----  | 1 | -----2 | -----3 | -----4 | -----5 |
| [ ]f. | Creating dedicated lanes for 18-wheelers and other heavy-duty trucks on freeways and highways to relieve traffic congestion-----                    | 1 | -----2 | -----3 | -----4 | -----5 |
| [ ]g. | Upgrading and electrifying the Metro-Link commuter rail system to improve service, increase ridership and eliminate the use of diesel-----          | 1 | -----2 | -----3 | -----4 | -----5 |
| [ ]h. | Making the movement of cargo and goods more efficient by upgrading ports, rail-lines and other infrastructure critical to the region's economy----- | 1 | -----2 | -----3 | -----4 | -----5 |

**(ASK SPLIT SAMPLE B ONLY)**

- |       |   |   |        |        |        |        |
|-------|---|---|--------|--------|--------|--------|
| [ ]i. | Replacing older locomotive trains with new clean diesel switch technology to reduce emissions-----  | 1 | -----2 | -----3 | -----4 | -----5 |
| [ ]j. | Replacing heavy-duty diesel trucks with near-zero emission natural gas trucks-----  | 1 | -----2 | -----3 | -----4 | -----5 |
| [ ]k. | Installing infrastructure at the Ports of L.A. and Long Beach to let ships plug-in to electric power so fossil fuel engines can be shut down----- | 1 | -----2 | -----3 | -----4 | -----5 |
| [ ]l. | Funding incentives for the early changeover of dirty heavy-duty trucks to clean trucks-----   | 1 | -----2 | -----3 | -----4 | -----5 |
| [ ]m. | Replacing older diesel school buses at school districts throughout the South Coast Air Basin with ultra-clean natural gas buses-----              | 1 | -----2 | -----3 | -----4 | -----5 |
| [ ]n. | Funding programs to help small businesses upgrade equipment to help the economy and reduce air pollution at the same time-----                    | 1 | -----2 | -----3 | -----4 | -----5 |
| [ ]o. | Electrifying and expanding rail lines-----  | 1 | -----2 | -----3 | -----4 | -----5 |



STRG  
SUPPSMWT  
SUPPSMWT  
OPPSTRG  
OPP(DON'T  
READ)  
DK/NA**(ASK SPLIT SAMPLE B ONLY CON'T)**

- [ ]p. Creating dedicated lanes for 18-wheelers and other heavy-duty trucks on freeways and highways to cutdown in emissions and air pollution from truck stucks in traffic ----- 1 -----2-----3----- 4 -----5

**(RESUME ASKING ALL RESPONDENTS)**

17. I am going to read you some different statements. For each one, please tell me whether you generally agree or disagree with that statement. (IF AGREE/DISAGREE, ASK: "Is that strongly (AGREE/DISAGREE) or only somewhat?") (RANDOMIZE)

STRG  
AGREESMWT  
AGREESMWT  
DISAGR.STRG  
DISAGR.(DON'T  
READ)  
DK/NA**(ASK SPLIT SAMPLE A ONLY)**

- [ ]a. Reducing traffic congestion is an effective way to reduce air pollution and emissions that cause climate change ----- 1 -----2-----3----- 4 -----5
- [ ]b. Converting diesel trucks and other gas-powered vehicles to near-zero and zero emission vehicles is an effective way to reduce air pollution, negative health impacts, and emissions that cause climate change ----- 1 -----2-----3----- 4 -----5
- [ ]c. It is more expensive to deal with the health problems associated with air pollution than it is to fund programs that support the development and use of clean, zero and near-zero emission vehicles ----- 1 -----2-----3----- 4 -----5
- [ ]d. The technology exists so that within the next ten years, most cars on the road will be zero-emission vehicles ----- 1 -----2-----3----- 4 -----5

**(ASK SPLIT SAMPLE B ONLY)**

- [ ]e. 18-wheelers and heavy-duty trucks that sit in traffic on local freeways and highways are a major source of air pollution in Southern California ----- 1 -----2-----3----- 4 -----5
- [ ]f. It is more expensive to deal with the impact of emissions that cause climate change than it is to fund programs that support the development and use of clean, zero and near-zero emission vehicles ----- 1 -----2-----3----- 4 -----5
- [ ]g. The technology exists so that within the next ten years, most heavy-duty trucks on the road will be zero-emission vehicles ----- 1 -----2-----3----- 4 -----5

**(RESUME ASKING ALL RESPONDENTS)**



18. Next, I am going to read you some facts about air quality issues in Southern California. For each one, please tell me whether you personally consider that to be an extremely serious concern, very serious concern, somewhat serious concern or not a serious concern at all. Here is the first one... (RANDOMIZE)

<u>EXT SER. CONC.</u>	<u>VERY SER. CONC.</u>	<u>SMWT SER. CONC.</u>	<u>NOT A CONC. AT ALL.</u>	<u>(DON'T READ) DK/NA</u>
-------------------------------	--------------------------------	--------------------------------	------------------------------------	-----------------------------------

**(ASK SPLIT SAMPLE A ONLY)**

- [ ]a. The air in Southern California's 4-county South Coast region is among the most polluted in the nation, and one in every four days exceeds federal health-based air quality standards ----- 1 ----- 2 ----- 3 ----- 4 ----- 5
- [ ]b. Nearly 40 percent of the nation's containerized imported goods come through the ports of Los Angeles and Long Beach, but the A-Q-M-D has no authority to regulate the air pollution impacts from ships, trucks, and trains transporting goods through Southern California ----- 1 ----- 2 ----- 3 ----- 4 ----- 5
- [ ]c. If Southern California doesn't meet federal air quality regulations by the designated deadlines, the region could lose billions in federal highway dollars ----- 1 ----- 2 ----- 3 ----- 4 ----- 5
- [ ]d. The number of smog-related deaths annually in the region exceeds the total number of deaths annually from traffic accidents ----- 1 ----- 2 ----- 3 ----- 4 ----- 5
- [ ]e. A study conducted by the California Air Resources Board found that the air pollution in the South Coast Basin leads to four thousand premature deaths per year, and twenty-four hundred hospitalizations ----- 1 ----- 2 ----- 3 ----- 4 ----- 5

**(ASK SPLIT SAMPLE B ONLY)**

- [ ]f. About 70 percent of the airborne cancer risk in Southern California is directly attributed to toxic emissions from diesel-fueled engines ----- 1 ----- 2 ----- 3 ----- 4 ----- 5
- [ ]g. Southern California's 4-county South Coast region has the largest proportion of the U.S. population exposed to unhealthful air ----- 1 ----- 2 ----- 3 ----- 4 ----- 5
- [ ]h. Eighty percent of air pollution emissions in the 4-county South Coast region are from mobile sources that the A-Q-M-D has no authority to regulate ----- 1 ----- 2 ----- 3 ----- 4 ----- 5

<u>EXT SER. CONC.</u>	<u>VERY SER. CONC.</u>	<u>SMWT SER. CONC.</u>	<u>NOT A CONC. AT ALL.</u>	<u>(DON'T READ) DK/NA</u>
-------------------------------	--------------------------------	--------------------------------	------------------------------------	-----------------------------------

**(ASK SPLIT SAMPLE B ONLY CON'T)**

- [ ]i. If Southern California doesn't meet federal air quality regulations by the designated



deadlines, it could face stricter permitting requirements that make it much harder to attract new businesses to come into the region----- 1 -----2 -----3----- 4 -----5

- [ j]. Long-term exposure to polluted air can lead to cardiovascular and respiratory illness; added stress to heart and lungs; and the development of diseases such as asthma, emphysema, and cancer ----- 1 -----2 -----3----- 4 -----5

**(RESUME ASKING ALL RESPONDENTS)**

**NEXT, I WOULD LIKE TO RETURN TO THE IDEA OF THE STATE LEGISLATURE GIVING THE A-Q-M-D AUTHORITY TO SEEK VOTER APPROVAL OF A BALLOT MEASURE TO RAISE FUNDS AT THE LOCAL LEVEL IN ORDER TO FUND GRANTS AND OTHER FINANCIAL INCENTIVES TO ENCOURAGE THE DEVELOPMENT AND USE OF ZERO AND NEAR-ZERO EMISSION VEHICLES TO REDUCE EMISSIONS FROM CARS, HEAVY-DUTY DIESEL TRUCK AND OTHER MOBILE SOURCES OF AIR POLLUTION.**

19. Here are some statements from people who support this proposal. After hearing each statement, please tell me whether you find it very convincing, somewhat convincing, or not convincing as a reason to favor giving the A-Q-M-D authority to raise funds through a voter-approved local ballot measure. If you do not believe the statement, please tell me that too. **(RANDOMIZE)**

- |   | VERY<br>CONV. | SMT<br>CONV. | NOT<br>CONV. | DON'T<br>BEL. | (DON'T<br>READ)<br>DK/NA |
|---|---------------|--------------|--------------|---------------|--------------------------|
| [ ]a. (COST) A multi-year Cal-State Fullerton study found that air pollution in Southern California and the San Joaquin Valley combined came with a price tag of 28 billion dollars per year due to premature deaths and illnesses. Investing one billion dollars per year in A-Q-M-D's grant programs will significantly reduce air quality—preventing childhood asthma and other health problems that will save money and lives.----- | 1             | 2            | 3            | 4             | 5                        |
| [ ]b. (LOCAL NEED) The A-Q-M-D has identified that the Southern California's 4-county South Coast region needs one billion dollars per year for the next 15 years to meet federal air quality requirements. State legislators should give voters the right to take action and raise funds locally in order to address a critical regional health and quality of life issue. -----   | 1             | 2            | 3            | 4             | 5                        |



<u>VERY</u>	<u>SMWT</u>	<u>NOT</u>	<u>DON'T</u>	<u>(DON'T</u>
<u>CONV.</u>	<u>CONV.</u>	<u>CONV.</u>	<u>BEL.</u>	<u>READ)</u>
				<u>DK/NA</u>

- [ ]c. **(HEALTH)** Every year, there are more deaths in Southern California due to poor air quality than because of traffic accidents. On top of that, chronic illnesses and diseases caused by air pollution cost the region's economy tens of billions of dollars every year. Funding grants and incentive programs to develop the use of clean technologies and near-zero and zero-emission vehicles will save lives and money. ----- 1 ----- 2 ----- 3 ----- 4 ----- 5

**(ASK SPLIT SAMPLE A ONLY)**

- [ ]d. **(TRUCKS-INCENTIVES)** Emissions from heavy-duty, diesel-powered trucks account for 80 percent of emissions from mobile sources, but the law prohibits the A-Q-M-D from regulating these vehicles. Providing incentives to truckers and their companies to switch to natural gas, electric and other very low emission vehicles is critical to reducing air pollution and combating emissions that cause climate change. ----- 1 ----- 2 ----- 3 ----- 4 ----- 5

- [ ]e. **(GHG)** Heavy duty trucks, cargo ships in the Ports of L.A. and Long Beach, trains and other mobile sources are a major source of greenhouse gas emissions that cause climate change. Giving the A-Q-M-D the authority to promote the use of clean technologies will make sure our region is a leader in fighting climate change and creating new economic opportunities for workers. ----- 1 ----- 2 ----- 3 ----- 4 ----- 5

**(ASK SPLIT SAMPLE A ONLY)**

- [ ]f. **(TRUCKS-LANES)** Emissions from heavy-duty, diesel-powered trucks and other mobile sources account for 80 percent of the emissions problem, with much of it coming when trucks sit in traffic on freeways and highways. Creating new lanes on local roads to separate trucks and cars could significantly reduce air pollution across Southern California to improve public health, road safety, and our region's economy by speeding up the movement of goods and cargo. ----- 1 ----- 2 ----- 3 ----- 4 ----- 5



				(DON'T READ)
VERY	SMWT	NOT	DON'T	
<u>CONV.</u>	<u>CONV.</u>	<u>CONV.</u>	<u>BEL.</u>	<u>DK/NA</u>

**(ASK SPLIT SAMPLE A ONLY CON'T)**

- [ ]g. **(EFFECTIVE)** The A-Q-M-D's grant and incentive programs to reduce air pollution and emissions are working. Air quality in the Southland has continually improved despite an enormous increase in population and vehicles. Summertime smog has been cut to less than one-quarter of what they were in the 1950s, even though the population has tripled, and the number of vehicles has increased four-fold. ----- 1 ----- 2 ----- 3 ----- 4 ----- 5

**(RESUME ASKING ALL RESPONDENTS)**

20. Now that you have heard more information, let me ask you again, would you favor or oppose the state legislature giving the A-Q-M-D the authority to seek voter approval of a ballot measure to raise funds at the local level in order to fund grants and other financial incentives to encourage the development and use of zero and near-zero emission vehicles to reduce emissions from cars, heavy-duty diesel trucks and other mobile sources of air pollution? **(IF FAVOR/OPPOSE, ASK: "Is that strongly (FAVOR/OPPOSE) or just somewhat?")**

Strongly favor ----- 1  
 Somewhat favor ----- 2  
 Somewhat oppose ----- 3  
 Strongly oppose ----- 4  
**(DON'T KNOW/NA)**----- 5

21. Here are some statements from people who oppose this proposal. After hearing each statement, please tell me whether you find it very convincing, somewhat convincing, or not convincing as a reason to oppose giving the A-Q-M-D authority to raise funds through a voter-approved local ballot measure. If you do not believe the statement, please tell me that too. **(RANDOMIZE)**

				(DON'T READ)
VERY	SMWT	NOT	DON'T	
<u>CONV.</u>	<u>CONV.</u>	<u>CONV.</u>	<u>BEL.</u>	<u>DK/NA</u>

- [ ]a. **(MORE TAXES)** The last thing we need is another bureaucracy with the right to tax us. Californians already pay some of the highest incomes taxes in the nation, the state gas tax was raised 12 cents last year, and the new federal tax law significantly reduces Californians' deductions. ----- 1 ----- 2 ----- 3 ----- 4 ----- 5



				(DON'T READ)
VERY	SMWT	NOT	DON'T	
CONV.	CONV.	CONV.	BEL.	DK/NA

**(ASK SPLIT SAMPLE A ONLY)**

- [ ]b. **(WASTE AND PENSIONS)** If the A-Q-M-D has the authority to raise our local taxes, they will do what every government agency does—waste our money. In addition, instead of using these funds to reduce air pollution, most of it will end up going towards public employees' pension and retirement benefits.----- 1 -----2-----3----- 4 ----- 5

**(ASK SPLIT SAMPLE B ONLY)**

- [ ]c. **(UNFAIR)** The A-Q-M-D says heavy-duty, diesel powered trucks are the main contributor of air pollution and emissions. Instead of trying to get a special law passed in Sacramento to raise our taxes, the A-Q-M-D should work with the state legislature to hold the trucking companies responsible for the mess they have created. ----- 1 -----2-----3----- 4 ----- 5

**(RESUME ASKING ALL RESPONDENTS)**

22. Sometimes over the course of a survey like this one people changes their minds, and sometimes they do not. Let me ask you one more time, would you favor or oppose the state legislature giving the A-Q-M-D the authority to seek voter approval of a ballot measure to raise funds at the local level in order to fund grants and other financial incentives to encourage the development and use of zero and near-zero emission vehicles to reduce emissions from cars, heavy-duty diesel trucks and other mobile sources of air pollution? **(IF FAVOR/OPPOSE, ASK: "Is that strongly (FAVOR/OPPOSE) or just somewhat?")**

Strongly favor ----- 1  
 Somewhat favor ----- 2  
 Somewhat oppose ----- 3  
 Strongly oppose ----- 4  
**(DON'T KNOW/NA)**----- 5

23. Would you support or oppose raising the local sales tax by **(SPLIT SAMPLE A READ: "one-quarter cent") (SPLIT SAMPLE B READ: "one-tenth of one cent")** to fund grants and other financial incentives to encourage the development and use of zero and near-zero emission vehicles to reduce emissions from cars, heavy-duty diesel trucks and other mobile sources of air pollution? **(IF SUPPORT/OPPOSE, ASK: "Is that strongly (SUPPORT/OPPOSE) or just somewhat?")**

Strongly support ----- 1  
 Somewhat support ----- 2  
 Somewhat oppose ----- 3  
 Strongly oppose ----- 4  
**(DON'T KNOW/NA)**----- 5



**HERE ARE MY FINAL QUESTIONS. THEY ARE JUST FOR CLASSIFICATION PURPOSES.**

24. Which of the following types of vehicles, if any, does someone in your household own? **(RANDOMIZE AND ACCEPT MULTIPLE RESPONSES)**

☐ A completely electric vehicle ----- 1  
☐ A hybrid gas/electric vehicle ----- 2  
☐ A compact or sub-compact car ----- 3  
☐ A station wagon ----- 4  
☐ A sport utility vehicle, or S-U-V ----- 5  
☐ A pickup truck ----- 6  
☐ A minivan ----- 7  
  
 Other (Specify) ----- 8  
 No car ----- 9  
**(DO NOT READ)** Refused ----- 10

25. Do you have children? **(IF YES, ASK: "Do you have any children under the age of 19 living at home?")**

Yes, children under 19 at home ----- 1  
 Yes, no children under 19 at home ----- 2  
 No, no children ----- 3  
**(DON'T READ)** DK/NA/REFUSED ----- 4

26. With which racial or ethnic group do you identify yourself? **(READ RESPONSES)**

Hispanic/Latino ----- 1  
 African-American or Black ----- 2  
 Anglo/White ----- 3  
 Asian/Pacific Islander ----- 4  
 Something else ----- 5  
**(DON'T READ)** Refused/NA ----- 6

27. What was the last level of school you completed?

Grades 1-8 ----- 1  
 Grades 9-11 ----- 2  
 High school graduate ----- 3  
 Some college/business/vocational school ----- 4  
 College graduate ----- 5  
 Post-graduate work/professional school ----- 6  
**(DON'T READ)** Don't know ----- 7

**THANK YOU FOR PARTICIPATING IN OUR SURVEY**



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 26

REPORT: Mobile Source Committee

SYNOPSIS: The Mobile Source Committee held a meeting on Friday, February 16, 2018. The following is a summary of the meeting.

RECOMMENDED ACTION:  
Receive and file.

Dr. Clark E. Parker, Sr., Chair  
Mobile Source Committee

PMF:AF

---

### **Committee Members**

Present: Dr. Clark E. Parker, Sr./Chair (videoconference), Dr. Joseph Lyou/Vice Chair, Supervisor Marion Ashley (videoconference); Mayor Larry McCallon; Mayor Pro Tem Judith Mitchell; and Supervisor Hilda L. Solis

Absent: None

### **Call to Order**

Chair Parker called the meeting to order at 8:00 a.m.

### **INFORMATIONAL ITEM:**

#### **1. Potential Strategies for Facility-Based Mobile Source Measures Adopted in Final 2016 AQMP**

Ian MacMillan, Planning & Rules Manager, presented staff's recommended voluntary and regulatory emission reduction control strategies for the Facility-Based Mobile Source Measures (FBMSMs) adopted in the 2016 AQMP based on information gathered from the FBMSM working group meetings over the last 12 months.



Dr. Parker and Supervisor Ashley thanked staff for the good work incorporated into the presentation and Dr. Parker opened the meeting for Board Member comments. Mayor McCallon stated that Indirect Source Regulations (ISRs), especially for the warehouse sector, are not an effective way to achieve emission reductions and the federal government should take the lead in regulating mobile sources. Dr. Lyou requested clarification on the voluntary fleet certification concept because he was not sure how voluntary agreements work within a regulatory measure. Dr. Philip Fine, Deputy Executive Officer/Planning, Rule Development and Area Sources, explained that fleets could voluntarily certify at a cleaner level than would be required by regulation, but the driver for them to do that would be requirements on facilities to meet those levels. Dr. Fine added that such a voluntary program for fleet operators would not jeopardize their ability to apply for incentive funding. Mayor Pro Tem Mitchell requested clarification on how fleet averaging would work recognizing that most trucking company fleets are very small or owner/operator fleets. Mr. MacMillan agreed that many fleets are small and noted potential business advantages to any fleet, including small owner/operator fleets, to voluntarily certify.

Supervisor Solis asked about opportunities for the public to participate in any Memorandum of Understanding (MOU) process and how to ensure that an MOU would be able to achieve emission reductions. Mr. MacMillan stated that any future MOU process would have an extensive public involvement component and would be transparent. Executive Officer Wayne Nastri added that the way to provide emission reductions with 'muscle' is through working with local, state, federal, and international partners to develop programs, including incentives that level the playing field. He added that the public had involvement with the development of the Ports' Clean Air Action Plans (CAAP), and the public and the Board will continue to have involvement in any future MOU to make sure that it would be effective. Dr. Lyou stated that one of the guiding principles of the federal Clean Air Act is that it guarantees the public's right to take action to ensure emission reduction commitments and suggested that any future MOU should preserve the public's right to take independent compliance actions. Dr. Lyou stated that we should be very transparent in any MOU process. Dr. Fine added that in addition to the CAAP and MOU processes described, in order to receive SIP credit for an MOU there must be transparency, including public reporting on status, and that the MOU would not take away the authority of citizens to hold SCAQMD accountable for committed emission reductions.

Dr. Lyou asked if the warehouse program would apply to new and existing developments and noted that staff should include short haul railroads in future programs. Mr. MacMillan clarified that both new and existing warehouse projects are included in staff's recommended approach for voluntary and regulatory measures and that short-haul railroads are included in the proposal. Dr. Lyou then noted that



previously developed railroad regulatory programs cannot be implemented and asked if staff has considered a new approach to ensure that future programs are enforceable. Barbara Baird, Chief Deputy Counsel, explained the current regulations cannot be enforced because they were not SIP approved due to an injunction, thus are not able to be harmonized with the Interstate Commerce Commission Termination Act (ICCTA). Any future efforts would involve establishing that enforcement of any rule would not occur until it is approved in the SIP and harmonized with ICCTA and would also identify multiple compliance options to seek increased industry acceptance. Dr. Lyou discussed implementation timelines included in the presentation and asked when a more definite timeline could be developed. Dr. Fine agreed that the timelines are aggressive and indicated the information would be updated after receiving Board direction at the March 2018 meeting.

Dr. Parker asked about warehousing emissions and noted the potential use of trip rate information that SCAQMD helped develop as a national standard. Mr. MacMillan responded that SCAQMD staff continues to use the calculation developed by the National Institute of Transportation Engineers. Supervisor Solis commented that future programs for new and redevelopment projects should include considerations for urgently needed projects such as homeless shelters and low income housing. Mr. MacMillan noted that considerations for unique circumstances can be examined during the rule development process.

Mayor Pro Tem Mitchell asked for more details on how a CEQA mitigation fund would work and the difference between a mitigation fund and a settlement agreement. Mr. MacMillan said that local governments would maintain land use approval authority but projects could opt-in to a program where fees are collected and directed to SCAQMD emission reduction projects. Dr. Fine added that the World Logistics Center in Moreno Valley is one mitigation fund example. The goal would be to develop a more uniform approach and local governments could still direct mitigation funds locally. Mayor Pro Tem Mitchell then described that local governments can assign local developer impact fees and asked if they could also impose air quality impact fees. Ms. Baird stated that she is not aware of any statutory mention of this, but that local governments should have this authority under their “police power” if they chose to do so. Ms. Baird also explained that one potential CEQA mitigation fee program advantage would be for a developer to mitigate project emissions below CEQA significance thresholds to be able to prepare a mitigated negative declaration instead of an environmental impact report. Mayor Pro Tem Mitchell commented on the potential timeframes discussed and asked if MOUs could be pursued in 2018 with regulations implemented in 2019 if MOUs were not successful. Mr. MacMillan replied that work would begin on MOUs in 2018, but they would probably come before the Board for approval beginning in



2019. Dr. Fine added that staff would frequently update the Board which would provide additional opportunities for Board direction.

Mayor McCallon stated the region is experiencing a housing affordability crisis and special consideration should be made before adopting any program that could impact future housing costs. Mayor McCallon added that voluntary and incentive programs are preferred. A voluntary fleet certification program is acceptable but warehouse and other facilities should not have to monitor truck fleets.

The Committee heard verbal testimony from a variety of public representatives. Sarah Wiltfong, representing Los Angeles County Business Federation, stated that the adoption of an ISR and similar measures could limit investments in California's infrastructure system, kill jobs and hurt competitiveness in California's freight system. Florence Gharibian, representing the Del Amo Action Committee, stated concerns about warehouse activities that could destroy local communities and expressed interest in air pollution controls for locomotives at railyards similar to air pollution controls that can be used on ships at marine ports. Karissa Willette, representing the Building Industry Association of Southern California, expressed opposition to an ISR on new development and redevelopment projects and stated a willingness to work with SCAQMD on emission reductions from advancements such as efficiency improvements. Adrian Martinez, representing EarthJustice, expressed support for moving forward with regulatory FBMSMs and concerns about the effectiveness of voluntary measures.

Heather Tomley, representing the Port of Long Beach, agreed with staff's proposed approach on implementing the 2017 CAAP, but opposed a future ISR. Thomas Jelenic, representing Pacific Merchant Shipping Association, stated that ISRs do not provide the technology necessary to reduce emissions, create uncertainty for logistics operators and could affect stakeholders throughout the supply chain. Chris Cannon, representing the Port of Los Angeles, stated that ISRs are a flawed regulatory approach because they could have unintended consequences and result in adverse impacts on the economy. Mr. Cannon expressed support for staff's proposed collaborative approach with the Ports going forward. John Orta, representing the Inland Empire Economic Partnership, stated that ISRs are costly, likely to be delayed due to litigation, and therefore are not a feasible strategy for 2023 emission reductions. Sylvia Betancourt, representing Long Beach Alliance for Children with Asthma, stated concerns about health impacts from railyards, ports and the 710 freeway. Ms. Betancourt also expressed a need for enforcement through regulation on railyards. Marvin Pineta, representing International Longshore and Warehouse Union (ILWU) Locals 13, 63, and 94, supported opportunities to implement the recently adopted 2017 CAAP, but opposed any action that would limit activity at the terminals to avoid job losses at the ports.



Mary Jane Olhasso, representing the County of San Bernardino, stated that the regulatory environment in Southern California is untenable and rulemaking should be avoided. Chris Shimoda, representing the California Trucking Association, stated that there would likely be very few SIP creditable emission reductions with the proposed approaches and he highlighted the importance of voluntary measures as well as the need to enforce existing regulations such as the statewide Truck and Bus Rule. Angelo Logan, representing the East Yard Communities for Environmental Justice, expressed support to move away from the MOU approach and toward the regulatory approach because of the limited availability for public participation and enforcement in the MOU process. Mr. Logan also supports staff recommendations regarding the railroads, and recommended that staff further consider including emission and risk reduction targets. Robert Freeman, representing Los Angeles World Airports, discussed air quality commitments fulfilled by airports. Lisa Trifiletti, a consultant to Los Angeles World Airports concurred with staff's proposed voluntary approach. John Anderson, representing Los Angeles World Airports, highlighted existing and upcoming sustainability airport programs. David Pettit, representing the Natural Resources Defense Council, stated that time is running out to meet attainment goals for 2023 considering that measures need to be in place by 2020. Mr. Pettit also stated that the MOU approach is not enforceable and SCAQMD is unlikely to get SIP credit for it unless contingency measures are in the MOU itself, therefore decisions about regulations on ports and warehouses have to be made sooner rather than later. Peter Herzog, representing the National Association for Industrial and Office Parks, stated that ISRs are not needed, that there is no factual basis supporting ISRs, and air quality technology advancements have occurred without ISRs.

In closing comments, Dr. Lyou clarified with staff that CARB's decision to not pursue ISR programs was because their interpretation was that State law provides more direct ISR authority to local air districts. Dr. Lyou suggested that future staff presentations reiterate that State law requires implementation of all feasible measures. He also noted that voluntary programs are problematic and suggested consideration of drafting regulations now for use if other efforts are ineffective, and concurred with Mayor McCallon that staff should follow the full Board's direction on this. Dr. Parker stated that an MOU could be crafted to include benchmarks to monitor emission reduction progress. Mr. Nastri agreed that benchmarks can be included in an MOU and added that, similar to a rule, SCAQMD is responsible for the specific emission reductions so it is in the best interest of SCAQMD to develop an effective agreement.



## **WRITTEN REPORTS:**

2. **Rule 2202 Activity Report: Rule 2202 Summary Status Report**

This item was received and filed.

3. **Monthly Report on Environmental Justice Initiatives: CEQA Document Commenting Update**

This item was received and filed.

## **OTHER MATTERS:**

4. **Other Business**

There was no other business.

5. **Public Comment Period**

There were no public comments.

6. **Next Meeting Date:**

The next regular Mobile Source Committee meeting is scheduled for Friday, March 16, 2018.

## **Adjournment**

The meeting adjourned at 10:25 a.m.

## **Attachments**

1. Attendance Record
2. Rule 2202 Activity Report – Written Report
3. Monthly Report on Environmental Justice Initiatives: CEQA Document Commenting Update – Written Report



## **ATTACHMENT 1**

### **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT MOBILE SOURCE COMMITTEE MEETING**

**Attendance – February 16, 2018**

Dr. Clark E. Parker, Sr. (videoconference) .....	SCAQMD Board Member
Dr. Joseph Lyou.....	SCAQMD Board Member
Mayor Larry McCallon .....	SCAQMD Board Member
Mayor Pro Tem Judith Mitchell .....	SCAQMD Board Member
Supervisor Marion Ashley (videoconference) .....	SCAQMD Board Member
Supervisor Hilda L. Solis .....	SCAQMD Board Member
David Czamanske .....	Board Consultant (Cacciotti)
Ron Ketcham.....	Board Consultant (McCallon)
Andrew Silva.....	Board Consultant (Rutherford)
Syliva Betancourt .....	Long Beach Alliance for Children with Asthma
Cynthia Carter .....	Los Angeles County Sanitation Districts
Todd Campbell .....	Clean Energy
Chris Cannon.....	Port of Los Angeles
Curt Coleman .....	Southern CA Air Quality Alliance
Joseph Edwards .....	Lewis Management Corp
John Erickson .....	Los Angeles World Airports
Robert Freeman .....	Los Angeles World Airports
Florence Gharibian .....	Del Amo Action Committee
Michael Grubbs .....	Pacific Merchant Shipping Association
Bill LaMarr.....	California Small Business Alliance
Angelo Logan .....	Moving Forward Network /East Yard Communities for Environmental Justice
Grace Lorentzen .....	EYCES
Eric Lu.....	Ramboll
Rongsheng Luo.....	Southern California Association of Governments
Margot Malarkey .....	CA Environmental Associates
Bridget McCann .....	Western States Petroleum Association
David Pettit.....	Natural Resources Defense Council
Marvin Pineda .....	ILWU Locals 13, 63, 94
Tim Pohle .....	Airlines for America
Peter Okurowski .....	California Environmental Associates
John Orta .....	Inland Empire Economic Partnership
Greg Roche.....	Clean Energy
Cody Rosenfield .....	Coalition for Clean Air
Patty Senecal .....	Western States Petroleum Association
Susan Stark.....	Andeavor
Heather Tomley .....	Port of Long Beach
Car Walecka .....	Carla Walecka Planning
Chris Waller .....	Alta Environmental
Peter Whittingham.....	Whittingham Public Affairs Advisors
Sarah Wiltfong.....	BizFed
Lisa Wunder .....	Port of Long Beach



## **ATTACHMENT 1**

### **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT MOBILE SOURCE COMMITTEE MEETING**

**Attendance – February 16, 2018**

Barbara Baird .....	SCAQMD Staff
Arlene Farol.....	SCAQMD Staff
Philip Fine .....	SCAQMD Staff
Ian MacMillan .....	SCAQMD Staff
Rosalee Mason.....	SCAQMD Staff
Matt Miyasato.....	SCAQMD Staff
Wayne Nastri.....	SCAQMD Staff
Zorik Pirveysian .....	SCAQMD Staff
Sarah Rees .....	SCAQMD Staff
Angelica Reyes .....	SCAQMD Staff
Lijin Sun.....	SCAQMD Staff
Laki Tisopulos .....	SCAQMD Staff
Jill Whynot .....	SCAQMD Staff
Kim White .....	SCAQMD Staff





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4182  
(909) 396-2000 • www.aqmd.gov

## Rule 2202 Summary Status Report

Activity for January 1, 2018 to January 31, 2018

Employee Commute Reduction Program (ECRP)	
# of Submittals:	21

Emission Reduction Strategies (ERS)	
# of Submittals:	42

Air Quality Investment Program (AQIP) Exclusively		
County	# of Facilities	\$ Amount
Los Angeles	3	\$ 6,636
Orange	1	\$ 12,150
Riverside	0	\$ 0
San Bernardino	1	\$ 2,430
<b>TOTAL:</b>	<b>5</b>	<b>\$ 21,215</b>

ECRP w/AQIP Combination		
County	# of Facilities	\$ Amount
Los Angeles	2	\$ 12,570
Orange	0	\$ 0
Riverside	0	\$ 0
San Bernardino	0	\$ 0
<b>TOTAL:</b>	<b>2</b>	<b>\$ 12,570</b>

### Total Active Sites as of January 31, 2018

ECRP (AVR Surveys)			TOTAL Submittals w/Surveys	AQIP	ERS	TOTAL
ECRP <sup>1</sup>	AQIP <sup>2</sup>	ERS <sup>3</sup>				
500	19	3	522	104	728	1,354
36.93%	1.4%	0.22%	38.55%	7.68%	53.77%	100% <sup>4</sup>

### Total Peak Window Employees as of January 31, 2018

ECRP (AVR Surveys)			TOTAL Submittals w/Surveys	AQIP	ERS	TOTAL
ECRP <sup>1</sup>	AQIP <sup>2</sup>	ERS <sup>3</sup>				
375,344	6,448	342	382,134	15,348	338,105	735,587
51.03%	.88%	0.05%	51.95%	2.09%	46.96%	100% <sup>4</sup>

- Notes:**
1. ECRP Compliance Option.
  2. ECRP Offset (combines ECRP w/AQIP). AQIP funds are used to supplement the ECRP AVR survey shortfall.
  3. ERS with Employee Survey to get Trip Reduction credits. Emission/Trip Reduction Strategies are used to supplement the ECRP AVR survey shortfall.
  4. Totals may vary slightly due to rounding.



**ATTACHMENT A \***  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b><i>Goods Movement</i></b> <b>LAC180112-01</b> Pier B On-Dock Rail Support Facility Project	The proposed project consists of reconfiguration and expansion of the Pier B On-Dock Rail Support Facility to (a) accommodate the expected demand of cargo to be moved via on-dock rail into the foreseeable future; (b) maximize on-dock intermodal operations to reach the long-term goal of 30 to 35 percent of cargo containers to be handled by on-dock rail; c) accept and handle longer container trains; and (d) provide a rail yard that is cost effective and fiscally prudent. The project is located on the northwest corner of Interstate 710 and Ocean Boulevard in the community of Wilmington-Harbor City. Reference LAC170127-01 and LAC161216-06  Comment Period: N/A Public Hearing: 1/22/2018	Final Environmental Impact Report	Port of Long Beach	Document reviewed - No comments sent
<b><i>Goods Movement</i></b> <b>LAC180116-03</b> Reeves Avenue Marine Services Support Yard Project	The proposed project consists of improvement to a 1,000-square-foot area of damaged asphalt and paving of a 5,000-square-foot compacted soil area on 12 acres. The project is located at 801 Reeves Avenue on the northeast corner of Navy Way and Reeves Avenue on Terminal Island in the community of San Pedro. Reference LAC170922-05  Comment Period: N/A Public Hearing: 1/25/2018	Response to Comments	Port of Los Angeles	Document reviewed - No comments sent
<b><i>Warehouse &amp; Distribution Centers</i></b> <b>LAC180123-03</b> Telegraph Commerce Center Precise Plan of Design No. 541 and Minor Variance No. 748	The proposed project consists of demolition of 78,402 square feet of industrial buildings and construction of a 122,746-square-foot distribution center on 6.48 acres. The project is located at 7875 Telegraph Road near the northeast corner of Telegraph Road and Industry Avenue. Reference LAC171221-02  Comment Period: N/A Public Hearing: N/A	Technical Data	City of Pico Rivera	Document reviewed - No comments sent
<b><i>Warehouse &amp; Distribution Centers</i></b> <b>RVC180118-05</b> South Milliken Distribution Center (Project No. PLN 17-20013)	The proposed project consists of construction of a 277,636-square-foot warehouse on 15.8 acres. The project is located on the northeast corner of South Milliken Avenue and the State Route 60 off-ramp.  Comment Period: 1/19/2018 - 2/20/2018 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Eastvale	** Under review, may submit written comments

\*Sorted by Land Use Type (in order of land uses most commonly associated with air quality impacts), followed by County, then date received.

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

\*\* Disposition may change prior to Governing Board Meeting

Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**DRAFT**

# - Project has potential environmental justice concerns due to the nature and/or location of the project.  
 \*\* Disposition may change prior to Governing Board Meeting  
 Documents received by the CEOA Intergovernmental Review program but not requiring review are not included in this report.



**DRAFT**

# - Project has potential environmental justice concerns due to the nature and/or location of the project.  
 \*\* Disposition may change prior to Governing Board Meeting  
 Documents received by the CEOA Intergovernmental Review program but not requiring review are not included in this report.



**DRAFT**

# - Project has potential environmental justice concerns due to the nature and/or location of the project.  
 \*\* Disposition may change prior to Governing Board Meeting  
 Documents received by the CEOA Intergovernmental Review program but not requiring review are not included in this report.



**DRAFT**

# - Project has potential environmental justice concerns due to the nature and/or location of the project.  
 \*\* Disposition may change prior to Governing Board Meeting  
 Documents received by the CEOA Intergovernmental Review program but not requiring review are not included in this report.



**DRAFT**

# - Project has potential environmental justice concerns due to the nature and/or location of the project.  
 \*\* Disposition may change prior to Governing Board Meeting  
 Documents received by the CEOA Intergovernmental Review program but not requiring review are not included in this report.



**DRAFT**

# - Project has potential environmental justice concerns due to the nature and/or location of the project.  
 \*\* Disposition may change prior to Governing Board Meeting  
 Documents received by the CEOA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A**  
**INCOMING CEQA DOCUMENTS LOG**  
**January 01, 2018 to January 31, 2018**

**DRAFT**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Transportation</i> <b>RVC180102-09</b> 1-10 Bypass: Banning to Cabazon Project	The proposed project consists of construction of a 3.3-mile, two-lane roadway from intersection of Hathaway Street and Westward Avenue in the City of Banning to intersection of Bonita Avenue and Apache Trail in the community of Cabazon. Reference RVC131113-01 and RVC121102-01  Comment Period: 12/29/2017 - 2/13/2018 Public Hearing: 1/25/2018	Notice of Availability of a Draft Environmental Impact Report/Draft Environmental Assessment	Riverside County Transportation Department	Document reviewed - No comments sent
<i>Transportation</i> <b>RVC180119-03</b> Avenue 50 Canal Crossing Project	The proposed project consists of construction of a bridge, utility extensions, drainage infrastructure, and roadway segment. The project is located near the northeast corner of Avenue 50 and Fillmore Street. Reference RVC170620-09  Comment Period: N/A Public Hearing: N/A	Final Environmental Assessment/ Finding of No Significant Impact	City of Coachella	Document reviewed - No comments sent
<i>Institutional (schools, government, etc.)</i> <b>LAC180103-01</b> Huntington Park High School Comprehensive Modernization Project	The proposed project consists of demolition of 12 buildings, and construction of four buildings totaling 89,436 square feet and recreational amenities on 22.5 acres. The project is located at 6020 Miles Avenue on the southeast corner of Miles Avenue and Belgrave Avenue in the City of Huntington Park. Reference LAC170824-06  Comment Period: 1/3/2018 - 2/19/2018 Public Hearing: 1/25/2018	Draft Environmental Impact Report	Los Angeles Unified School District	Document reviewed - No comments sent
<i>Institutional (schools, government, etc.)</i> <b>LAC180125-05</b> Norwalk High School New Stadium and Athletic Fields Improvement Project	The proposed project consists of demolition of a 20,000-square-foot aquatic center, and construction of athletic stadium with 2,500 seats and 8,162 square feet of support buildings. The project will also include 91,643 square feet of recreational uses on 29 acres. The project is located at 11356 Leffingwell Road on the southwest corner of Leffingwell Road and McRae Avenue in the City of Norwalk.  Comment Period: 1/23/2018 - 3/8/2018 Public Hearing: 3/1/2018	Draft Environmental Impact Report	Norwalk-La Mirada Unified School District	Document reviewed - No comments sent

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

\*\* Disposition may change prior to Governing Board Meeting

Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A  
INCOMING CEQA DOCUMENTS LOG  
January 01, 2018 to January 31, 2018**

**DRAFT**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b><i>Institutional (schools, government, etc.)</i></b> <b>SBC180111-04</b> Goddard School Project (Site Plan Review No. 15SPR02)	The proposed project consists of construction of a 10,587-square-foot school and daycare center with nine classrooms on 59,129 square feet. The project is located on the southwest corner of Picasso Drive and Pomona Rincon Road. Reference SBC171228-02  Comment Period: N/A Public Hearing: N/A	Response to Comments	City of Chino Hills	Document reviewed - No comments sent
<b><i>Retail</i></b> <b>LAC180116-05</b> Robertson Lane Hotel Project	The proposed project consists of demolition of two existing on-site structures, and construction of a 262,315-square-foot hotel with 141 rooms and subterranean parking on three acres. The project is located on the northwest corner of North Robertson Boulevard and Melrose Avenue. Reference LAC170323-09 and LAC141210-01  Comment Period: N/A Public Hearing: 1/22/2018	Notice of Public Hearing	City of West Hollywood	Document reviewed - No comments sent
<b><i>Retail</i></b> <b>RVC180102-05</b> Agua Caliente Band of Cahuilla Indians Cathedral City Fee-to-Trust Casino Project	The proposed project consists of construction of a gaming facility with ancillary amenities on 13 acres. The project is located on the southwest corner of Date Palm Drive and Buddy Rogers Avenue within the City of Cathedral City in Riverside County.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopcahuillaindianscathedral-011618.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopcahuillaindianscathedral-011618.pdf</a> Comment Period: 12/29/2017 - 1/29/2018 Public Hearing: 1/18/2018	Notice of Preparation	Bureau of Indian Affairs	SCAQMD staff commented on 1/16/2018
<b><i>Retail</i></b> <b>RVC180109-04</b> Desert Land Ventures Specific Plan Environmental Impact Report	The proposed project consists of development of 62.9 acres for commercial uses, a hotel with 150 rooms, and 38.7 acres of open space on 123.4 acres. The project is located near the northwest corner of Interstate 10 and Palm Drive. Reference RVC170525-08  Comment Period: 1/5/2018 - 2/19/2018 Public Hearing: N/A	Draft Environmental Impact Report	City of Desert Hot Springs	** Under review, may submit written comments

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

\*\* Disposition may change prior to Governing Board Meeting

Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**DRAFT**

# - Project has potential environmental justice concerns due to the nature and/or location of the project.  
 \*\* Disposition may change prior to Governing Board Meeting  
 Documents received by the CEOA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A  
INCOMING CEQA DOCUMENTS LOG  
January 01, 2018 to January 31, 2018**

**DRAFT**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b>Retail</b> <b>SBC180112-06</b> Hotel & Casino Expansion Project	The proposed project consists of construction of 795,000 square feet of entertainment and hospitality facilities including a hotel with 500 rooms, a performance venue with 4,000 seats, and subterranean parking on 70 acres. The project is located on the northwest corner of East Lynwood Drive and North Victoria Avenue within and adjacent to the existing San Manuel Casino on the Tribe's Reservation. Reference SBC171110-05  Comment Period: 1/10/2018 - 2/26/2018 Public Hearing: 1/25/2018	Draft Tribal Environmental Impact Report	San Manuel Band of Mission Indians	Document reviewed - No comments sent
<b>General Land Use (residential, etc.)</b> <b>LAC180102-06</b> Sunset & Everett Mixed-Use Development Project and Everett Small Lot Subdivision	The proposed project consists of demolition of a 3,000-square-foot warehouse, an apartment building, a 4,800-square-foot commercial building, and three residential homes. The project will also include construction of six residential homes totaling 10,887 square feet and two buildings with 204 residential units totaling 197,858 square feet on 2.6 acres. The project is located on the northeast corner of North Boylston Street and West Sunset Boulevard in the community of Silver Lake-Echo Park-Elysian Valley. Reference LAC160527-07 and LAC150612-10  Comment Period: N/A Public Hearing: N/A	Response to Comments	City of Los Angeles	Document reviewed - No comments sent
<b>General Land Use (residential, etc.)</b> <b>LAC180102-07</b> Cudahy 2040 General Plan Update	The proposed project consists of construction of 1,448 residential units, 1.8 million square feet of commercial use, 1.3 million square feet of industrial use, and 0.7 million square feet of public and institutional uses on 768 acres. The project is located on the southeast corner of Walnut Street and Salt Lake Avenue.  Comment Period: 12/29/2017 - 2/12/2018 Public Hearing: N/A	Draft Environmental Impact Report	City of Cudahy	** Under review, may submit written comments
<b>General Land Use (residential, etc.)</b> <b>LAC180104-05</b> 6200 West Sunset Boulevard (ENV-2015-3603-EIR)	The proposed project consists of construction of a 243,315-square-foot building with 270 residential units on 1.24 acres. The project is located on the southwest corner of North El Centro Avenue and Sunset Boulevard in the community of Hollywood. Reference LAC160119-01  Comment Period: 1/4/2018 - 2/20/2018 Public Hearing: N/A	Draft Environmental Impact Report	City of Los Angeles	Document reviewed - No comments sent

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

\*\* Disposition may change prior to Governing Board Meeting

Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A  
INCOMING CEQA DOCUMENTS LOG  
January 01, 2018 to January 31, 2018**

**DRAFT**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>General Land Use (residential, etc.)</i> <b>LAC180109-01</b> Garvey Earle Plaza (Design Review 16-04)	The proposed project consists of demolition of a used car lot, and construction of a building with 35 residential units and 7,520 square feet of retail use on 0.87 acres. The project is located on the northeast corner of Garvey Avenue and Earle Avenue. Reference LAC171228-01  Comment Period: 1/3/2018 - 2/1/2018 Public Hearing: 2/5/2018	Revised Notice of Intent to Adopt a Mitigated Negative Declaration	City of Rosemead	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> <b>LAC180111-03</b> ENV-2016-3498: 636-638 S. Manhattan Pl & 3801-3815 W. Wilshire Blvd.	The proposed project consists of construction of 132 residential units totaling 102,939 square feet of additional space to be added to existing parking garage on 0.73 acres. The project would also include reuse of existing 136,066-square-foot office building and 21,220 square feet of retail use into 176 residential units and 10,000 square feet of retail use. The project is located near the northeast corner of South Manhattan Place and Wilshire Boulevard in the community of Wilshire.  Comment Period: 1/11/2018 - 1/31/2018 Public Hearing: N/A	Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> <b>LAC180112-05</b> The District at South Bay Specific Plan	The proposed project consists of construction of 1,601,500 square feet of commercial uses, 1,250 residential units, and two hotels with a total of 350 rooms on 168 acres. The project is located on the southeast corner of East Del Amo Boulevard and Main Street. Reference LAC171017-06, LAC171017-02 and LAC170801-08  Comment Period: N/A Public Hearing: N/A	Response to Comments	City of Carson	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> <b>LAC180118-01</b> ENV-2015-3703: 9530, 9534 & 9546 N. Reseda Blvd.	The proposed project consists of demolition of a 26,000-square-foot building and surface parking lot, and construction of a 127,062-square-foot building with 128 residential units and subterranean parking on 1.54 acres. The project is located near the southeast corner of Reseda Boulevard and Halsted Street in the community of Northridge.  Comment Period: 1/18/2018 - 2/7/2018 Public Hearing: N/A	Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

\*\* Disposition may change prior to Governing Board Meeting

Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A  
INCOMING CEQA DOCUMENTS LOG  
January 01, 2018 to January 31, 2018**

**DRAFT**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>General Land Use (residential, etc.)</i> <b>LAC180118-02</b> ENV-2016-2384: 7660-7702 & 7718-7728 N. Lankershim Blvd. ( 7720 Lankershim Blvd. Project)	The proposed project consists of demolition of two residential units totaling 2,619 square feet, existing commercial buildings totaling 8,449 square feet, and a parking lot. The project will also include construction of a 61,188-square-foot building with 64 multi-family units and 99 single-family units totaling 168,127 square feet on 4.9 acres. The project is located near the southeast corner of Lankershim Boulevard and Stagg Street in the community of Sun Valley-La Tuna Canyon.  Comment Period: 1/18/2018 - 2/7/2018 Public Hearing: N/A	Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> <b>LAC180123-02</b> Northlake Specific Plan Project	The proposed project consists of construction of 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 the community of Santa Clarita Valley. Reference LAC170503-02 and LAC150324-04  Comment Period: N/A Public Hearing: 2/21/2018	Notice of Public Hearing	County of Los Angeles	Document does not require comments
<i>General Land Use (residential, etc.)</i> <b>LAC180124-02</b> Pico Rivera Homes (Tentative Tract Map No. 74823, General Plan Amendment No. 56, Zone Reclassification No. 324, Conditional Use Permit No. 734, and Major Variance (No. 187)	The proposed project consists of subdivision of 2.58 acres for future development of 18 residential units. The project is located near the southwest corner of Slauson Avenue and the San Gabriel River Mid Trail.  Comment Period: 1/23/2018 - 2/22/2018 Public Hearing: N/A	Mitigated Negative Declaration	City of Pico Rivera	** Under review, may submit written comments
<i>General Land Use (residential, etc.)</i> <b>LAC180125-01</b> ENV-2017-508: 4208 E. Huntington Dr. South	The proposed project consists of demolition of existing commercial building, parking lot, and retaining wall. The project will also include construction of two buildings totaling 91,596 square feet with 85 residential units and subterranean parking on 5.23 acres. The project is located on the southwest corner of Huntington Drive and Huntington Drive South in the community of Northeast Los Angeles.  Comment Period: 1/25/2018 - 2/14/2018 Public Hearing: N/A	Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

\*\* Disposition may change prior to Governing Board Meeting

Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A  
INCOMING CEQA DOCUMENTS LOG  
January 01, 2018 to January 31, 2018**

**DRAFT**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>General Land Use (residential, etc.)</i> <b>LAC180125-04</b> ENV-2015-2448-EIR; SunWest Project	The proposed project consists of demolition of a 26,457-square-foot commercial building, and construction of a mixed-use building with 293 residential units, 33,980 square feet of commercial uses, and subterranean parking on 2.22 acres. The project is located at 5509-5529 West Sunset Boulevard, 1505-1535 North Western Avenue, and 5518 West Harold Way on the northwest corner of Western Avenue and Sunset Boulevard, and on the southwest corner of Western Avenue and Harold Way in the community of Hollywood. Reference LAC161021-02, LAC151001-11 and LAC150903-02  Comment Period: N/A Public Hearing: 2/21/2018	Notice of Public Hearing	City of Los Angeles	Document does not require comments
<i>General Land Use (residential, etc.)</i> <b>LAC180130-01</b> The Terraces at Walnut Specific Plan	The proposed project consists of construction of 290 residential units, three to five acres of commercial use, and 17 acres of parks and open space on 49 acres. The project is located near the northeast corner of Grand Avenue and Valley Boulevard.  Comment Period: 1/26/2018 - 2/26/2018 Public Hearing: 2/12/2018	Notice of Preparation	City of Walnut	** Under review, may submit written comments
<i>General Land Use (residential, etc.)</i> <b>ORC180104-06</b> The Preserve at San Juan Residential Development Project	The proposed project consists of construction of 72 residential units on 584.1 acres. The project will also include 414.6 acres of open space. The project is located on the southwest corner of Monte Vista Street and Ortega Highway 74. Reference ORC170526-04 and ORC141031-01  Comment Period: N/A Public Hearing: N/A	Response to Comments	County of Orange Public Works	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> <b>ORC180109-06</b> Bolsa Row Specific Plan - Project Case No. 2017-06	The proposed project consists of construction of a 122,207-square-foot hotel with 150 rooms, 20,000 square feet of public assembly area, 45,000 square feet of retail uses, and 205 residential units on six acres. The project is located on the southeast corner of Brookhurst Street and Bolsa Avenue. Reference ORC170912-14  Comment Period: 1/8/2018 - 2/21/2018 Public Hearing: 2/7/2018	Notice of Availability of a Draft Environmental Impact Report	City of Westminster	Document reviewed - No comments sent

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

\*\* Disposition may change prior to Governing Board Meeting

Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A  
INCOMING CEQA DOCUMENTS LOG  
January 01, 2018 to January 31, 2018**

**DRAFT**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>General Land Use (residential, etc.)</i> <b>ORC180116-01</b> The Preserve at San Juan Residential Development Project	The proposed project consists of construction of 72 residential units on 584.1 acres. The project will also include 414.6 acres of open space. The project is located on the southwest corner of Monte Vista Street and Ortega Highway 74. Reference ORC170526-04 and ORC141031-01  Comment Period: N/A Public Hearing: 1/24/2018	Notice of Public Hearing	County of Orange Public Works	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> <b>RVC180102-01</b> Paradise Valley (Specific Plan No. 339, General Plan Amendment No. 686, Change of Zone No. 6915, EIR 506)	The proposed project consists of construction of six villages including 8,500 residential units, 1.38 million square feet of non-residential land uses, and 110 acres of recreational trails and parks on a 1,800-acre portion of 5,000 acres. The project will also preserve 3,000 acres of open space. The project is located approximately eight miles east of the City of Coachella and 10 miles west of Chiriaco Summit near the interchange between Frontage Road and Interstate 10 in the community of Shavers Valley. Reference RVC151009-01  Comment Period: 1/2/2018 - 2/15/2018 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	County of Riverside	** Under review, may submit written comments
<i>General Land Use (residential, etc.)</i> <b>RVC180118-06</b> Travertine Specific Plan	The proposed project consists of development of 1,200 residential units, a hotel with 100 rooms, a 12-hole golf course with a clubhouse, and 380 acres of open space on 878 acres. The project is located near the southwest corner of Madison Street and Avenue 60.  Comment Period: 1/16/2018 - 2/15/2018 Public Hearing: 1/17/2018	Notice of Preparation	City of La Quinta	** Under review, may submit written comments
<i>General Land Use (residential, etc.)</i> <b>SBC180102-08</b> Rancho Cucamonga North Eastern Sphere Annexation Specific Plan	The proposed project consists of construction of 3,800 residential units, 280,000 square feet of commercial uses, a 20-acre elementary school, 483 acres of habitat restoration, and 29 acres of public open space on a 598-acre portion of 4,088 acres. The project will also include preservation of 3,176 acres of conservation lands. The project is located northwest of the intersection between Interstate 210 and Interstate 15. Reference SBC170912-13 <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/revisednopanannexation-011618.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/revisednopanannexation-011618.pdf</a>  Comment Period: 12/29/2017 - 1/29/2018 Public Hearing: N/A	Revised Notice of Preparation	City of Rancho Cucamonga	SCAQMD staff commented on 1/16/2018

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

\*\* Disposition may change prior to Governing Board Meeting

Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**DRAFT**

# - Project has potential environmental justice concerns due to the nature and/or location of the project.  
 \*\* Disposition may change prior to Governing Board Meeting  
 Documents received by the CEOA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A  
INCOMING CEQA DOCUMENTS LOG  
January 01, 2018 to January 31, 2018**

**DRAFT**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Plans and Regulations</i> <b>SBC180119-02</b> Palm Desert Campus 2016 Master Plan	The proposed project consists of development of a planning framework, goals, and programs, and identification of facility needs for future growth in student enrollment. The project is located on the northeast corner of Cook Street and Frank Sinatra Drive in the City of Palm Desert, Riverside County. Reference SBC171012-04  Comment Period: N/A  Public Hearing: 1/30/2018	Response to Comments	California State University	Document reviewed - No comments sent

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

\*\* Disposition may change prior to Governing Board Meeting

Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT B\***  
**ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS**  
**OR IS CONTINUING TO CONDUCT A CEQA REVIEW**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b><i>Airports</i></b> <b>LAC171207-04</b> Los Angeles International Airport United Airlines East Aircraft Maintenance and Ground Support Equipment Project	The proposed project consists of demolition of existing structures and construction of a 411,000-square-foot aircraft maintenance and ground support equipment facility on 37 acres. The project is located at 6000-6016 and 6020-6024 Avion Drive near the southwest corner of Airport Boulevard and West Century Boulevard.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/noplaxunitedairlines-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/noplaxunitedairlines-010518.pdf</a> Comment Period: 12/7/2017 - 1/8/2018 Public Hearing: 12/19/2017	Notice of Preparation	Los Angeles World Airports	SCAQMD staff commented on 1/5/2018
<b><i>Industrial and Commercial</i></b> <b>LAC171213-01</b> Berth 240 Transportation Vessels Manufacturing Facility	The proposed project consists of demolition of a 9,150-square-foot structure and construction of a 203,450-square-foot industrial manufacturing facility on 10 acres. The project is located near the southwest corner of Terminal Way and Seaside Avenue.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndberth240-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndberth240-010518.pdf</a> Comment Period: 12/8/2017 - 1/8/2018 Public Hearing: N/A	Mitigated Negative Declaration	Port of Los Angeles	SCAQMD staff commented on 1/5/2018
<b><i>Industrial and Commercial</i></b> <b>LAC171226-01</b> Northrop Grumman Lab Expansion Project	The proposed project consists of demolition of 3,525 square feet of building space and construction of five laboratory buildings and a lobby totaling 150,500 square feet on 13 acres. The project is located on the northeast corner of Space Park Boulevard and Mettler Drive.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndnorthrop-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndnorthrop-010518.pdf</a> Comment Period: 12/21/2017 - 1/10/2018 Public Hearing: 1/18/2018	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Redondo Beach	SCAQMD staff commented on 1/5/2018
<b><i>Waste and Water-related</i></b> <b>LAC171201-04</b> PV Peninsula Water Reliability Project (PA-29-16)	The proposed project consists of construction of pump station and replacement of seven miles of underground potable water pipeline. The project is located on the northeast corner of Crenshaw Boulevard and Crest Road in portions of the Cities of Rolling Hills Estates and Rancho Palos Verdes.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndpvpeninsula-010218.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndpvpeninsula-010218.pdf</a> Comment Period: 11/30/2017 - 1/8/2018 Public Hearing: N/A	Mitigated Negative Declaration	City of Rolling Hills Estates	SCAQMD staff commented on 1/2/2018

\*Sorted by Comment Status, followed by Land Use, then County, then date received.

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

\*\* Disposition may change prior to Governing Board Meeting



**ATTACHMENT B**  
**ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS**  
**OR IS CONTINUING TO CONDUCT A CEQA REVIEW**

**DRAFT**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Waste and Water-related</i> <b>LAC171208-05</b> Food Waste Receiving and Digestion Program at the Joint Water Pollution Control Plant	The proposed project consists of demolition of existing digester, and construction of a food waste facility, biogas pipelines, and additional flares on 220 acres. The project would also include expansion of biogas conditioning system and compressed natural gas fueling station. The project is located on the northeast corner of West Lomitas Boulevard and Interstate 110 in the City of Carson.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndfoodwaste-010418.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndfoodwaste-010418.pdf</a> Comment Period: 12/8/2017 - 1/7/2018 Public Hearing: N/A	Mitigated Negative Declaration	Sanitation Districts of Los Angeles County	SCAQMD staff commented on 1/4/2018
<i>Waste and Water-related</i> <b>LAC171214-03</b> Hollenbeck Park Lake Rehabilitation and Stormwater Management Project	The proposed project consists of diversion and treatment of runoff, replacement of potable water deliveries to recycled water deliveries, installation of an 18-inch underground sewer pipeline, and development of water quality improvements and long-term solution to erosion on 4.3 acres. The project is located on the southwest corner of South Saint Louis Street and East 4th Street in the community of Boyle Heights.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nophollenbeckpark-011618.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nophollenbeckpark-011618.pdf</a> Comment Period: 12/14/2017 - 1/18/2018 Public Hearing: 1/11/2018	Notice of Preparation	City of Los Angeles	SCAQMD staff commented on 1/16/2018
<i>Waste and Water-related</i> <b>LAC171214-05</b> United Rock Quarry No. 3 Project/Buena Vista Sediment Placement Site (SPS)	The proposed project consists of improvements to United Rock Quarry No. 3 to be as a permanent sediment placement location. The project is located at 1137 Meridian Street near the northeast corner of Meridian Street and Bateman Avenue in the City of Irwindale. Reference LAC160513-01  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirunitedrock-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirunitedrock-010518.pdf</a> Comment Period: 12/14/2017 - 1/29/2018 Public Hearing: N/A	Draft Environmental Impact Report	Los Angeles County Flood Control District	SCAQMD staff commented on 1/5/2018
<i>Waste and Water-related</i> <b>RVC171212-05</b> Land Acquisition and Site Improvement Project at the Lamb Canyon Landfill	The proposed project consists of acquisition of 70 acres of land adjacent to the Lamb Canyon Landfill. The project would also include drainage improvements, dirt management, and monitoring. The project is located at 16411 Lamb Canyon Road near the southwest corner of Beaumont Avenue and East First Street in the City of Beaumont.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndlambcanyon-011118.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndlambcanyon-011118.pdf</a> Comment Period: 12/11/2017 - 1/11/2018 Public Hearing: 2/6/2018	Mitigated Negative Declaration	County of Riverside	SCAQMD staff commented on 1/11/2018

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

\*\* Disposition may change prior to Governing Board Meeting



**ATTACHMENT B**  
**ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS**  
**OR IS CONTINUING TO CONDUCT A CEQA REVIEW**

**DRAFT**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b>Utilities</b> <b>SBC171122-05</b> Rialto Bioenergy Facility Project	The proposed project consists of production of 13.38 megawatts (MW) in equivalent electricity of renewable energy on 6.2 acres. The project is located at 503 East Santa Ana Avenue near the southeast corner of South Riverside Avenue and East Santa Ana Avenue. Reference SBC170907-06  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirrialtobioenergy-010318.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirrialtobioenergy-010318.pdf</a>  Comment Period: 11/16/2017 - 1/5/2018                      Public Hearing: N/A	Draft Environmental Impact Report	City of Rialto	SCAQMD staff commented on 1/3/2018
<b>Institutional (schools, government, etc.)</b> <b>SBC171228-02</b> Goddard School Project (Site Plan Review No. 15SPR02)	The proposed project consists of construction of a 10,587-square-foot school and daycare center with nine classrooms on 59,129 square feet. The project is located on the southwest corner of Picasso Drive and Pomona Rincon Road.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndgoddardschool-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/mndgoddardschool-010518.pdf</a>  Comment Period: 12/22/2017 - 1/10/2018                      Public Hearing: 1/16/2018	Mitigated Negative Declaration	City of Chino Hills	SCAQMD staff commented on 1/5/2018
<b>Medical Facility</b> <b>LAC171116-04</b> City of Hope Campus Plan (General Plan Amendment & Zone Change 15-01)	The proposed project consists of demolition of 387,500 square feet of existing buildings and construction of 1,426,000 square feet of new buildings on 116 acres. The project is located on the southeast corner of Duarte Road and Cinco Robles Drive. Reference LAC151016-02  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deircityofhope-010418.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deircityofhope-010418.pdf</a>  Comment Period: 11/15/2017 - 1/4/2018                      Public Hearing: 12/6/2017	Draft Environmental Impact Report	City of Duarte	SCAQMD staff commented on 1/4/2018
<b>Retail</b> <b>LAC171212-03</b> Beach Cities Media Campus Project	The proposed project consists of construction of four commercial buildings with office and retail uses totaling 313,000 square feet on 6.39 acres. The project is located at 2021 Rosecrans Avenue on the northeast corner of Rosecrans Avenue and Village Drive.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopthebeachcities-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nopthebeachcities-010518.pdf</a>  Comment Period: 12/8/2017 - 1/6/2018                      Public Hearing: 12/18/2017	Notice of Preparation	City of El Segundo	SCAQMD staff commented on 1/5/2018
<b>General Land Use (residential, etc.)</b> <b>LAC171109-04</b> Hidden Creeks Estates (ENV-2005-6657-EIR)	The proposed project consists of construction of 188 residential units on a 109-acre portion of 285 acres. The project will also preserve 131.5 acres of open space. The project is located at 12100 Browns Canyon Road near the northeast corner of Browns Canyon Road and Santini Lane in the community of Chatsworth-Porter Ranch.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirhidden creeks-010918.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/deirhidden creeks-010918.pdf</a>  Comment Period: 11/9/2017 - 1/10/2018                      Public Hearing: N/A	Revised Draft Environmental Impact Report	City of Los Angeles	SCAQMD staff commented on 1/9/2018

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

\*\* Disposition may change prior to Governing Board Meeting



**ATTACHMENT B**  
**ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS**  
**OR IS CONTINUING TO CONDUCT A CEQA REVIEW**

**DRAFT**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>General Land Use (residential, etc.)</i> <b>LAC171221-03</b> 1045 Olive Project (ENV-2016-4630-EIR)	The proposed project consists of demolition of four buildings totaling 34,673 square feet, and construction of a 751,777-square-foot building with 794 residential units, 100,652 square feet of open space, and subterranean parking on 41,603 square feet. The project is located on the northwest corner of West 11st Street and South Olive Street in the community of Central City.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nop1045olive-011618.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nop1045olive-011618.pdf</a>  Comment Period: 12/21/2017 - 1/19/2018      Public Hearing: 1/10/2018	Notice of Preparation	City of Los Angeles	SCAQMD staff commented on 1/16/2018
<i>General Land Use (residential, etc.)</i> <b>RVC171226-02</b> 17-TM-02, TM 27357	The proposed project consists of construction of 309 residential units on 106.6 acres. The project is located on the southwest corner of Elm Avenue and Oak Valley Parkway.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/sp17tm02-010518.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/sp17tm02-010518.pdf</a>  Comment Period: 12/21/2017 - 1/11/2018      Public Hearing: N/A	Site Plan	City of Beaumont	SCAQMD staff commented on 1/5/2018
<i>General Land Use (residential, etc.)</i> <b>RVC171226-03</b> Tentative Tract Map No. 37434 - EA 43092	The proposed project consists of subdivision of 214.7 acres for future development of 600 residential units. The project is located on the northeast corner of Jack Ivey Drive and Varner Road in the community of Western Coachella Valley.  <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/spttm37434-010218.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/spttm37434-010218.pdf</a>  Comment Period: 12/11/2017 - 1/4/2018      Public Hearing: N/A	Site Plan	County of Riverside	SCAQMD staff commented on 1/2/2018

# - Project has potential environmental justice concerns due to the nature and/or location of the project.

\*\* Disposition may change prior to Governing Board Meeting



**ATTACHMENT C**  
**ACTIVE SCAQMD LEAD AGENCY PROJECTS**  
**THROUGH JANUARY 31, 2018**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
Edgington Oil Company (Edgington) is proposing the following modifications at its existing Edgington Refinery site to allow for additional flexibility in using the site for terminal operations: 1) add 18 offloading arms at its existing rail tank car loading facility to allow for the offloading of distillates, biodiesel, and renewables (diesel and jet fuels), ethanol, naphtha, alkylates, reformat, and isooctane; 2) modify seven truck loading racks to allow distillates, biodiesel, and renewables to be loaded; 3) modify one rack (two arms) to allow unloading of crude oil from trucks; and 4) modify 16 existing fixed-roof asphalt storage tanks to allow storage of distillates, biodiesel, and renewables.	Edgington Oil Company	Initial Study (IS)	An Initial Study has been prepared by the consultant and SCAQMD staff has provided comments. The consultant is in the process of revising the Initial Study.	InterAct
The Phillips 66 (formerly ConocoPhillips) Los Angeles Refinery Ultra Low Sulfur Diesel project was originally proposed to comply with federal, state and SCAQMD requirements to limit the sulfur content of diesel fuels. Litigation against the CEQA document was filed. Ultimately, the California Supreme Court concluded that the SCAQMD had used an inappropriate baseline and directed the SCAQMD to prepare an EIR, even though the project has been built and has been in operation since 2006. The purpose of this CEQA document is to comply with the Supreme Court's direction to prepare an EIR.	Phillips 66 (formerly ConocoPhillips), Los Angeles Refinery	Environmental Impact Report (EIR)	The Notice of Preparation/Initial Study (NOP/IS) was circulated for a 30-day public comment period on March 26, 2012 to April 26, 2012. The consultant submitted the administrative Draft EIR to SCAQMD in late July 2013. The Draft EIR was circulated for a 45-day public review and comment period from September 30, 2014 to November 13, 2014. Two comment letters were received and responses to comments are being prepared.	Environmental Audit, Inc.
Quemetco is proposing an increase in the daily furnace feed rate.	Quemetco	Environmental Impact Report (EIR)	A Notice of Preparation/Initial Study (NOP/IS) has been prepared by the consultant and SCAQMD staff has provided comments. The consultant has provided a revised NOP/IS which is undergoing SCAQMD review.	Trinity Consultants



**ATTACHMENT C**  
**ACTIVE SCAQMD LEAD AGENCY PROJECTS**  
**THROUGH JANUARY 31, 2018**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
Southern California Edison (SCE) is proposing to modify the air pollution control system for the Barre Peaker unit to repair current and prevent future water damage by: 1) decreasing the water-injection rate into the turbine's combustor; 2) replacing the oxidation catalyst and increasing the overall area of catalyst beds in the selective catalytic reduction (SCR) unit; 3) replacing the ammonia injection grid to improve the deliverability of ammonia to the catalyst; and, 4) increasing the concentration of the aqueous ammonia that is delivered to the facility, stored on-site, and injected into the SCR unit from 19% to 29%. In addition, SCE is proposing to revise its SCAQMD Title V Operating Permit to allow the turbine to generate power over its full operating range, from less than one megawatt (MW) to full load (e.g., 45 MW net), while continuing to meet the emission limits in the current permit.	Southern California Edison	Addendum to the April 2007 Final Mitigated Negative Declaration for the Southern California Edison Barre Peaker Project in Stanton	A draft Addendum has been prepared by the consultant and is under review by SCAQMD staff.	Yorke Engineering, LLC
Southern California Edison (SCE) is proposing to modify the air pollution control system for the Mira Loma Peaker unit to repair current and prevent future water damage by: 1) decreasing the water-injection rate into the turbine's combustor; 2) replacing the oxidation catalyst and increasing the overall area of catalyst beds in the Selective Catalytic Reduction (SCR) unit; 3) replacing the ammonia injection grid to improve the deliverability of ammonia to the catalyst; and, 4) increasing the concentration of the aqueous ammonia that is delivered to the facility, stored on-site, and injected into the SCR unit from 19% to 29%. In addition, SCE is proposing to revise its SCAQMD Title V Operating Permit to allow the turbine to generate power over its full operating range, from less than one megawatt (MW) to full load (e.g., 45 MW net), while continuing to meet the emission limits in the current permit.	Southern California Edison	Addendum to the April 2007 Final Mitigated Negative Declaration for the Southern California Edison Mira Loma Peaker Project in Ontario	A draft Addendum has been prepared by the consultant and is under review by SCAQMD staff.	Yorke Engineering, LLC



 [Back to Agenda](#)

BOARD MEETING DATE: March 2, 2018

AGENDA NO. 27

REPORT: Refinery Committee

SYNOPSIS: The Refinery Committee held a meeting on Saturday, January 20, 2018 in Torrance concerning an update on the development of Proposed Rule 1410 - Hydrogen Fluoride Storage and Use at Petroleum Refineries. The following is a summary of the meeting.

RECOMMENDED ACTION:  
Receive and File.

Clark E. Parker, Sr., Chair  
Refinery Committee

PF:SN:ML:MK

---

### **Committee Members**

Present: Dr. Clark E. Parker, Sr./Chair, Mayor Larry McCallon/Vice Chair, Mayor Ben Benoit, Dr. Joseph Lyou and Mayor Pro Tem Judith Mitchell. Dr. William A. Burke was named an Ad Hoc member of the committee for purposes of this meeting.

Absent: None

### **Call to Order**

Chair Parker called the meeting to order at 9:15 a.m.

### **Welcome/Opening Remarks**

Dr. Parker introduced the refinery committee members, announced the purpose of the meeting, and informed the attendees of the availability of the large number of documents and comment letters received during the rulemaking process.



## **Overview**

Executive Officer Wayne Nastri provided opening remarks and an update of the ongoing public process since the April 1, 2017 Refinery Committee Investigative Hearing. Dr. Philip Fine, Deputy Executive Officer/Planning, Rule Development and Area Sources summarized the rulemaking process, including topics discussed at working group meetings. Dr. Fine explained that the exposure effects of HF are greater than sulfuric acid. Regarding the safety of MHF and the scientific information provided by Torrance Refining Company (TORC), staff concluded there are still uncertainties in the mitigation benefits offered by MHF and even the best case scenario, with all existing passive mitigation measures added at TORC, it is estimated that 11% of MHF could be released, representing a significant residual risk.

Dr. Fine presented initial rule concepts, which include different tiers of mitigation. Tier I included relatively low cost mitigation measures already included at one or both refineries. Tier II included a combination of all known available mitigation measures, including enhanced monitoring and camera upgrades. Tier III proposed a near-zero risk in a “failsafe” scenario. Dr. Fine described the option to phase out the MHF technology in lieu of Tier II/III mitigation no later than eight years after rule adoption.

## **Public Comment**

Public comment opened with Assemblymember Al Muratsuchi stating that he does not want the refineries shut down, but wants them to be safer. At the same time, he expressed a deep concern with the use of a highly toxic chemical that may affect the residents. He stressed a balanced approach that keeps the refinery in business, protects jobs, families, workers, and the community. Dr. Burke sought clarification of the Assemblymember’s position on phasing out HF.

Mr. Mark Phair of Valero Wilmington Refinery commented that their refinery is an industry leader in safe operations, safely operating for 35 years, including nine years using MHF, and they are one of only two sites in California certified by Cal/OSHA as a Voluntary Protection Program Star site.

Mr. Steve Steach of TORC commented that their refinery spent over \$200 million to upgrade their equipment, invested extensively in training, and only utilizes highly qualified union workers onsite. Mr. Steach stated their refinery is a different refinery than when it was purchased.

Following those comments, 96 speakers provided public comments.\*

- |   |                                      |
|---|--------------------------------------|
| 1. Adam Webb, Torrance Refining Company | 5. Arnold Caney, State Assembly      |
| 2. Al Sattler                           | Candidate                            |
| 3. Alex Hoth, Torrance Refining Company | 6. Bill Baxter, Southwest Carpenters |
| 4. Armando Flores, Valley Industry      | 7. Brad Jensen, San Gabriel Valley   |
| Commerce Association                    | Economic Partnership                 |



8. Brian Hitchcock, Torrance Refinery Action Alliance
9. Cathy Hernandez, Torrance Refinery Action Alliance
10. Cathy Luciano
11. Clarie Dodson
12. Cliff Heise
13. Connie Sullivan, Torrance Refinery Action Alliance
14. Dan Hoffman, South Bay Association of Chambers of Commerce & Wilmington Chamber
15. David Boule
16. David Hannum, Torrance Refinery Action Alliance
17. David Hoogendoorn, Boilermakers
18. David Sweet
19. DeAndre Valencia, BizFed
20. Diane Wood
21. Donna Duperron, Torrance Chamber of Commerce
22. Donna Heise, Torrance Refinery Action Alliance
23. Dorothy Moore, MD
24. Dr. Eng Gerghmin
25. Edward Salsetto
26. Elizabeth Warren, Future Ports
27. Eric Myers, Valero
28. Eric Nakano, Little Tokyo Service Center
29. Florence Gharibian, Del Amo Action Committee
30. Gerry O'Conner, Torrance Refinery Action Alliance
31. Harold Lewis
32. Henry Martinez
33. Iona Matson
34. Jake Clapman
35. Jane Alfonso, Torrance Refinery Action Alliance
36. Jeff Fitt
37. Jeremy Harris, Long Beach Area Chamber
38. Jesse Marquez, Coalition for a Safe Environment
39. Jim Cooksey
40. John Davidson
41. Judy Herman, Torrance Refinery Action Alliance
42. Judy Pang
43. Julie Bofinger, Torrance Refining Company
44. Karla Devine
45. Kendal Asunerar, L.A. Area Chamber of Commerce
46. Les Tait, Valero
47. Lia Flynn
48. Logan Bajloy
49. Lori M. Zaremski, Torrance Refinery Action Alliance
50. Louis Fleming, Torrance Refinery Action Alliance
51. Lydia Bree and Brittany Roman
52. Manish Misra, PBF Energy
53. Margaret O'Regan
54. Marie Wright, PBF Energy
55. Mark Friedman
56. Mark Phair, Valero
57. Mary Matson
58. Mary Pope, Torrance Refinery Action Alliance
59. Matt Johnson, Supervisor Janice Hahn Office
60. Megan Hayati



- |  |   |
|--|---|
| 61. Melanie Cohen, Torrance Refinery Action Alliance                               | 79. Sandy Caja, Chamber of Commerce                     |
| 62. Melissa Finbres, Valero  | 80. Sherry Lear   |
| 63. Mitch Ponce, Ironworkers 433   | 81. Steve Dillow, Sierra Club                           |
| 64. Nichole Williams, Torrance Refining Company                                    | 82. Steve Goldsmith, Torrance Refinery Action Alliance  |
| 65. Paul Donard  | 83. Steve Griffen, Torrance Refining Company            |
| 66. Penny Wirsing, Torrance Refining Company                                       | 84. Steve Steach, Torrance Refining Company             |
| 67. Peter Burg's   | 85. Suzy Elliot, Valero                                 |
| 68. Randy Thomas, Boilermakers   | 86. Ted Jimenez, Southwest Carpenters                   |
| 69. Rebekah Potter   | 87. Tene Bonds, Valero                                  |
| 70. Richard Slawson  | 88. Terry Scott   |
| 71. Robert Caplan  | 89. Tim Jeffines, Boilermakers                          |
| 72. Roger Light, Torrance Refinery Action Alliance                                 | 90. Tim Shepperd, HF Alkylation Consultant              |
| 73. Roger Potter   | 91. Timothy Beyer, Torrance Refinery Action Alliance    |
| 74. Ron Miller, Los Angeles/Orange Counties Building & Construction Trades Council | 92. Tommy Faavae, IBEW Local 11                         |
| 75. Ron Reeder, Herzos Electric  | 93. Ty Carlson, Valero                                  |
| 76. Sally Hayati, Torrance Refinery Action Alliance                                | 94. Ulrich Blaettler, Torrance Refinery Action Alliance |
| 77. Sandra Cartier   | 95. Vanessa Rodriguez, Torrance Refining Company        |
| 78. Sandra Viera, Torrance Refinery Action Alliance                                | 96. Vladimir Buzga                                      |

\* Organizations in parentheses were provided on the speaker cards.

Approximately 50 people expressed concern with a potential HF release and how it could impact nearby communities, and their support for a ban of HF/MHF. Some residents questioned the effectiveness of modified HF as a mitigation method to prevent formation of a vapor cloud, and stressed that profits should not take precedence over the safety of the people. Others highlighted that HF/MHF has no “failsafe” alternative such as the proposed Tier III mitigation approach.

Approximately 50 people commented that they did not support a ban on HF/MHF because the refineries already make safety a priority. Some people commented that they



want to keep the refineries in business because they provide good jobs. Some speakers referred to the proposed rule as a hidden gas tax that would increase the cost of gasoline. Regarding the tiered mitigation proposal, several commenters stressed that there is no “one size fits all” solution to safety mitigation.

Public testimony was followed by comments from the Refinery Committee members.

Dr. Parker stated the Refinery Committee’s responsibility is to make a recommendation to the Governing Board. MHF is obviously dangerous or there would not be all the mitigation in place. Regarding the timeline, Dr. Parker stated the unit cannot be replaced overnight, and he would like to see a shorter implementation timeframe than eight years.

Mayor Pro Tem Mitchell agreed that staff and the working group need to keep talking about how to reach a solution and agreed that an eight-year timeframe seems too long. Mayor Pro Tem Mitchell spoke of the state policy to move toward zero-emission vehicles and a potential future ban of gasoline powered internal combustion engines as a reflection on the future of refineries. Mayor Pro Tem Mitchell indicated that we need to think about the value of lives and the cost to convert a refinery.

Mayor McCallon stated that the tiered mitigation approach seems like an acceptable compromise, and commented on the ability to convert over at some point as the technology matures, possibly in two to four years. The timeline needs to be further discussed.

Dr. Lyou would like to see more options explored, such as Tier I and a ban, or Tier I/II and a ban. He would like staff to fully consider the economic and environmental impacts of a ban and provide more detailed information on the safer alternative technologies. Dr. Lyou discussed the notification systems for the community and the upcoming fence line monitoring projects. Dr. Lyou encouraged staff to continue to meet and discuss the tiered mitigation proposal and bring more information back to the committee.

Mayor Benoit agreed that more information was needed as to the cost of a ban, including the impact of increased truck trips for sulfuric acid, and the cost of the new technologies. Mayor Benoit agreed with Mayor Pro Tem Mitchell that we will not all be driving gasoline vehicles in the future.

Dr. Burke stated that the current problem is due to a lack of leadership and understanding of the importance of this issue. Dr. Burke asked staff to come back to the Committee after further discussions with the stakeholders.



Dr. Parker asked when staff could come back to the Refinery Committee. Mr. Nastri committed to come back within 60 – 75 days depending on scheduling and to continue working group meetings and individual meetings with stakeholders. Dr. Parker stated that all sides must come to some kind of agreement in good faith or the Committee would have to make a recommendation to the Board without the desired consensus. Dr. Parker also addressed the cost of a phase out and noted the \$200 million that spent by TORC over the past 10 months on upgrades that were neglected by the former owner. That money was not used on rebuilding the alkylation unit. He mentioned recent tax cuts that will allow facilities to write off most expenditures immediately. Dr. Parker concluded by stating he was confident that we can find a solution that all parties can agree to.

The meeting was adjourned at approximately 2:15 p.m.

**Attachment**

The staff presentation has been posted online and can be accessed from the following webpage: <http://www.aqmd.gov/docs/default-source/Agendas/refinery-committee/notice-of-the-scaqmd-refinery-committee-meeting.pdf?sfvrsn=14>



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 28

REPORT: Stationary Source Committee

SYNOPSIS: The Stationary Source Committee held a meeting on Friday, February 16, 2018. The following is a summary of the meeting.

RECOMMENDED ACTION:  
Receive and file.

Ben Benoit, Chair  
Stationary Source Committee

LT:eb

---

### **Committee Members**

Present: Mayor Ben Benoit/Chair, Dr. Joseph Lyou/Vice Chair, Mayor Pro Tem Judith Mitchell, Supervisor Janice Rutherford (videoconference), Supervisor Shawn Nelson (videoconference), and Supervisor Hilda Solis

Absent: None

### **Call to Order**

Chair Benoit called the meeting to order at 10:30 a.m.

### **ACTION ITEM:**

#### **1. Execute a Contract to Implement the Consumer Rebate Program for Rule 1111 Compliant Natural-Gas-Fired, Fan-Type Central Furnaces**

Tracy Goss, Planning and Rules Manager/Planning, Rule Development and Area Sources, presented a summary of the proposals submitted for RFP #P2018-05, including the contractor staff is recommending to implement the Rule 1111 rebate program.

Both Mr. Rusty Tharp of Goodman and Mr. Matt Lattanzi of Nortek commented that they support the rebate program which will help advance the selling of compliant products.



Mr. Dave Winningham of Lennox Industries Inc. commented that Lennox also supports the rebate program but raised concerns on whether the funding of the program through the rebate would be able to bridge the gap between the consumer-costs of compliant and non-compliant products. Mr. Winningham urged staff to identify additional funds to either increase the amount of the rebates or set the incentive in such a way that would ensure compliant products are competitive in the market. Staff will monitor the rebate program, and may seek more funds if the program is found to be effective.

Mr. Harold Owens, Regional Sales Manager representing Carrier, expressed support for the Rule 1111 amendment proposal on the mitigation fee extension and the associated fee. He commented that the mitigation fee would allow manufacturers to have more time to finalize their product development, allowing more compliant products to enter the market and providing consumers with more choices. In the meantime, the consumer rebates should be sufficient to offset any higher prices that consumers would be paying for compliant products. Carrier had provided suggestions to staff to reduce the complexity of the proposal by removing the tiers and the defined propane furnace installation exemption. Carrier recommends that the Board continue the mitigation fee option extension and the associated fees. Barbara Baird, Chief Deputy Counsel, noted that this comment should also be considered as a comment for the next item on the agenda (i.e., Proposed Amended Rule (PAR) 1111 proposal).

Dr. Lyou clarified that staff's monitoring of this program should be based on thorough evaluation, to which the Executive Officer, Wayne Nastri, assured it will be.

Moved by Lyou; seconded by Solis; unanimously approved.

Ayes: Benoit, Lyou, Mitchell, Nelson, Rutherford, Solis  
Noes: None  
Absent: None

## **INFORMATIONAL ITEMS:**

### **2. Summary and Update on Proposed Amended Rule 1111**

Tracy Goss provided an update on the proposed amendments to Rule 1111 and summarized the key remaining issues.

Mr. Dave Winningham of Lennox Industries Inc. commented that Lennox plans to launch a comprehensive portfolio for both compliant condensing and non-condensing units, and has made significant investments to be able to meet the current compliance limits. Lennox opposes the most recent rule amendment



proposal. Mr. Winningham supports an earlier version of PAR 1111 that implemented a higher mitigation fee earlier and did not have tiers. The rule should maintain the current compliance dates or the extension of the mitigation fee period should be balanced with economic incentives that would bridge the consumer cost difference. The current proposal would place compliant non-condensing furnaces in an economic disadvantage until April 2019.

Mr. Rusty Tharp of Goodman Manufacturing expressed support for the current proposal. Mr. Tharp commented that with the mitigation fee for non-compliant products and rebate for compliant products, compliant products are significantly advantaged. From a consumer choice perspective, every original equipment manufacturer (OEM) has “good,” “better,” and “best” product lines. There are currently no certified units in the “good” product line. Therefore the proposed mitigation fee extension is needed.

Mr. Ryan Murray, West Regional Manager from Ingersoll Rand explained that there are various model families which representing over a hundred model choices. Each model has different applications. PAR 1111 needs a sell through provision possibly by shipment date as the market needs more models to satisfy customer choices. Mr. Murray explained that this can be a problem because independent warehouse/distributors cannot send units outside of the District.

Mr. Matt Lattanzi of Nortek commented that Nortek supports the current proposal, as outlined in the January 9, 2018 working Group meeting for extending the mitigation fee option. Mr. Lattanzi also suggested that any OEMs introducing compliant products in accordance with the current rule compliance date are indeed rewarded.

Mr. David Stephens, representing Johnson Controls, expressed concerns regarding potential consumer, installer and distributor impacts from the proposed rule amendment. These impacts include product availability, consumer choice, inventory, and complexity of the mitigation fee tiers. Johnson Controls encourages sell-through periods, and also recommends that staff continue with the existing mitigation fee structure while developing metrics to better assess market viability, consumer adoption of available compliant units and allowing distributor agreements to better align with rule amendments.

Mayor Pro Tem Mitchell asked about the sell-through issue. Staff explained that the continuation of the mitigation fee functions similar to a sell-through provision. In addition, compliant products should be available well in advance of the end of extended mitigation fee option. Therefore, there will be a period for manufacturers and distributors to handle their inventory. Mayor Pro Tem Mitchell also asked about the situation in which manufacturers for an associated distributor have no compliant products. Staff responded that the distributor should be able to work with the



manufacturer for an inventory plan. Staff is concerned that inclusion of a sell-through provision could incentivize front loading non-compliant units. Staff is hopeful that most manufacturers will have compliant units by the end of the first phase of the mitigation fee and would use the second phase of the mitigation to sell inventory.

Dr. Lyou commented that there are conflicting claims from the manufacturers about the cost involved, and asked for staff's response. Staff responded that the cost analysis accounts for the cost markup through the supply chain from manufacturer to consumer. Staff will monitor the rebate program's impact on compliant products' sales and will seek additional funding to the program if there is an observed disadvantage for compliant products. Dr. Lyou stated that the proposal appears to provide an advantage for compliant products, but he agrees that staff should monitor the program.

Supervisor Rutherford asked why the proposal would not have a sell-through period. Staff responded that the mitigation fee period extension serves the same purpose. Adding a sell-through would delay emission reductions and could disadvantage compliant products. Supervisor Rutherford commented that there may be a disadvantage for people with lower income without the sell-through. Mayor Benoit concurred and also disagreed that it would cause frontloading. Mayor Benoit suggested that staff return to the Stationary Source Committee in a year on the availability of compliant furnaces and, if needed, a 90 day sell-through period could be allowed. Mr. Nastri confirmed that staff can return to the Stationary Source Committee in a year on the progress made on the availability of compliant units.

### **3. Annual RECLAIM Audit Report for Compliance Year 2016**

Dr. Laki Tisopulos, Deputy Executive Officer/Engineering & Permitting, waived the presentation due to time constraints and stated that it was a standard report that is brought to the Board every year.

### **4. Summary of Proposed Amended Rule (PAR) 1178 - Further Reductions of VOC Emissions from Storage Tanks at Petroleum Refineries**

David De Boer, Planning and Rules Manager/Planning, Rule Development and Area Sources, presented a summary of PAR 1178. Mr. De Boer noted that the proposed rule provides regulatory flexibility for facilities wishing to incorporate flexible enclosure systems to control emissions from slotted guidepoles on floating roof tanks. He also stated that staff plans to amend Rule 219 - Equipment Not Requiring a Written Permit Pursuant to Regulation II. Mayor Pro Tem Mitchell asked how soon Rule 219 could be amended. Susan Nakamura, Assistant Deputy Executive Officer/Planning, Rule Development & Area Sources, stated that staff will bring the amendments to Rule 219 concurrently with PAR 1178 in April, unless issues arise. Dr. Lyou asked what the difference is between a pole sleeve and a flexible enclosure system. Mr. De Boer explained that a pole sleeve is inserted inside the tank while



the flexible enclosure system encloses the slotted guidepole outside of the tank. Ms. Susan Stark of Andeavor thanked staff for their efforts on the rule development.

**5. Summary and Update on Proposed Amended Rule (PAR) 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations**

Susan Nakamura provided an update on recent changes to PAR 1469 and a summary of key remaining issues. Much of the focus was on provisions for use of chemical fume suppressants and staff's proposal for recertifying and a phase-out schedule, if needed.

Supervisor Solis expressed concern about the unknown health impacts related to chemical fume suppressants, the lack of monitoring in communities near these facilities, and that two years seems like a long to allow the use of chemical fume suppressants. Mr. Nastri responded that other rules and AB 617 would address monitoring concerns, and that staff would try to accelerate testing of fume suppressants.

Mayor Pro Tem Mitchell asked for clarification on the timeline of chemical fume suppressants and what type of facilities would be allowed to use them. Ms. Nakamura clarified the timeline for the evaluation of chemical fume suppressants and the type of facilities that generally use them.

Mr. Nastri commented that the Legislature and the Speaker's Office is aware of the chemical fume suppressant issue and is looking to provide economic assistance to transition facilities away from chemical fume suppressants and the use of hexavalent chromium.

Dr. Lyou urged staff to focus on alternatives and expressed concern for controlling hexavalent chromium with a control method that is toxic. Dr. Lyou presented an excerpt of the many potential health effects from one of the OEHHA review papers for the non-PFOS fume suppressants. He stated that the substitutes for PFOS fume suppressants are concerning in regards to health impacts. Staff needs to move cautiously and avoid substituting one toxic for another.

Wesley Turnbow of the Metal Finishing Association of Southern California (MFASC) invited members of the Stationary Source Committee to visit his facility. Mr. Turnbow commented that there are redundant elements in PAR 1469: expensive provisions with small emission reductions from enclosure requirements when Tier II tanks will be controlled; the trigger does not make sense requiring permanent total enclosures with negative air; and the requirements for Tier I tanks. Mr. Turnbow also commented that he would like to see a curve instead of using extreme thresholds for establishing emission limits for Tier II tanks. He also commented that



requirements for temporary enclosures for operations on a roof were concerning and proposed late in the rule development process.

Sam Bell of Metal Surface Inc. commented that the aerospace industry uses hexavalent chromium metal finishing operations. It is important that the SCAQMD take into account what this amendment would do to the local aerospace industry and potential impacts across the nation. Areas of concern are: requirements for temporary tenting for roof operations which can be an expensive short-term impact; HEPA filters for building openings; banning mechanical equipment outside of the 15-foot zone that does not violate any existing rule; impacts to small businesses from banning wetting agents before proper health studies are completed; and incorporating building occupancy ventilation requirements. Mr. Bell announced that anyone interested in visiting a metal plating facility can visit their facility in Bell Gardens.

Patrick King of the MFASC commented that controlling crossdrafts and tanks have done a lot to reduce hexavalent chromium emissions. He commented that proposed source testing requirements every three years is too frequent, as parameter monitoring would ensure proper operation of control equipment. He also commented in opposition to proposed free board height requirements, compressed air drying requirements, and the 1-hour notification requirement.

Bill Pearce of Boeing commented that PAR 1469 includes some new requirements to add strip curtains and HEPA vacuum requirements. Mr. Pearce asked that a 30 to 60 day period after adoption of amendments be allowed to implement these new requirements. Mr. Pearce also commented that he was unsure of what the information obtained from parametric monitoring of static pressure in the duct would provide.

Brian Ward of AAA Plating, commented that industry has been struggling with the definition of Tier I and Tier II tanks. He commented that everyone agrees that Tier II tanks need to be controlled, however, Tier I tanks should not have the same controls. He also commented that the amount of chemical fume suppressant being used was very small and was looking forward to the emissions testing results.

Charles Bell of Metal Surfaces Inc. commented that the industry is subject to the requirements specified by the prime aerospace companies and would not be able to stop using hexavalent chromium unless the primes modified their specifications. Mr. Nastri commented that Mr. Bell is referencing the military specification requirements.

Ms. Nakamura commented that staff has been and will continue working with the MFASC and other stakeholders on the issues.



**6. RECLAIM Quarterly Report – 2<sup>nd</sup> Update**

Due to time constraints, this item was deferred to the March meeting.

**WRITTEN REPORTS:**

**7. Notice of Violation Penalty Summary**

The report was acknowledged by the Committee.

**OTHER MATTERS:**

**8. Other Business**

There was no other business.

**9. Public Comment Period**

Joe Hower of Ramboll Environ International expressed concern about the pace of the rulemaking to sunset RECLAIM and recommended postponing any rulemaking until all major issues are resolved.

Bill LaMarr, representing the California Small Business Alliance, commented that he was misquoted in the minutes of the January 19, 2018 meeting on item #1, proposed amendments to the BACT Guidelines. The correction is noted – “He stated that UV/EB is a niche market; it’s a high ~~solvent~~ solids application and the business needs to have sufficient margin to demand the quality.”

**10. Next Meeting Date**

The next regular Stationary Source Committee meeting is scheduled for Friday, March 16, 2018.

**Adjournment**

The meeting was adjourned at 12:15 p.m.

**Attachments**

1. Attendance Record
2. Notice of Violation Penalty Summary



## **ATTACHMENT 1**

### **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT STATIONARY SOURCE COMMITTEE**

**Attendance – February 16, 2018**

Mayor Ben Benoit .....	SCAQMD Governing Board
Dr. Joseph Lyou.....	SCAQMD Governing Board
Mayor Pro Tem Judith Mitchell .....	SCAQMD Governing Board
Supervisor Shawn Nelson (videoconference) .....	SCAQMD Governing Board
Supervisor Janice Rutherford (videoconference) .....	SCAQMD Governing Board
Supervisor Hilda L. Solis .....	SCAQMD Governing Board
Marisa Perez .....	Board Consultant (Mitchell)
Ron Ketcham .....	Board Consultant (McCallon)
Andrew Silva .....	Board Consultant (Rutherford)
Charles Bell .....	Metal Surfaces Inc.
Sam Bell .....	Metal Surfaces Inc.
Cynthia Carter .....	L.A. County Sanitation Districts
Florence Gharibian .....	Del Amo Action Committee
Patrick King.....	Metal Finishing Association of Southern California (MFASC)/Morrell's
Bill LaMarr .....	California Small Business Alliance
Matt Lattanzi .....	Nortek
Rita Loof.....	RadTech
Bridget McCann .....	Western State Petroleum Association
Ryan Murray.....	Ingersoll Rand
Harold Owens.....	Carrier
Bill Pearce .....	Boeing
Susan Stark .....	Andeavor
David Stephens.....	Johnson Controls
Rusty Tharp .....	Goodman
Wesley Turnbow .....	MFASC
Peter Whittingham.....	Whittingham Public Affairs Advisors
Dave Winningham.....	Lennox
Barbara Baird.....	SCAQMD staff
David De Boer.....	SCAQMD staff
Philip Fine .....	SCAQMD staff
Bayron Gilchrist .....	SCAQMD staff
Tracy Goss.....	SCAQMD staff
Susan Nakamura.....	SCAQMD staff
Wayne Natri .....	SCAQMD staff
Laki Tisopulos .....	SCAQMD staff
Jill Whynot .....	SCAQMD staff



## DRAFT

Rule 203	Permit to Operate ( <i>Amended 1/5/90</i> )
Rule 204	Permit Conditions ( <i>Amended 10/8/93</i> )

## Rule 314 Fees for Architectural Coatings

Rule 403	Fugitive Dust ( <i>Amended 12/11/98</i> ) Pertains to solid particulate matter emitted from man-made activities.
Rule 461	Gasoline Transfer and Dispensing ( <i>Amended 6/15/01</i> )

Rule 1146	Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters ( <i>Amended 11/17/00</i> )
Rule 1146.2	Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers ( <i>Adopted 1/9/98</i> )
Rule 1151	Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations ( <i>Amended 12/11/98</i> )

Rule 1403	Asbestos Emissions from Demolition/Renovation Activities ( <i>Amended 4/8/94</i> )
Rule 1415	Reduction of Refrigerant Emissions from Stationary Refrigeration and Air Conditioning Systems ( <i>Amended 10/14/94</i> )
Rule 1421	Control of Perchloroethylene Emissions from Dry Cleaning Operations ( <i>Amended 6/13/97</i> )
Rule 1470	Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines

Rule 2004	Requirements ( <i>Amended 5/11/01</i> )
Rule 2012	Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NO <sub>x</sub> ) Emissions ( <i>Amended 5/11/01</i> )



**REGULATION XXII ON-ROAD MOTOR VEHICLE MITIGATION**

Rule 2202            On-Road Motor Vehicle Mitigation Options (*Amended 10/9/98*)

**REGULATION XXX TITLE V PERMITS**

Rule 3002            Requirements (*Amended 11/14/97*)

Rule 3003            Applications (*Amended 3/16/01*)

**CALIFORNIA HEALTH AND SAFETY CODE § 41700**

41954                Compliance for Control of Gasoline Vapor Emissions

41960.2             Gasoline Vapor Recovery

**CALIFORNIA CODE OF REGULATIONS**

Title 13             Mobile Sources and Fuels

PERP 2460          Portable Equipment Testing Requirements



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
General Counsel's Office**

**January 2018 Settlement Penalty Report**

<b><u>Total Penalties</u></b>	
Civil Settlements:	\$157,098.84
MSPAP Settlements:	\$37,455.00
<b>Total Cash Settlements:</b>	<b>\$194,553.84</b>
<b>Total SEP Value:</b>	<b>\$0.00</b>
<b>Fiscal Year through 1 / 2018 Cash Total:</b>	<b>\$4,376,256.81</b>
<b>Fiscal Year through 1 / 2018 SEP Value Only Total:</b>	<b>\$2,120,000.00</b>



Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbr	Total Settlement
<b>Civil Settlements</b>						
184154	JUDITH L. ALBERT ALBERT LIVING TRUST	1403	1/12/2018	DH	P64740	\$10,000.00
122666	A'S MATCH DYEING & FINISHING	2004 2004(d) 2004(f)(1)	1/16/2018	NSF	P62812 P62814	\$10,000.00
173449	AMERIPOLISH INC	314	1/30/2018	BST	P64823	\$1,000.00
116984	ARCO, FOSTER GAS	461(E)(2)(A) 203 (b) 41954 41960.2 461 461(c)(2)(B)	1/16/2018	SMP	P58297	\$5,000.00
1034	BUILDERS FENCE CO INC	3002(c)(1) 3003	1/30/2018	SH	P61721 P61729	\$2,500.00
42676	CES PLACERITA INC	2004 3002(c)(1)	1/22/2018	ML	P62059 P62076 P62086	\$300.00
180983	EVERARDO	203 (a)	1/3/2018	BST	P65509	\$500.00
16338	KAISER ALUMINUM FABRICATED PRODUCTS, LLC	2004	1/2/2018	SH	P60559	\$750.00
29411	LA CO., SHERIFF'S DEPT	1146 3002(c)(1)	1/24/2018	SMP	P60518	\$14,000.00



## DRAFT

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbr	Total Settlement
		461 (e) (2)				
155877	MILLERCOORS, LLC	2004(f)(1) 2004	1/23/2018	BST	P59695 P60588	\$3,000.00
176322	MTB1 GROUP, LLC	1403	1/11/2018	TRB	P61063	\$45,000.00
179137	QG PRINTING II CORP	2004 2004(f)(1) 3002(c)(1)	1/24/2018	KRW	P57093 P62804 P62809 P64169 P64171 P64401	\$13,750.00
139490	RUST-OLEUM CORP	1151	1/25/2018	WBW	P64806	\$16,798.84
182929	SAVON PETROLEUM	203 (a) 461 461(c)(2)(B)	1/10/2018	BST	P64294 P65009	\$1,500.00
85943	SIERRA ALUMINUM COMPANY	2012	1/26/2018	SMP	P60270	\$28,000.00
150524	TARGET CORPORATION #2307	1470 203 (b)	1/12/2018	BST	P65562	\$5,000.00
<b>Total Civil Settlements: \$157,098.84</b>						



Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbr	Total Settlement
<b>MSPAP Settlements</b>						
170522	ABC ARCO FA CHAI CORP	461	1/3/2018	GC	P64348	\$100.00
99157	ARCO DLR ALI YASIN	461	1/19/2018	GC	P63219	\$850.00
185335	AZTEC ENGINEERING	203(a)	1/3/2018	JS	P66655	\$800.00
170993	BROOKDALE SAN DIMAS	1146.2	1/3/2018	JS	P65365	\$800.00
13854	EAST LOS ANGELES COLLEGE	3002(c)(1)	1/16/2018	GC	P60535	\$450.00
126964	EDWARDS LIFESCIENCES LLC	203 (b)	1/3/2018	GC	P64069	\$560.00
145797	ENN GEE CORPORATION, RANCHO CAR WASH	461 (e) (2)	1/3/2018	GC	P65017	\$1,200.00
183556	FLATIRON	Title 13 UNKNOWN	1/17/2018	GC	P65252	\$1,150.00
182609	FLATIRON CONSTRUCTION CORP	403 403(d)(2)	1/24/2018	GC	P60539 P64126	\$2,800.00
174357	FUTURE INKLINGS, INC.	461	1/17/2018	GC	P65708	\$100.00
153470	GOMEZ SANDBLASTING	203 (a) 203 (b)	1/19/2018	GC	P60685	\$600.00



## DRAFT

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbr	Total Settlement
175062	GURKIRPA PROPERTIES INC.	461	1/16/2018	GC	P64968	\$1,300.00
173422	HOLY SEPULCHER CEMETERY	461(e)(2)	1/19/2018	GC	P63610	\$1,300.00
176569	HUBBS HARLOW QUARRY, ROBERTSON	204	1/3/2018	GC	P59691	\$600.00
139409	LAUSD, PROCUREMENT WAREHOUSE	203 (b)	1/24/2018	TF	P63761	\$1,100.00
183232	MANA RECYCLING	403 403(d)(2)	1/3/2018	TF	P65258	\$1,100.00
180670	MB FUELING INC.	203 (a)	1/16/2018	TF	P65027	\$100.00
179276	MESA GENERAL ENGINEER	403	1/16/2018	TF	P62048	\$825.00
179276	MESA GENERAL ENGINEER	403	1/16/2018	TF	P65503 P65504	\$2,150.00
183248	MG OIL ENERGY, INC	203	1/24/2018	TF	P64984	\$1,100.00
104004	MICROMETALS, INC	3002(c)(1)	1/19/2018	TF	P63869	\$500.00
63462	MORGAN SERVICES INC	1146 203(b)	1/24/2018	TF	P60540	\$1,000.00
176025	N.P. COLLISION CENTER	1151	1/3/2018	TF	P65560	\$550.00
89248	OLD COUNTRY MILLWORK INC		1/25/2018	TF		\$1,500.00



## DRAFT

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbr	Total Settlement
		3002			P63688	
94987	ONE STOP DRY CLEAN INC		1/19/2018	TF		\$250.00
		1421			P65764	
184074	PARK TOWER, MILAN CAPITAL		1/19/2018	TF		\$500.00
		1415 203			P64225	
83232	POWER PROFESSIONAL CLEANERS CORPORATION		1/25/2018	TF		\$550.00
		203 (b)			P64080	
167335	PRO LINE BODY SHOP/PRO LINE AUTO CO.		1/16/2018	TF		\$2,000.00
		203 (a)			P56741	
153058	SKANSKA USA CIVIL WEST CA DISTRICT INC.		1/3/2018	GV		\$800.00
		PERP 2460			P66651	
153058	SKANSKA USA CIVIL WEST CA DISTRICT INC.		1/3/2018	GV		\$800.00
		203(a)			P66652	
185212	SKY READY MIX INC		1/3/2018	GV		\$3,200.00
		403			P60690	
185525	SMART AND FINAL STORES LLC		1/25/2018	GV		\$800.00
		203(a)			P66658	
121536	STAPLES, INC.		1/3/2018	GV		\$3,200.00
		203 (a)			P65363	
121978	STARS AUTO BODY & FRAME		1/3/2018	GV		\$560.00
		203			P65153	
185297	STATEWIDE SANDBLASTING		1/3/2018	GV		\$800.00
		203(a)			P66654	
183639	UNITED ROCK PRODUCTS CORPORATION		1/19/2018	GV		\$800.00
		403			P63765	
88816	YORBA CLEANERS		1/25/2018	GV		\$660.00



Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbr	Total Settlement
		1421			P65765	

Total MSPAP Settlements: \$37,455.00



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 29

REPORT: Technology Committee

SYNOPSIS: The Technology Committee held a meeting on Friday, February 16, 2018. The following is a summary of the meeting.

RECOMMENDED ACTION:  
Receive and file.

Joe Buscaino, Chair  
Technology Committee

MMM:pmk

---

### **Committee Members**

Present: Council Member Joe Buscaino/Chair (videoconference), Mayor Larry McCallon, Mayor Pro Tem Judith Mitchell, Council Member Dwight Robinson, Supervisor Janice Rutherford and Supervisor Hilda L. Solis

Absent: None

### **Call to Order**

Chair Buscaino called the meeting to order at 12:18 p.m.

### **ACTION ITEMS:**

#### **1. Adopt Resolution Recognizing Funds and Accepting Terms and Conditions for FY 2017-18 Carl Moyer Program Award, Issue Program Announcements for Carl Moyer Program and SOON Provision, Transfer Funds for Voucher Incentive Program and Amend Contract**

These actions are to adopt a Resolution recognizing up to \$27 million in Carl Moyer Program grant awards from CARB under SB 1107 with its terms and conditions for FY 2017-18 and issue Program Announcements for the FY 2017-18 “Year 20” Carl Moyer Program and SOON Provision to provide incentive funding for low emitting on- and off-road vehicles and equipment. Funding for the Carl Moyer and SOON projects will be provided from the Carl Moyer Program SB 1107, AB 134 and AB 923 funds. This action is to also transfer \$2 million from the Carl Moyer Program AB 923 Special Revenue Fund (80) to the Voucher Incentive Program Fund (59) to continue funding truck replacement projects on a first-come, first-served basis.



Finally, this action is to amend a contract, adding an additional \$105,677 from the Carl Moyer Program SB 1107 Fund (32).

*Mayor Pro Tem Mitchell disclosed that she does not have a financial interest but is required to identify for the record that she is a Board Member of the California Air Resources Board which is involved in Item #1.*

*Supervisor Rutherford asked about the outreach efforts for this year's Carl Moyer Program. Staff will hold a series of workshops in areas throughout the South Coast region. The Program Announcement identifies the date, time and location of these workshops. Staff will also send out an email blast announcing the program and mail brochures in both English and Spanish. Furthermore, as part of AB 617 community outreach, additional workshops will be held. Details will be forwarded to Supervisor Rutherford as well as the other Board Members for their offices to help advertise these incentives.*

*Supervisor Solis asked what efforts will be taken to outreach to the immigrant communities. Staff indicated the Carl Moyer Program brochure will include both Spanish and English and staff are available to provide translation support for other languages, including Korean and Chinese when needed. Per Supervisor Solis' recommendation, staff will evaluate the feasibility of radio ads and other methods to reach small fleet owners and operators.*

*Council Member Robinson asked for an explanation of the mathematical error for the one contract, and how this can be prevented in the future. Staff explained this project was evaluated using the new program guidelines and without the benefit of CARB's calculator, which was not available last year. This was an isolated error and staff is confident that no other errors were made. Council Member Robinson also asked if SCAQMD is planning to advertise the 20<sup>th</sup> anniversary of the Carl Moyer Program. Staff responded that both the 20<sup>th</sup> anniversary of the Carl Moyer Program and the 30<sup>th</sup> anniversary of the Clean Fuels Program will be advertised.*

*Council Member Robinson also commented that the incentive programs, such as Carl Moyer, should consider allowing the old trucks that still have a useful life to be used outside of the state or in attainment areas instead of scrapping. Staff responded that these discussions with CARB are ongoing. For example, for a locomotive project with Metrolink, SCAQMD received CARB approval to provide two older locomotives to North Carolina State Transportation for the locomotives to be used as part of a demonstration project, instead of being scrapped.*

*There were no public comments.*



Moved by Solis; seconded by McCallon; a roll call vote was called.

Ayes: Buscaino, McCallon, Mitchell, Robinson, Rutherford and Solis

Noes: None

Absent: None

The motion was unanimously recommended for approval.

**2. Approve and Adopt Technology Advancement Office Clean Fuels Program 2017 Annual Report and 2018 Plan Update and Resolution, Receive and File Revised Membership of Technology Advancement Advisory Group, and Approve and Adopt Membership Changes for Clean Fuels Advisory Group**

Each year by March 31, the Technology Advancement Office must submit to the California Legislative Analyst an approved Annual Report for the past year and a Plan Update for the current calendar year. Staff has reviewed the Clean Fuels Program with the Clean Fuels Advisory Group, the Technology Advancement Advisory Group and other technical experts. Additionally, the 2018 Clean Fuels Program Draft Plan Update was presented to the Technology Committee for review and comment at its October 20, 2017 meeting. This action is to approve and adopt the final Technology Advancement Clean Fuels Program Annual Report for 2017 and 2018 Plan Update as well as the Resolution finding that proposed projects do not duplicate any past or present programs. This action is to also receive and file revised membership of the Technology Advancement Advisory Group and approve and adopt membership changes to the SB 98 Clean Fuels Advisory Group.

Council Member Robinson suggested using the fuel cell vehicles for further education and outreach in large events like the Huntington Beach July 4th parade or the Martin Luther King Day parades, as well as possibly pace cars for the Long Beach Grand Prix or Laguna Seca.

*Supervisor Solis expressed interest in electrification programs in regards to the I710 expansion, especially for catenary systems. Mayor Pro Tem Mitchell provided an overview of her experience with catenary systems in Germany and City of Carson, and explained the potential high cost relative to DC fast charging stations.*

*Supervisor Solis encouraged staff to coordinate with Los Angeles County fleets and L.A. County Metropolitan Transportation Authority on their activities related to the I-710. Council Member Robinson inquired about feedback pertaining to the project-ranking dashboard included in the draft plans. Staff informed the Committee that stakeholders expressed general support for the staff rankings, and no specific negative feedback has been received.*

*There were no public comments.*



Moved by Solis; seconded by Robinson; a roll call vote was called.

Ayes: Buscaino, McCallon, Mitchell, Robinson, Rutherford and Solis

Noes: None

Absent: None

The motion was unanimously recommended for approval.

**OTHER MATTERS:**

**3. Other Business:**

There was no other business.

**4. Public Comment Period:**

There were no public comments.

**5. Next Meeting Date**

The next regular Technology Committee meeting is scheduled for Friday, March 16, 2018 at noon.

**Adjournment**

The meeting adjourned at 1 p.m.

**Attachment**

Attendance Record



## **ATTACHMENT**

### **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT TECHNOLOGY COMMITTEE MEETING**

**Attendance – February 16, 2018**

Council Member Joe Buscaino (videoconference) .....	SCAQMD Board Member
Mayor Larry McCallon.....	SCAQMD Board Member
Mayor Pro Tem Judith Mitchell.....	SCAQMD Board Member
Council Member Dwight Robinson .....	SCAQMD Board Member
Supervisor Janice Rutherford.....	SCAQMD Board Member
Supervisor Hilda L. Solis.....	SCAQMD Board Member
Mark Abramowitz .....	Board Consultant (Lyou)
David Czamanske.....	Board Consultant (Cacciotti)
Ron Ketcham.....	Board Consultant (McCallon)
Marisa Perez.....	Board Consultant (Mitchell)
Andrew Silva.....	Board Consultant (Rutherford)
Dee Girling.....	Clean Energy
Tom Gross.....	Southern California Edison
Greg Roche .....	Clean Energy
Jordan Smith .....	Southern California Edison
Judith Vasquez .....	County of Los Angeles
Theresa Villegas .....	County of Los Angeles
Naveen Berry .....	SCAQMD Staff
Marjorie Eaton .....	SCAQMD Staff
Drue Hargis .....	SCAQMD Staff
Pat Krayser.....	SCAQMD Staff
Fred Minassian .....	SCAQMD Staff
Lisa Mirisola .....	SCAQMD Staff
Matt Miyasato .....	SCAQMD Staff
Wayne Nastri.....	SCAQMD Staff
Gregory Rowley .....	SCAQMD Staff
Veera Tyagi.....	SCAQMD Staff
Mei Wang.....	SCAQMD Staff
Vicki White .....	SCAQMD Staff
Jill Whynot.....	SCAQMD Staff



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 30

REPORT: Mobile Source Air Pollution Reduction Review Committee

SYNOPSIS: Below is a summary of key issues addressed at the MSRC's meeting on February 15, 2018. The next meeting is scheduled for Thursday, March 15, 2018, at 2:00 p.m., in Conference Room CC8.

RECOMMENDED ACTION:  
Receive and file.

Ben Benoit  
SCAQMD Representative on MSRC

MMM:FM:psc

---

**Meeting Minutes Approved**

The MSRC unanimously approved the minutes of the January 18, 2018 meeting. Those approved minutes are attached for your information (*Attachment 1*).

**FYs 2016-18 Natural Gas Infrastructure Program**

The MSRC approved release of Program Announcement #PA2017-07 under the FYs 2016-18 Work Program. The Program Announcement, with a targeted funding level of \$4.0 million, provides funds for new and expanded natural gas stations, as well as for the upgrade of existing vehicle maintenance facilities and technician training. Stations will be eligible for up to 50 percent of station capital equipment, site construction, signage, and reasonable project management costs, not to exceed the specified maximum award amounts. The maximum MSRC funding per project varies from \$100,000 to \$275,000 depending upon whether the applicant is a public or private entity, accessibility level of the proposed project, and the number of fuels offered. Additionally, projects may be eligible for a \$100,000 bonus if they commit to use at least 50% renewable natural gas for a minimum of five years. The RFP includes an open application period commencing with its release on June 2, 2017, and closing June 30, 2018. To date, the MSRC has approved awards totaling \$418,500 in response to this solicitation. The MSRC approved two additional contract awards totaling \$448,000 as part of the FYs 2016-18 Work Program: (1) Omnitrans in an amount not to exceed \$83,000 to modify their vehicles maintenance facility and train technicians; and (2) City of Gardena in an amount not to exceed \$365,000 to install a new limited access CNG



station supplied with renewable natural gas, modify their maintenance facility and train technicians. These contract awards will be considered by the SCAQMD Board at its March 2, 2018 meeting.

**FYs 2016-18 Major Event Center Transportation Program (PA2017-05)**

As part of its FYs 2016-18 Work Program, the MSRC allocated \$5,000,000 for event center transportation programs and released Program Announcement #PA2017-05. The Program Announcement solicits applications from qualifying major event centers and/or transportation providers to provide transportation service for venues not currently served by sufficient transportation service. To date, the MSRC has awarded a total of \$2,335,573. The MSRC considered recommendations concerning an additional application submitted by Metro. Metro requested the MSRC to consider an award of \$1,324,560 to provide special express bus service, as well as special Metrolink service for select games, for 2018. Service would be provided by CNG buses between Union Station and Dodger Stadium for all Dodger home games as well as up to two special events, providing service from at least 90 minutes prior to each event until at least 45 minutes after the game ends or 20 minutes following a special event, whichever is later. In addition, special Metrolink trains would be added in support of “cross-town rivalry” games versus the Los Angeles Angels of Anaheim. For these games, trains would depart from Oceanside and arrive at Union Station, enabling patrons to utilize the bus service to access Dodger Stadium. Service would promote the use of public transit, including bus and rail, in lieu of personal automobile. Elimination of traffic congestion, especially reductions in automobile stop and go driving and queuing, has a direct link to reduced vehicle exhaust emissions. Metro and the Los Angeles Dodgers would contribute at least \$1,687,875 in co-funding. In accordance with the Program terms, Metro would only seek reimbursement for rail trips performed using Tier 4 locomotives. The MSRC approved a contract award to Metro in an amount not to exceed \$1,324,560 as part of the FYs 2016-18 Work Program to implement the 2018 Dodger Stadium Express service. This contract award will be considered by the SCAQMD Board at its March 2, 2018 meeting.

**FYs 2016-18 Local Government Partnership Program**

The MSRC approved the release of Local Government Partnership PON2018-01 under the FYs 2016-18 Work Program. The Invitation to Negotiate (ITN), with a targeted funding level of \$21,180,650, focuses on providing funds for projects to support SCAQMD’s 2016 AQMP. Cities and counties which have opted into the AB 2766 motor vehicle registration surcharge fee program are eligible to participate. The majority of participants would be allocated maximum funding equivalent to their annual AB 2766 Subvention Fund allocation; however, those whose annual Subvention Fund allocation is less than \$50,000 would be eligible to receive a maximum of \$50,000, and the maximum allocation for any single city or county would be \$3,000,000. MSRC funding could be used for light-duty zero emission vehicle purchases and leases; medium- and heavy-duty zero emission vehicle purchases, near-zero emission heavy-



duty alternative fuel vehicle purchases and repower, electric vehicle charging station installation, and construction or expansion of alternative fuel refueling infrastructure, subject to match funding requirements as outlined in the ITN. Additionally, those jurisdictions eligible for a maximum contribution of \$50,000 would have the option to pursue traffic signal synchronization, bicycle active transportation, and first mile/last mile strategies. The ITN includes an open application period commencing with its release on September 1, 2017, and closing March 2, 2018. The MSRC previously approved awards totaling \$217,541 in response to this solicitation. The MSRC unanimously approved an award to the City of Artesia, in an amount not to exceed \$50,000, for the installation of electric vehicle charging infrastructure as part of the FYs 2016-18 Work Program. This contract award will be considered by the SCAQMD Board at its March 2, 2018 meeting.

#### **FYs 2014-16 Local Government Match Program**

As part of the FYs 2014-16 Work Program, the MSRC awarded the City of Wildomar \$500,000 towards the installation of bicycle lane improvements along approximately 5.2 miles of roadway. The contract to effectuate the project lapsed on November 1, 2017. In January 2018, the City submitted a request to complete the project. They indicated that the process of obtaining necessary approvals from Caltrans for the project's co-funding took longer than anticipated, and resulted in award of construction on November 8, 2017. They are confident that the bicycle lanes can be completed in June 2018. The MSRC considered and approved a 12-month replacement contract in the amount of \$500,000 as part of the FYs 2014-16 Work Program.

At this time, the MSRC requests the SCAQMD Board to approve the contract awards as part of approval of the FYs 2014-16 and 2016-18 AB 2766 Discretionary Fund Work Programs as outlined above. The MSRC also requests the Board to authorize the SCAQMD Chairman of the Board the authority to execute all agreements described in this letter. The MSRC further requests authority to adjust the funds allocated to each project specified in this Board letter by up to five percent of the project's recommended funding. The Board has granted this authority to the MSRC for all past Work Programs. This contract award will be considered by the SCAQMD Board at its March 2, 2018 meeting.

#### **Local Government Partnership Program**

A number of the eligible participants under the Local Government Partnership Program have indicated that they cannot secure the necessary City Council/Board actions in time for the Program's March 2, 2018 submission deadline. The MSRC approved extending the deadline to August 2, 2018.



### **Contract Modification Requests**

The MSRC considered two contract modification requests and took the following actions:

1. For City of Long Beach, Contract #ML09036, which provides \$875,000 to purchase 35 Natural Gas Refuse Trucks, a six-month contract term extension, due to additional delays associated with the switch from LNG to CNG for the final 14 trucks; and
2. For Riverside County Transportation Commission (RCTC), Contract #MS14059, which provides \$1,250,000 to implement various signal synchronization projects, a 25-month contract term extension, due to unforeseen delays in the planning and environmental phases of two projects.

### **Contracts Administrator's Report**

The MSRC's AB 2766 Contracts Administrator provides a written status report on all open contracts from FY 2004-05 through the present. The Contracts Administrator's Report for January 3 through January 24, 2018 is attached (Attachment 2) for your information.

### **Attachments**

Attachment 1 – Approved January 18, 2018 Meeting Minutes

Attachment 2 – January 3 through January 24, 2018 Contracts Administrator's Report





**MOBILE SOURCE AIR POLLUTION REDUCTION REVIEW COMMITTEE  
THURSDAY, JANUARY 18, 2018 MEETING MINUTES**

21865 Copley Drive, Diamond, Bar, CA 91765 - Conference Room CC-8

**MEMBERS PRESENT:**

(Vice-Chair) Larry McCallon, representing SBCTA  
Ben Benoit, representing SCAQMD  
Brian Berkson (Alt.), representing RCTC  
Michael Carter (Alt.), representing California Air Resources Board  
Michele Martinez, representing SCAG  
Dolores Roybal Saltarelli, representing Regional Rideshare Agency (via v/c)  
Greg Winterbottom, representing OCTA  
Mark Yamarone (Alt.), representing Los Angeles County MTA (via v/c)

**MEMBERS ABSENT:**

(Chair) Greg Pettis, representing RCTC  
Jack Kitowski, representing California Air Resources Board  
Steve Veres, representing Los Angeles County MTA

**MSRC-TAC MEMBERS PRESENT:**

Stephan Patchan, SCAG  
Vicki White, SCAQMD

**OTHERS PRESENT:**

Lauren Dunlap, SoCalGas  
Ric Teano, OCTA

**SCAQMD STAFF & CONTRACTORS**

Leah Alfaro, MSRC Contracts Assistant  
Penny Shaw Cedillo, MSRC Administrative Liaison  
Ray Gorski, MSRC Technical Advisor-Contractor  
John Kampa, Financial Analyst  
Megan Lorenz, Principal Deputy District Counsel  
Matt MacKenzie, MSRC Contracts Assistant  
Fred Minassian, Asst. Deputy Executive Officer  
Cynthia Ravenstein, MSRC Contracts Administrator  
Paul Wright, Information Technology Specialist



**CALL TO ORDER**

- Call to Order

MSRC Vice-Chair Larry McCallon called to order at 2:00 p.m.

Roll call was taken at the start of the meeting. The following members and alternates were present: BEN BENOIT, BRIAN BERKSON, MICHAEL CARTER, MICHELE MARTINEZ, LARRY MCCALLON, DOLORES ROYBAL SALTARELLI, MARK YAMARONE.

**STATUS REPORT**

Copies of the Clean Transportation Policy Update were distributed at the meeting.

Cynthia Ravenstein, MSRC Contracts Administrator, reported on the Clean Transportation Policy Update on behalf of MSRC-TAC Chair Gretchen Hardison. Ms. Ravenstein referred to an email link that was sent to members and a handout that is available at the meeting. With this being the first month of the year, things are starting in the Legislature. There are some State of California administration activities, reflecting the first full year of funding from the 2017 Road Repair and Accountability Act SB 1. Several of the categories intersect with items that the MSRC has done or is still doing, such as the Active Transportation Program and Freeway Service Patrol.

MSRC Alternate Brian Berkson stated for the record that for Agenda Item #11 and #13, he does not have any financial interest, but is required to identify that he is a member of the Riverside County Transportation Commission and Southern California Regional Rail Authority Board of Directors, which are involved in these items.

MSRC Member Greg Winterbottom stated for the record that for Agenda Item #11, he does not have any financial interest, but is required to identify that he is a member of the Southern California Regional Rail Authority Board of Directors, which is involved in this item.

MSRC Member Ben Benoit stated for the record that for Agenda Item #13, he does not have any financial interest, but is required to identify that he is a member of the Riverside County Transportation Commission Board of Directors, which is involved in this item.

MSRC Vice-Chair Larry McCallon stated for the record that for Agenda Item #9 and #11, he does not have any financial interest, but is required to identify that he is a member of the San Bernardino County Transportation Authority and Southern California Regional Rail Authority Board of Directors, which are involved in these items.



**CONSENT CALENDAR (Items 1 through 9)**  
**Receive and Approve Items**

**Agenda Item #1 – Minutes for the November 16, 2017 MSRC Meeting**

The minutes of the November 16, 2017 meeting were distributed at the meeting.

ON MOTION BY MSRC MEMBER MICHELE MARTINEZ AND  
SECONDED BY MSRC MEMBER BEN BENOIT, UNDER OF APPROVAL  
OF CONSENT CALENDAR ITEMS #1 THROUGH #4, THE MSRC  
UNANIMOUSLY APPROVED THE NOVEMBER 16, 2017 MSRC MEETING  
MINUTES.

AYES: BENOIT, BERKSON, CARTER, MARTINEZ, MCCALLON, ROYBAL  
SALTARELLI, WINTERBOTTOM, YAMARONE.

NOES: NONE.

ACTION: Staff will include the November 17, 2017 meeting minutes in the MSRC Committee Report for the February 2, 2018 SCAQMD Board meeting and will place copies on the MSRC's website.

**Agenda Item #2 – Summary of Final Reports by MSRC Contractors**

The MSRC received and approved two final report summaries this month, as follows:

1. SCRRRA (Metrolink), Contract #MS16100, which provided \$80,455 to provide Metrolink Service to Auto Club Speedway; and
2. Transit Systems Unlimited, Inc., Contract #MS16088, which provided \$17,000 for the expansion of an existing CNG station.

ON MOTION BY MSRC MEMBER MICHELE MARTINEZ AND  
SECONDED BY MSRC MEMBER BEN BENOIT, UNDER APPROVAL OF  
CONSENT CALENDAR ITEMS #1 THROUGH #4, THE MSRC  
UNANIMOUSLY APPROVED THE FINAL REPORTS LISTED ABOVE.

AYES: BENOIT, BERKSON, CARTER, MARTINEZ, MCCALLON, ROYBAL  
SALTARELLI, WINTERBOTTOM, YAMARONE.

NOES: NONE.

ACTION: MSRC staff will file the final reports and release any retention on the contracts.

**Information Only - Receive and File**

**Agenda Item #3 – MSRC Contracts Administrator's Report**

The MSRC AB 2766 Contracts Administrator's Report for October 26, 2017 through January 3, 2018 was included in the agenda package.



ON MOTION BY ON MOTION BY MSRC MEMBER GREG WINTRBOTTOM AND SECONDED BY MSRC MEMBER BEN BENOIT, UNDER APPROVAL OF CONSENT CALENDAR ITEMS #1 THROUGH #4, THE MSRC UNANIMOUSLY VOTED TO RECEIVE AND FILE THE CONTRACTS ADMINISTRATOR'S REPORT FOR OCTOBER 26, 2017 THROUGH JANUARY 3, 2018.

AYES: BENOIT, BERKSON, CARTER, MARTINEZ, MCCALLON, ROYBAL SALTARELLI, WINTERBOTTOM, YAMARONE.

NOES: NONE.

**ACTION:** Staff will include the MSRC Contracts Administrator's Report in the MSRC Committee Report for the February 2, 2018 SCAQMD Board meeting.

#### **Agenda Item #4 – Financial Report on AB 2766 Discretionary Fund**

A financial report on the AB 2766 Discretionary Fund for December 2017 was included in the agenda package.

ON MOTION BY MSRC MEMBER GREG WINTRBOTTOM AND SECONDED BY MSRC MEMBER BEN BENOIT, UNDER APPROVAL OF CONSENT CALENDAR ITEMS #1 THROUGH #4, THE MSRC UNANIMOUSLY VOTED TO RECEIVE AND FILE THE FINANCIAL REPORT FOR THE PERIOD ENDING DECEMBER 2017.

AYES: BENOIT, BERKSON, CARTER, MARTINEZ, MCCALLON, ROYBAL SALTARELLI, WINTERBOTTOM, YAMARONE.

NOES: NONE.

**ACTION:** No further action is required.

#### **For Approval – As Recommended**

#### **Agenda Item #5 – Consider Modification of 2018 MSRC-TAC Meeting Schedule**

In November 2017, the MSRC approved 2018 meeting schedules for the MSRC-TAC and MSRC. The MSRC-TAC schedule showed an incorrect date for the March meeting. Staff recommends that the March 8<sup>th</sup> MSRC-TAC meeting be moved to March 1<sup>st</sup>.

ON MOTION BY MSRC MEMBER BEN BENOIT AND SECONDED BY MSRC MEMBER GREG WINTERBOTTOM, UNDER APPROVAL OF CONSENT CALENDAR ITEMS #5 THROUGH #9, MSRC UNANIMOUSLY VOTED TO APPROVE MODIFICATIONS TO THE 2018 MSRC-TAC MEETING SCHEDULE

AYES: BENOIT, BERKSON, CARTER, MARTINEZ, MCCALLON, ROYBAL SALTARELLI, WINTERBOTTOM, YAMARONE.

NOES: NONE.



**ACTION:** MSRC Staff will amend the above schedule accordingly.

**Agenda Item #6 – Consider Eight-Month Term Extension to the City of Beverly Hills, Contract #ML09033 (\$550,000 – Purchase 10 Heavy-Duty CNG Vehicles and Install CNG Station)**

The City requests an eight-month term extension due to delays associated with the City's vehicle replacement schedule. The MSRC-TAC unanimously recommends approval.

ON MOTION BY MSRC MEMBER BEN BENOIT AND SECONDED BY MSRC MEMBER GREG WINTERBOTTOM, UNDER APPROVAL OF CONSENT CALENDAR ITEMS #5 THROUGH #9, MSRC UNANIMOUSLY VOTED TO APPROVE THE EIGHT-MONTH TERM EXTENSION TO THE CITY OF BEVELRY HILLS, CONTRACT #ML09033.  
AYES: BENOIT, BERKSON, CARTER, MARTINEZ, MCCALLON, ROYBAL  
SALTARELLI, WINTERBOTTOM, YAMARONE.  
NOES: NONE.

**ACTION:** MSRC Staff will amend the above contract accordingly.

**Agenda Item #7 – Consider Approximately Four-Month Term Extension to the City of Corona, Contract #ML14019 (\$178,263 – Install EV Charging, Bicycle Racks, and Bicycle Lockers)**

The City requests a term extension to March 6, 2023, approximately four-months, due to unexpected delays in Southern California Edison meter installation at two of the EV charging station locations. The MSRC-TAC unanimously recommends approval.

ON MOTION BY MSRC MEMBER BEN BENOIT AND SECONDED BY MSRC MEMBER GREG WINTERBOTTOM, UNDER APPROVAL OF CONSENT CALENDAR ITEMS #5 THROUGH #9, THE MSRC UNANIMOUSLY VOTED TO APPROVE A FOUR-MONTH TERM EXTENSION TO THE CITY OF CORONA, CONTRACT #ML14019.  
AYES: BENOIT, BERKSON, CARTER, MARTINEZ, MCCALLON, ROYBAL  
SALTARELLI, WINTERBOTTOM, YAMARONE.  
NOES: NONE.

**ACTION:** MSRC Staff will amend the above contract accordingly.



**Agenda Item #8 – Consider Modified Statement of Work for the City of Long Beach, Contract #ML16017 (\$1,445,400 – Purchase 48 Medium-Duty and up to 16 Heavy-Duty Natural Gas Vehicles and Install CNG Station)**

The City requests to modify the contract to purchase 50 medium-duty and 19 heavy-duty vehicles with no change in the overall funding amount; some vehicles would receive lower incentives. The City also requests to substitute a number of specific vehicles.

ON MOTION BY MSRC MEMBER BEN BENOIT AND SECONDED BY MSRC MEMBER GREG WINTERBOTTOM, UNDER APPROVAL OF CONSENT CALENDAR ITEMS #5 THROUGH #9, MSRC UNANIMOUSLY VOTED TO APPROVE THE MODIFIED STATEMENT OF WORK FOR THE CITY OF LONG BEACH, CONTRACT #ML16017.

AYES: BENOIT, BERKSON, CARTER, MARTINEZ, MCCALLON, ROYBAL SALTARELLI, WINTERBOTTOM, YAMARONE.

NOES: NONE.

**ACTION:** MSRC Staff will amend the above contract accordingly.

**Agenda Item #9 – Consider Two-Year Term Extension to San Bernardino County Transportation Authority (SBCTA), Contract #MS14072 (Implement Various Signal Synchronization Projects)**

SBCTA (formerly San Bernardino Associated Governments) requests a two-year term extension due to delays in the modification of signals at three intersections, which must be completed before interconnecting the traffic signals.

ON MOTION BY MSRC MEMBER BEN BENOIT AND SECONDED BY MSRC MEMBER GREG WINTERBOTTOM, UNDER APPROVAL OF CONSENT CALENDAR ITEMS #5 THROUGH #9, MSRC UNANIMOUSLY VOTED TO APPROVE A TWO-YEAR TERM EXTENSION TO SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA), CONTRACT #MS14072.

AYES: BENOIT, BERKSON, CARTER, MARTINEZ, MCCALLON, ROYBAL SALTARELLI, WINTERBOTTOM, YAMARONE.

NOES: NONE.

**ACTION:** MSRC Staff will amend the above contract accordingly.



**ACTION CALENDAR**  
**FYs 2016-18 WORK PROGRAM****Agenda Item #10 – Consider Funding for Applications Received under the Natural Gas Infrastructure Program**

Cynthia Ravenstein, MSRC Contracts Administrator reported as part of the FYs 2016-18 Work Program, the MSRC allocated \$4 million for implementation of new and expanded CNG and LNG refueling stations, modification to vehicle maintenance facilities, and technician training. Two awards were previously approved under this category, and two additional applications have been reviewed and recommended for approval: (1) The City of Banning for \$225,000 to expand their existing public accessible CNG station, and (2) The City of Norwalk for \$75,000 for modifications to their vehicle maintenance facility to accommodate the maintenance of gaseous fueled vehicles. The MSRC-TAC has recommended approval of the awards totaling \$300,000.

ON MOTION BY MSRC MEMBER BEN BENOIT AND SECONDED BY MSRC MEMBER GREG WINTERBOTTOM, THE MSRC UNANIMOUSLY VOTED TO APPROVE AWARDS TO THE CITY OF BANNING FOR \$225,000 AND THE CITY OF NOWALK FOR \$75,000.

AYES: BENOIT, BERKSON, CARTER, MARTINEZ, MCCALLON, ROYBAL SALTARELLI, WINTERBOTTOM, YAMARONE.

NOES: NONE.

**ACTION:** This item will be considered by the SCAQMD Board at its meeting on February 2, 2018.

**Agenda Item #11 – Consider Funding for Application Received under the Major Event Center Transportation Program**

Ray Gorski, MSRC Technical Advisor reported this is a proposal which has been received under the FYs 2017-18 Major Event Center Program for special train service to the Auto Club Speedway in support of the NASCAR event which will be held on March 18, 2018. The amount of the funding request is \$87,764. The MSRC for the past few years has partnered with the Auto Club Speedway and Southern California Regional Rail Authority (SCRRA) to implement this type of service. This proposal has attributes which are similar to the prior successfully implemented programs. There will be three special trains that are going to depart from Oceanside, Oxnard, and Lancaster stations and provide round-trip service to the Auto Club Speedway. One change from prior years, is that for the first time the service will deploy Tier 4 locomotives which have a substantial reduction in air pollutants compared to the previously utilized Tier 2. We are expecting this program will achieve substantial quantitative air quality benefits. The outreach, promotion, and marketing will be similar to prior years and it is rather extensive. Ridership has been a little lower for the past couple of years, not significantly, on the order of 5%. SCRRA and their staff have been doing additional outreach to ensure that the trains have as many passengers that they can accommodate. Typically, there are greater than 2,000



patrons which utilize this service, we're expecting that amount to either remain steady or increase. The service is implemented at no cost to the riders, it is included in the price of the ticket that they purchased for the NASCAR race.

MSRC Member Greg Winterbottom noted with the use of Tier 4 locomotives, as you helped pushed early on at Metrolink, I think it is going to be a major plus for our air quality. With the price included in the ticket, I don't understand the decrease in ridership, are they not doing enough marketing? It is like our bus to the fair, we can't keep enough buses running because you park right outside the gate and you get \$2 off to get in the fair for \$2 or something like that. Mr. Gorski replied we had this conversation with Metrolink staff, the Auto Club Speedway does not charge for parking on-site and most of the people who attend NASCAR are car buffs; a lot of them like to drive their own cars. That's something that needs to be highlighted. The draw here is to reduce emissions not only generated directly by the automobile trips but the additional emissions created from idling on the freeway for hours due to the severe congestion.

ON MOTION BY MSRC MEMBER GREG WINTERBOTTOM AND  
SECONDED BY MSRC MEMBER MICHELE MARTINEZ, THE MSRC  
UNANIMOUSLY VOTED TO APPROVE AN AWARD TO SOUTHERN  
CALIFORNIA REGIONAL RAIL AUTHORITY FOR \$87,764.

AYES: BENOIT, BERKSON, CARTER, MARTINEZ, MCCALLON, ROYBAL  
SALTARELLI, WINTERBOTTOM, YAMARONE.

NOES: NONE.

**ACTION:** This item will be considered by the SCAQMD Board at its meeting on February 2, 2018.

#### **Agenda Item #12 – Consider Funding for Applications Received under the Local Government Partnership Program**

Cynthia Ravenstein, MSRC Contracts Administrator reported these are the first applications coming for your consideration under your Local Government Partnership Program. The MSRC set aside over \$21M in specific allocations for every participant in the AB 2766 Subvention Fund Program, it is a total of 162 potential participants between cities and the four counties. We have had inquiries from a lot of entities and we are working with The Better World Group, your outreach coordinator, to do a last push to make certain that everybody is aware of the opportunity. We have received four applications: (1) the City of Hidden Hills, light-duty zero emission vehicles and charging infrastructure; (2) City of Colton, one medium and one heavy-duty vehicle; (3) City of Signal Hill, EV charging infrastructure; and (4) City of Desert Hot Springs, traffic signal synchronization. There is a subset of categories that are only open to the smaller entities that are going to receive the minimum of \$50,000 and the City of Desert Hot Springs is one of those. They are opting to go with traffic signal synchronization. The MSRC-TAC recommends approval of the four awards, totaling \$217, 541.

MSRC Alternate Michael Carter asked for clarification, in the discussion section, it talks about the maximum allowable funding for small cities is \$50,000, the City of Colton is not a small city? Ms. Ravenstein replied, right, they are coming close to, if not exactly at, their allocation



which is \$67,000.

MSRC Member Greg Winterbottom questioned what is the dollar for dollar match? Ms. Ravenstein applied it depends on the category that they selected. The baseline for most of the categories is a dollar for dollar match but for a publicly accessible 24-hour electric vehicle charging station, the MSRC will pay 75% of the equipment and installation cost. For a limited access CNG station, the MSRC will only pay 25% of the cost. It is set forth for each particular category but the baseline is 50% for the majority of the categories.

ON MOTION BY MSRC MEMBER MICHELE MARTINEZ AND  
SECONDED BY MSRC MEMBER BEN BENOIT, THE MSRC  
UNANIMOUSLY VOTED TO APPROVE AWARDS TO THE CITIES OF  
HIDDEN HILLS, COLTON, SIGNAL HILL AND DESERT HOT SPRINGS  
TOTALING \$217,541.

AYES: BENOIT, BERKSON, CARTER, MARTINEZ, MCCALLON, ROYBAL  
SALTARELLI, WINTERBOTTOM, YAMARONE.

NOES: NONE.

**ACTION:** This item will be considered by the SCAQMD Board at its meeting on February 2, 2018.

### **Agenda Item #13 – Consider Work Plans Received under the CTC Partnership Program**

Ray Gorski, MSRC Technical Advisor reported that under the CTC Partnership Program, the MSRC set aside \$8,000,000 to implement projects that have the ability to improve mobility and reduce air pollutant emissions. The funding goes directly to each of the four County Transportation Commissions in equal amounts, \$2,000,000 per CTC. The MSRC authorized this program back in the November time frame and we have received our first application from the Riverside County Transportation Commission (RCTC). They are seeking to utilize their \$2,000,000 set aside for two elements: (1) \$500,000 to implement new weekend freeway service patrol, and (2) \$1,500,000 to implement a new vanpool subsidy program.

Relative to the \$1,500,000 Vanpool Program, this will implement up to 224 vanpools, which are going to be serving employment sites. This will include 60 vanpools under the new CalVans JPA partnership, as well as 164 traditional employer vanpools. The program is designed to help buy down the monthly cost of the van lease and the recommendation is to provide a subsidy of 50% not to exceed \$400 per month per vanpool. This will continue until all of the funding is exhausted. This is targeting workers that have long commutes and a minimum of 7 people per van, with a maximum of 15 people per van. This was reviewed by the TCM Subcommittee, there was nothing that they felt was in conflict with the requirements which are stipulated in the Invitation to Negotiate. The TCM Subcommittee and the MSRC-TAC are recommending the MSRC award \$1,500,000 to RCTC to implement the Vanpool Subsidy Program.

The RCTC is looking to implement Weekend Freeway Service Patrol along two very congested corridors in Riverside County: (1) referred to as Beat 4, a FSP terminology, it's going to be the Magnolia Avenue interchange at the 60/91/215 interchange; and (2) Beat 8 is going to be Central



Avenue at I-215 FWY at Alessandro Blvd. These are very congested beats and if there is a collision it often times has some congestion which last longer than the actual length of that traffic incident. Having freeway service patrol on the weekends will help reduce this recurrent traffic congestion which results from a freeway incident. The amount of funding requested is \$500,000. One thing that was pointed out during the MSRC-TAC meeting, when the analysis was done, a 3rd party analysis, which is done to look at the cost benefit of a freeway service patrol beat, both of these were viewed as having very favorable cost benefit on the order of 7 to 1. Which is a very good value, more than twice of what the state requires. The MSRC-TAC recommends to approve \$500,000 for Weekend Service Patrol to be implemented on two beats within Riverside County. This amount will take the full \$2M allocated to RCTC.

ON MOTION BY MSRC MEMBER MICHELE MARTINEZ AND  
SECONDED BY MSRC MEMBER BEN BENOIT, THE MSRC  
UNANIMOUSLY VOTED TO APPROVE AN AWARD TO RIVERSIDE  
COUNTY TRANSPORTATION COMMISSION FOR \$2,000,000.

AYES: BENOIT, BERKSON, CARTER, MARTINEZ, MCCALLON, ROYBAL  
SALTARELLI, WINTERBOTTOM, YAMARONE.

NOES: NONE.

**ACTION:** This item will be considered by the SCAQMD Board at its meeting on February 2, 2018 meeting.

### **OTHER BUSINESS**

No other business was introduced.

### **PUBLIC COMMENT PERIOD**

Public comments were allowed during the discussion of each agenda item. No comments were made on non-agenda items.

### **ADJOURNMENT**

There being no further business, the MSRC meeting adjourned at 2:22 p.m.

### **NEXT MEETING**

Thursday, February 15, 2018 at 2:00 p.m., Room CC8.





## MSRC Agenda Item No. 2

**DATE:** February 15, 2018

**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 January 3 to January 24, 2018.

**RECOMMENDATION:** Receive and file report

**WORK PROGRAM IMPACT:** None

### **Contract Execution Status**

#### **2016-18 Work Program**

On July 8, 2016, the SCAQMD Governing Board approved an award under the Event Center Transportation Program. This contract is executed.

On October 7, 2016, the SCAQMD Governing Board approved three awards under the Event Center Transportation Program and one award for a Regional Active Transportation Partnership Program. These contracts are with the SCAQMD Board Chair for signature or executed.

On January 6, 2017, the SCAQMD Governing Board approved an award for development, hosting and maintenance of a new MSRC website. This contract is executed.

On April 7, 2017, the SCAQMD Governing Board approved an award under the Event Center Transportation Program. This contract is executed.

On June 2, 2017, the SCAQMD Governing Board approved an award under the Event Center Transportation Program. This contract is with the SCAQMD Board Chair for signature.

On July 7, 2017, the SCAQMD Governing Board approved an award under the Event Center Transportation Program. This contract is executed.

On September 1, 2017, the SCAQMD Governing Board approved one award under the Event Center Transportation Program and one award under the Natural Gas Infrastructure Program.



These contracts are with the prospective contractor for signature or with the SCAQMD Board Chair for signature.

On October 6, 2017, the SCAQMD Governing Board approved two awards under the Event Center Transportation Program and one award under the Natural Gas Infrastructure Program. These contracts are with the prospective contractor for signature or executed.

On December 1, 2017, the SCAQMD Governing Board approved sole source awards for a Hydrogen Infrastructure Partnership Program, for a Southern California Future Communities Partnership Program, and for electric vehicle charging infrastructure planning analysis. These contracts are undergoing internal review.

#### **2014-16 Work Program**

On December 5, 2014, the SCAQMD Governing Board approved an award under the AB118 Enhanced Fleet Maintenance Program. This contract is executed.

On June 5, 2015, the SCAQMD Governing Board approved two awards under the Event Center Transportation Program and one award to provide low-emission transportation services to the Special Olympics World Games. These contracts are executed.

On September 4, 2015, the SCAQMD Governing Board approved 25 awards under the Local Government Match Program and one award under the Transportation Control Measure Partnership Program. These contracts are executed.

On October 2, 2015, the SCAQMD Governing Board approved 11 awards under the Local Government Match Program and one award under the Alternative Fuel Infrastructure Program. These contracts are executed.

On November 6, 2015, the SCAQMD Governing Board approved 37 awards under the Local Government Match Program. These contracts are with the prospective contractor for signature or executed. The City of South El Monte has indicated their intention to decline their award; MSRC staff is awaiting the return of the proposed contract documents.

On December 4, 2015, the SCAQMD Governing Board approved one award under the Major Event Center Transportation Program, one award under the Alternative Fuel Infrastructure Program, and one award under the Transportation Control Measure Partnership Program. These contracts are executed.

On January 8, 2016, the SCAQMD Governing Board approved two awards under the Major Event Center Transportation Program, one award under the Local Government Match Program, and one award under the Transportation Control Measure Partnership Program. These contracts are executed.

On March 4, 2016, the SCAQMD Governing Board approved two awards under the Alternative Fuel Infrastructure Program. These contracts are executed.



On April 1, 2016, the SCAQMD Governing Board approved one award under the Major Event Center Transportation Program and five awards under the Transportation Control Measure Partnership Program. These contracts are executed.

On May 6, 2016, the SCAQMD Governing Board approved one award under the Major Event Center Transportation Program and one award under the Transportation Control Measure Partnership Program. These contracts are executed.

On June 3, 2016, the SCAQMD Governing Board approved one award under the Alternative Fuel Infrastructure Program. This contract is executed.

On October 7, 2016, the SCAQMD Governing Board approved ten awards under the Alternative Fuel Infrastructure Program and five awards under the Near-Zero Natural Gas Engine Incentives Program. These contracts are under development, with the prospective contractor for signature, or executed.

On January 6, 2017, the SCAQMD Governing Board approved an award under the Alternative Fuel Infrastructure Program and an award under the Near-Zero Natural Gas Engine Incentives Program. These contracts are executed.

#### **Work Program Status**

Contract Status Reports for work program years with open (including “Open/Complete”) and/or pending contracts are attached.

#### ***FY 2004-05 Work Program Contracts***

One contract from this work program year is open.

#### ***FY 2004-05 Invoices Paid***

No invoices were paid during this period.

#### ***FY 2006-07 Work Program Contracts***

No contracts from this work program year are open; and one is in “Open/Complete” status.

#### ***FY 2006-07 Invoices Paid***

No invoices were paid during this period.

#### ***FY 2007-08 Work Program Contracts***

4 contracts from this work program year are open; and 3 are in “Open/Complete” status. One contract closed during this period: City of Anaheim, Contract #ML08024 – Purchase 9 LPG Buses and 8 CNG Buses.

#### ***FY 2007-08 Invoices Paid***

No invoices were paid during this period.

#### ***FY 2008-09 Work Program Contracts***

2 contracts from this work program year are open; and 5 are in “Open/Complete” status.

#### ***FY 2008-09 Invoices Paid***

No invoices were paid during this period.



***FY 2010-11 Work Program Contracts***

7 contracts from this work program year are open; and 36 are in “Open/Complete” status.

***FY 2010-11 Invoices Paid***

One invoice in the amount of \$90,000.00 was paid during this period.

***FY 2011-12 Work Program Contracts***

15 contracts from this work program year are open, and 33 are in “Open/Complete” status.

***FY 2011-12 Invoices Paid***

No invoices were paid during this period.

***FYs 2012-14 Work Program Contracts***

39 contracts from this work program year are open, and 23 are in “Open/Complete” status.

***FYs 2012-14 Invoices Paid***

No invoices were paid during this period.

***FYs 2014-16 Work Program Contracts***

80 contracts from this work program year are open, and 14 are in “Open/Complete” status. One contract closed during this period: Southern California Regional Rail Authority, Contract #MS16085 – Special Metrolink Service to Auto Club Speedway.

***FYs 2014-16 Invoices Paid***

3 invoices totaling \$229,348.00 were paid during this period.

***FYs 2016-18 Work Program Contracts***

6 contracts from this work program year are open.

***FYs 2016-18 Invoices Paid***

One invoice in the amount of \$11,124.00 was paid during this period.

***Administrative Scope Changes***

No administrative scope changes were initiated during the period of January 4 through January 24, 2018.

***Attachments***

FY 2004-05 through FYs 2016-18 (except FY 2005-06 and FY 2009-10) Contract Status Reports





## AB2766 Discretionary Fund Program Invoices

January 3, 2018 to January 24, 2018

Contract Admin.	MSRC Chair	MSRC Liaison	Finance	Contract #	Contractor	Invoice #	Amount
<i>2010-2011 Work Program</i>							
1/9/2018	1/19/2018	1/23/2018	1/23/2018	ML11024	County of Los Angeles, Dept of Public Works	80000133-FI	\$90,000.00
<b>Total: \$90,000.00</b>							
<i>2014-2016 Work Program</i>							
1/18/2018	1/19/2018	1/23/2018	1/23/2018	MS16088	Transit Systems Unlimited, Inc.	59184-Final	\$1,700.00
1/9/2018	1/19/2018	1/23/2018	1/23/2018	ML16072	City of Palm Desert	1-FINAL	\$56,000.00
<b>Total: \$57,700.00</b>							
<i>2016-2018 Work Program</i>							
1/11/2018	1/19/2018	1/23/2018	1/23/2018	MS18003	Geographics	-20583&206	\$11,124.00
<b>Total: \$11,124.00</b>							

**Total This Period: \$158,824.00**



## FYs 2004-05 Through 2014-16 AB2766 Contract Status Report

2/8/2018

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
<b>FY 2004-2005 Contracts</b>									
<b>Open Contracts</b>									
ML05014	Los Angeles County Department of P	5/21/2007	11/20/2008	3/20/2018	\$204,221.00	\$0.00	Traffic Signal Synchronization	\$204,221.00	No
<b>Total: 1</b>									
<b>Declined/Cancelled Contracts</b>									
ML05005	City of Highland				\$20,000.00	\$0.00	2 Medium Duty CNG Vehicles	\$20,000.00	No
ML05008	Los Angeles County Department of P				\$140,000.00	\$0.00	7 Heavy Duty LPG Street Sweepers	\$140,000.00	No
ML05010	Los Angeles County Department of P				\$20,000.00	\$0.00	1 Heavy Duty CNG Bus	\$20,000.00	No
MS05030	City of Inglewood				\$31,662.00	\$0.00	2 CNG Street Sweepers	\$31,662.00	No
MS05032	H&C Disposal				\$34,068.00	\$0.00	2 CNG Waste Haulers	\$34,068.00	No
MS05044	City of Colton				\$78,720.00	\$0.00	CNG Station Upgrade	\$78,720.00	No
<b>Total: 6</b>									
<b>Closed Contracts</b>									
ML05006	City of Colton Public Works	7/27/2005	7/26/2006		\$30,000.00	\$30,000.00	3 Medium Duty CNG Vehicles	\$0.00	Yes
ML05011	Los Angeles County Department of P	8/10/2006	12/9/2007	6/9/2008	\$52,409.00	\$51,048.46	3 Heavy Duty LPG Shuttle Vans	\$1,360.54	Yes
ML05013	Los Angeles County Department of P	1/5/2007	7/4/2008	1/4/2013	\$313,000.00	\$313,000.00	Traffic Signal Synchronization	\$0.00	Yes
ML05015	City of Lawndale	7/27/2005	7/26/2006		\$10,000.00	\$10,000.00	1 Medium Duty CNG Vehicle	\$0.00	Yes
ML05016	City of Santa Monica	9/23/2005	9/22/2006	9/22/2007	\$350,000.00	\$350,000.00	6 MD CNG Vehicles, 1 LPG Sweep, 13 CNG	\$0.00	Yes
ML05017	City of Signal Hill	1/16/2006	7/15/2007		\$126,000.00	\$126,000.00	Traffic Signal Synchronization	\$0.00	Yes
ML05018	City of San Bernardino	4/19/2005	4/18/2006		\$40,000.00	\$40,000.00	4 M.D. CNG Vehicles	\$0.00	Yes
ML05019	City of Lakewood	5/6/2005	5/5/2006		\$10,000.00	\$10,000.00	1 M.D. CNG Vehicle	\$0.00	Yes
ML05020	City of Pomona	6/24/2005	6/23/2006		\$10,000.00	\$10,000.00	1 M.D. CNG Vehicle	\$0.00	Yes
ML05021	City of Whittier	7/7/2005	7/6/2006	4/6/2008	\$100,000.00	\$80,000.00	Sweeper, Aerial Truck, & 3 Refuse Trucks	\$20,000.00	Yes
ML05022	City of Claremont	9/23/2005	9/22/2006		\$20,000.00	\$20,000.00	2 M.D. CNG Vehicles	\$0.00	Yes
ML05024	City of Cerritos	4/18/2005	3/17/2006		\$10,000.00	\$10,000.00	1 M.D. CNG Vehicle	\$0.00	Yes
ML05025	City of Malibu	5/6/2005	3/5/2006		\$10,000.00	\$10,000.00	1 Medium-Duty CNG Vehicle	\$0.00	Yes
ML05026	City of Inglewood	1/6/2006	1/5/2007	2/5/2009	\$60,000.00	\$60,000.00	2 CNG Transit Buses, 1 CNG Pothole Patch	\$0.00	Yes
ML05027	City of Beaumont	2/23/2006	4/22/2007	6/22/2010	\$20,000.00	\$20,000.00	1 H.D. CNG Bus	\$0.00	Yes
ML05028	City of Anaheim	9/8/2006	9/7/2007	5/7/2008	\$85,331.00	\$85,331.00	Traffic signal coordination & synchronization	\$0.00	Yes
ML05029	Los Angeles World Airports	5/5/2006	9/4/2007		\$140,000.00	\$140,000.00	Seven CNG Buses	\$0.00	Yes
ML05071	City of La Canada Flintridge	1/30/2009	1/29/2011		\$20,000.00	\$20,000.00	1 CNG Bus	\$0.00	Yes



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML05072	Los Angeles County Department of P	8/24/2009	5/23/2010	1/23/2011	\$349,000.00	\$349,000.00	Traffic Signal Synchronization (LADOT)	\$0.00	Yes
MS05001	A-Z Bus Sales, Inc.	2/4/2005	12/31/2005	12/31/2006	\$1,385,000.00	\$1,385,000.00	CNG School Bus Buydown	\$0.00	Yes
MS05002	California Bus Sales	2/4/2005	12/31/2005	12/31/2006	\$1,800,000.00	\$1,800,000.00	CNG School Bus Buydown	\$0.00	Yes
MS05003	BusWest	1/28/2005	12/31/2005	12/31/2006	\$2,100,000.00	\$1,620,000.00	CNG School Bus Buydown	\$480,000.00	Yes
MS05004	Johnson/Ukropina Creative Marketin	11/27/2004	1/18/2006	4/18/2006	\$1,000,000.00	\$994,612.56	Implement "Rideshare Thursday" Campaign	\$5,387.44	Yes
MS05031	City of Ontario, Housing & Municipal	7/22/2005	3/21/2007		\$191,268.00	\$191,268.00	11 CNG Waste Haulers	\$0.00	Yes
MS05033	Waste Management of the Desert	9/26/2005	5/25/2007		\$202,900.00	\$202,900.00	10 CNG Waste Haulers	\$0.00	Yes
MS05034	Sukut Equipment, Inc.	9/9/2005	5/8/2007		\$1,151,136.00	\$1,151,136.00	Repower 12 Scrapers	\$0.00	Yes
MS05035	Varner Construction Inc.	11/28/2005	4/27/2007	2/27/2008	\$334,624.00	\$334,624.00	Repower 5 Off-Road H.D. Vehicles	\$0.00	Yes
MS05036	Camarillo Engineering	8/18/2005	1/17/2007		\$1,167,276.00	\$1,167,276.00	Repower 12 Scrapers	\$0.00	Yes
MS05037	Road Builders, Inc.	11/21/2005	4/20/2007	6/20/2008	\$229,302.00	\$229,302.00	Repower 2 Scrapers	\$0.00	Yes
MS05038	SunLine Transit Agency	3/30/2006	9/29/2007		\$135,000.00	\$135,000.00	15 CNG Buses	\$0.00	Yes
MS05039	Los Angeles County MTA	4/28/2006	4/27/2008		\$405,000.00	\$405,000.00	75 CNG Buses	\$0.00	Yes
MS05040	Orange County Transportation Autho	3/23/2006	12/22/2007	6/22/2008	\$200,000.00	\$200,000.00	25 CNG Buses	\$0.00	Yes
MS05041	The Regents of the University of Cali	9/5/2006	8/4/2007	9/4/2008	\$15,921.00	\$15,921.00	CNG Station Upgrade	\$0.00	Yes
MS05042	City of Ontario, Housing & Municipal	11/21/2005	9/20/2006	7/20/2007	\$117,832.00	\$74,531.27	CNG Station Upgrade	\$43,300.73	Yes
MS05043	Whittier Union High School District	9/23/2005	7/22/2006		\$15,921.00	\$15,921.00	CNG Station Upgrade	\$0.00	Yes
MS05045	City of Covina	9/9/2005	7/8/2006		\$10,000.00	\$7,435.61	CNG Station Upgrade	\$2,564.39	Yes
MS05046	City of Inglewood	1/6/2006	5/5/2007		\$139,150.00	\$56,150.27	CNG Station Upgrade	\$82,999.73	Yes
MS05047	Orange County Transportation Autho	10/20/2005	10/19/2006	1/19/2007	\$75,563.00	\$75,563.00	CNG Station Upgrade	\$0.00	Yes
MS05048	City of Santa Monica	7/24/2006	11/23/2007		\$150,000.00	\$150,000.00	CNG Station Upgrade	\$0.00	Yes
MS05049	Omnitrans	9/23/2005	2/22/2007		\$25,000.00	\$7,250.00	CNG Station Upgrade	\$17,750.00	Yes
MS05050	Gateway Cities Council of Governme	12/21/2005	4/20/2010		\$1,464,839.00	\$1,464,838.12	Truck Fleet Modernization Program	\$0.88	Yes
MS05051	Jagur Tractor	1/16/2006	4/15/2007	10/15/2007	\$660,928.00	\$660,928.00	Repower 6 Scrapers	\$0.00	Yes
MS05052	Caufield Equipment, Inc.	8/3/2005	1/2/2007		\$478,000.00	\$478,000.00	Repower 4 Scrapers	\$0.00	Yes
MS05070	Haaland Internet Productions (HIP D	6/24/2005	5/31/2007	11/30/2011	\$100,715.00	\$92,458.24	Design, Host & Maintain MSRC Website	\$8,256.76	Yes

**Total: 44**

#### Closed/Incomplete Contracts

ML05007	Los Angeles County Dept of Beache	6/23/2006	6/22/2007	12/22/2007	\$50,000.00	\$0.00	5 Medium Duty CNG Vehicles	\$50,000.00	No
ML05009	Los Angeles County Department of P	6/22/2006	12/21/2007	9/30/2011	\$56,666.00	\$0.00	2 Propane Refueling Stations	\$56,666.00	No
ML05012	Los Angeles County Department of P	11/10/2006	5/9/2008	1/9/2009	\$349,000.00	\$0.00	Traffic Signal Synchronization (LADOT)	\$349,000.00	No
ML05023	City of La Canada Flintridge	3/30/2005	2/28/2006	8/28/2008	\$20,000.00	\$0.00	1 CNG Bus	\$20,000.00	No

**Total: 4**



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
--------	------------	------------	----------------------	---------------------	-------------------	----------	---------------------	------------------	----------------------

## FY 2006-2007 Contracts

### Declined/Cancelled Contracts

ML07031	City of Santa Monica				\$180,000.00	\$0.00	Upgrade N.G. Station to Add Hythane	\$180,000.00	No
ML07032	City of Huntington Beach Public Wor				\$25,000.00	\$0.00	One H.D. CNG Vehicle	\$25,000.00	No
ML07035	City of Los Angeles, General Service				\$350,000.00	\$0.00	New CNG Refueling Station/Southeast Yard	\$350,000.00	No
ML07038	City of Palos Verdes Estates				\$25,000.00	\$0.00	One H.D. LPG Vehicle	\$25,000.00	No
MS07010	Palos Verdes Peninsula Transit Auth				\$80,000.00	\$0.00	Repower 4 Transit Buses	\$80,000.00	No
MS07014	Clean Energy Fuels Corp.				\$350,000.00	\$0.00	New L/CNG Station - SERRF	\$350,000.00	No
MS07015	Baldwin Park Unified School District				\$57,500.00	\$0.00	New CNG Station	\$57,500.00	No
MS07016	County of Riverside Fleet Services D				\$36,359.00	\$0.00	New CNG Station - Rubidoux	\$36,359.00	No
MS07017	County of Riverside Fleet Services D				\$33,829.00	\$0.00	New CNG Station - Indio	\$33,829.00	No
MS07018	City of Cathedral City				\$350,000.00	\$0.00	New CNG Station	\$350,000.00	No
MS07021	City of Riverside				\$350,000.00	\$0.00	New CNG Station	\$350,000.00	No
MS07050	Southern California Disposal Co.				\$320,000.00	\$0.00	Ten Nat. Gas Refuse Trucks	\$320,000.00	No
MS07062	Caltrans Division of Equipment				\$1,081,818.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$1,081,818.00	No
MS07065	ECCO Equipment Corp.				\$174,525.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$174,525.00	No
MS07067	Recycled Materials Company of Calif				\$99,900.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$99,900.00	No
MS07069	City of Burbank	5/9/2008	3/8/2010	9/8/2011	\$8,895.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$8,895.00	No
MS07074	Albert W. Davies, Inc.	1/25/2008	11/24/2009		\$39,200.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$39,200.00	No
MS07081	Clean Diesel Technologies, Inc.				\$240,347.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$240,347.00	No
MS07082	DCL International, Inc.				\$153,010.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$153,010.00	No
MS07083	Dinex Exhausts, Inc.				\$52,381.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$52,381.00	No
MS07084	Donaldson Company, Inc.				\$42,416.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$42,416.00	No
MS07085	Engine Control Systems Limited				\$155,746.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$155,746.00	No
MS07086	Huss, LLC				\$84,871.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$84,871.00	No
MS07087	Mann+Hummel GmbH				\$189,361.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$189,361.00	No
MS07088	Nett Technologies, Inc.				\$118,760.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$118,760.00	No
MS07089	Rypos, Inc.				\$68,055.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$68,055.00	No
MS07090	Sud-Chemie				\$27,345.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$27,345.00	No

**Total: 27**

### Closed Contracts

ML07023	City of Riverside	6/20/2008	10/19/2014	7/19/2016	\$462,500.00	\$461,476.42	CNG Station Expansion/Purch. 14 H.D. Vehi	\$1,023.58	Yes
ML07024	City of Garden Grove	3/7/2008	9/6/2014	7/6/2016	\$75,000.00	\$75,000.00	Three H.D. CNG Vehicles	\$0.00	Yes
ML07025	City of San Bernardino	8/12/2008	7/11/2010		\$350,000.00	\$350,000.00	Maintenance Facility Modifications	\$0.00	Yes
ML07026	City of South Pasadena	6/13/2008	6/12/2014		\$25,000.00	\$25,000.00	One H.D. CNG Vehicle	\$0.00	Yes
ML07027	Los Angeles World Airports	6/3/2008	7/2/2014		\$25,000.00	\$25,000.00	One H.D. LNG Vehicle	\$0.00	Yes



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML07028	City of Los Angeles, General Service	3/13/2009	3/12/2014		\$350,000.00	\$350,000.00	New CNG Refueling Station/Hollywood Yard	\$0.00	Yes
ML07029	City of Los Angeles, General Service	3/13/2009	3/12/2014		\$350,000.00	\$350,000.00	New CNG Refueling Station/Venice Yard	\$0.00	Yes
ML07030	County of San Bernardino Public Wo	7/11/2008	9/10/2015		\$200,000.00	\$200,000.00	8 Natural Gas H.D. Vehicles	\$0.00	Yes
ML07033	City of La Habra	5/21/2008	6/20/2014	11/30/2013	\$25,000.00	\$25,000.00	One H.D. Nat Gas Vehicle	\$0.00	Yes
ML07034	City of Los Angeles, General Service	3/13/2009	3/12/2014		\$350,000.00	\$350,000.00	New CNG Refueling Station/Van Nuys Yard	\$0.00	Yes
ML07036	City of Alhambra	1/23/2009	2/22/2015		\$50,000.00	\$50,000.00	2 H.D. CNG Vehicles	\$0.00	Yes
ML07037	City of Los Angeles, General Service	10/8/2008	10/7/2015		\$255,222.00	\$255,222.00	Upgrade LNG/LCNG Station/East Valley Yar	\$0.00	Yes
ML07039	City of Baldwin Park	6/6/2008	6/5/2014	8/5/2015	\$50,000.00	\$50,000.00	Two N.G. H.D. Vehicles	\$0.00	Yes
ML07040	City of Moreno Valley	6/3/2008	9/2/2014		\$25,000.00	\$25,000.00	One Heavy-Duty CNG Vehicle	\$0.00	Yes
ML07041	City of La Quinta	6/6/2008	6/5/2014		\$25,000.00	\$25,000.00	One CNG Street Sweeper	\$0.00	Yes
ML07042	City of La Quinta	8/15/2008	9/14/2010		\$100,000.00	\$100,000.00	Street Sweeping Operations	\$0.00	Yes
ML07043	City of Redondo Beach	9/28/2008	7/27/2014	10/27/2016	\$125,000.00	\$125,000.00	Five H.D. CNG Transit Vehicles	\$0.00	Yes
ML07044	City of Santa Monica	9/8/2008	3/7/2015	3/7/2017	\$600,000.00	\$600,000.00	24 H.D. Nat. Gas Vehicles	\$0.00	Yes
ML07046	City of Culver City Transportation De	5/2/2008	5/1/2014		\$25,000.00	\$25,000.00	One H.D. Nat. Gas Vehicle	\$0.00	Yes
ML07047	City of Cathedral City	6/16/2008	9/15/2014	3/15/2015	\$225,000.00	\$225,000.00	Two H.D. Nat. Gas Vehicles/New CNG Fueli	\$0.00	Yes
ML07048	City of Cathedral City	9/19/2008	10/18/2010		\$100,000.00	\$84,972.45	Street Sweeping Operations	\$15,027.55	Yes
MS07001	A-Z Bus Sales, Inc.	12/28/2006	12/31/2007	2/29/2008	\$1,920,000.00	\$1,380,000.00	CNG School Bus Buydown	\$540,000.00	Yes
MS07002	BusWest	1/19/2007	12/31/2007	3/31/2008	\$840,000.00	\$840,000.00	CNG School Bus Buydown	\$0.00	Yes
MS07003	Westport Fuel Systems, Inc.	11/2/2007	12/31/2011	6/30/2013	\$1,500,000.00	\$1,499,990.00	Advanced Nat. Gas Engine Incentive Progra	\$10.00	Yes
MS07005	S-W Compressors	3/17/2008	3/16/2010		\$60,000.00	\$7,500.00	Mountain CNG School Bus Demo Program-	\$52,500.00	Yes
MS07006	Coachella Valley Association of Gov	2/28/2008	10/27/2008		\$400,000.00	\$400,000.00	Coachella Valley PM10 Reduction Street Sw	\$0.00	Yes
MS07007	Los Angeles World Airports	5/2/2008	11/1/2014		\$420,000.00	\$420,000.00	Purchase CNG 21 Transit Buses	\$0.00	Yes
MS07008	City of Los Angeles, Department of T	9/18/2009	5/17/2020	9/17/2017	\$1,900,000.00	\$1,900,000.00	Purchase 95 Transit Buses	\$0.00	Yes
MS07009	Orange County Transportation Autho	5/14/2008	4/13/2016		\$800,000.00	\$800,000.00	Purchase 40 Transit Buses	\$0.00	Yes
MS07011	L A Service Authority for Freeway E	3/12/2010	5/31/2011	9/30/2011	\$700,000.00	\$700,000.00	"511" Commuter Services Campaign	\$0.00	Yes
MS07012	City of Los Angeles, General Service	6/13/2008	6/12/2009	6/12/2010	\$50,000.00	\$50,000.00	Maintenance Facility Modifications	\$0.00	Yes
MS07013	Rainbow Disposal Company, Inc.	1/25/2008	3/24/2014	9/24/2014	\$350,000.00	\$350,000.00	New High-Volume CNG Station	\$0.00	Yes
MS07019	City of Cathedral City	1/9/2009	6/8/2010		\$32,500.00	\$32,500.00	Maintenance Facility Modifications	\$0.00	Yes
MS07020	Avery Petroleum	5/20/2009	7/19/2015		\$250,000.00	\$250,000.00	New CNG Station	\$0.00	Yes
MS07049	Palm Springs Disposal Services	10/23/2008	11/22/2014	9/22/2016	\$96,000.00	\$96,000.00	Three Nat. Gas Refuse Trucks	\$0.00	Yes
MS07051	City of San Bernardino	8/12/2008	12/11/2014		\$480,000.00	\$480,000.00	15 Nat. Gas Refuse Trucks	\$0.00	Yes
MS07052	City of Redlands	7/30/2008	11/29/2014		\$160,000.00	\$160,000.00	Five Nat. Gas Refuse Trucks	\$0.00	Yes
MS07053	City of Claremont	7/31/2008	12/30/2014		\$96,000.00	\$96,000.00	Three Nat. Gas Refuse Trucks	\$0.00	Yes
MS07054	Republic Services, Inc.	3/7/2008	9/6/2014	9/6/2016	\$1,280,000.00	\$1,280,000.00	40 Nat. Gas Refuse Trucks	\$0.00	Yes
MS07055	City of Culver City Transportation De	7/8/2008	9/7/2014		\$192,000.00	\$192,000.00	Six Nat. Gas Refuse Trucks	\$0.00	Yes
MS07056	City of Whittier	9/5/2008	3/4/2015		\$32,000.00	\$32,000.00	One Nat. Gas Refuse Trucks	\$0.00	Yes
MS07057	CR&R, Inc.	7/31/2008	8/30/2014	6/30/2015	\$896,000.00	\$896,000.00	28 Nat. Gas Refuse Trucks	\$0.00	Yes







Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
<b>FY 2007-2008 Contracts</b>									
<b>Open Contracts</b>									
ML08028	City of Santa Monica	9/11/2009	9/10/2016	5/10/2019	\$600,000.00	\$0.00	24 CNG Heavy-Duty Vehicles	\$600,000.00	No
MS08007	United Parcel Service West Region	12/10/2008	10/9/2014	4/9/2019	\$300,000.00	\$270,000.00	10 H.D. Nat. Gas Vehicles	\$30,000.00	Yes
MS08013	United Parcel Service West Region	12/10/2008	10/9/2014	3/9/2019	\$480,000.00	\$432,000.00	12 H.D. Nat. Gas Yard Tractors	\$48,000.00	No
MS08068	Regents of the University of Californi	11/5/2010	11/4/2017	11/4/2019	\$400,000.00	\$0.00	Hydrogen Station	\$400,000.00	No
<b>Total: 4</b>									
<b>Declined/Cancelled Contracts</b>									
ML08032	City of Irvine	5/1/2009	8/31/2010		\$9,000.00	\$0.00	36 Vehicles (Diagnostic)	\$9,000.00	No
ML08041	City of Los Angeles, Dept of Transpo	8/6/2010	7/5/2011	12/5/2011	\$8,800.00	\$0.00	73 Vehicles (Diagnostic)	\$8,800.00	No
ML08049	City of Cerritos	3/20/2009	1/19/2015	2/19/2017	\$25,000.00	\$0.00	1 CNG Heavy-Duty Vehicle	\$25,000.00	No
ML08051	City of Colton				\$75,000.00	\$0.00	3 CNG Heavy-Duty Vehicles	\$75,000.00	No
ML08080	City of Irvine	5/1/2009	5/31/2015		\$50,000.00	\$0.00	Two Heavy-Duty Nat. Gas Vehicles	\$50,000.00	No
MS08002	Orange County Transportation Autho				\$1,500,000.00	\$0.00	Big Rig Freeway Service Patrol	\$1,500,000.00	No
MS08008	Diversified Truck Rental & Leasing				\$300,000.00	\$0.00	10 H.D. Nat. Gas Vehicles	\$300,000.00	No
MS08010	Orange County Transportation Autho				\$10,000.00	\$0.00	20 H.D. Nat. Gas Vehicles	\$10,000.00	No
MS08011	Green Fleet Systems, LLC				\$10,000.00	\$0.00	30 H.D. Nat. Gas Vehicles	\$10,000.00	No
MS08052	Burrtec Waste Industries, Inc.	12/24/2008	11/23/2014	11/23/2015	\$100,000.00	\$0.00	New CNG Station - Fontana	\$100,000.00	No
MS08054	Clean Energy Fuels Corp.				\$400,000.00	\$0.00	New LNG Station - Fontana	\$400,000.00	No
MS08055	Clean Energy Fuels Corp.	11/26/2009	3/25/2016	3/25/2017	\$400,000.00	\$0.00	New LNG Station - Long Beach-Pier S	\$400,000.00	No
MS08059	Burrtec Waste Industries, Inc.	12/24/2008	11/23/2014		\$100,000.00	\$0.00	New CNG Station - San Bernardino	\$100,000.00	No
MS08060	Burrtec Waste Industries, Inc.	12/24/2008	11/23/2014		\$100,000.00	\$0.00	New CNG Station - Azusa	\$100,000.00	No
MS08062	Go Natural Gas	9/25/2009	1/24/2016	1/24/2017	\$400,000.00	\$0.00	New CNG Station - Rialto	\$400,000.00	No
MS08074	Fontana Unified School District	11/14/2008	12/13/2014		\$200,000.00	\$0.00	Expansion of Existing CNG station	\$200,000.00	No
MS08077	Hythane Company, LLC				\$144,000.00	\$0.00	Upgrade Station to Hythane	\$144,000.00	No
<b>Total: 17</b>									
<b>Closed Contracts</b>									
ML08023	City of Villa Park	11/7/2008	10/6/2012		\$6,500.00	\$5,102.50	Upgrade of Existing Refueling Facility	\$1,397.50	Yes
ML08024	City of Anaheim	7/9/2010	7/8/2017	1/8/2018	\$425,000.00	\$425,000.00	9 LPG Buses and 8 CNG Buses	\$0.00	Yes
ML08026	Los Angeles County Department of P	7/20/2009	7/19/2016		\$250,000.00	\$250,000.00	10 LPG Heavy-Duty Vehicles	\$0.00	Yes
ML08027	Los Angeles County Department of P	7/20/2009	1/19/2011	1/19/2012	\$6,901.00	\$5,124.00	34 Vehicles (Diagnostic)	\$1,777.00	Yes
ML08029	City of Gardena	3/19/2009	1/18/2015		\$25,000.00	\$25,000.00	1 Propane Heavy-Duty Vehicle	\$0.00	Yes
ML08030	City of Azusa	5/14/2010	3/13/2016		\$25,000.00	\$25,000.00	1 CNG Heavy-Duty Vehicle	\$0.00	No
ML08031	City of Claremont	3/27/2009	3/26/2013	3/26/2015	\$97,500.00	\$97,500.00	Upgrade of Existing CNG Station, Purchase	\$0.00	Yes
ML08033	County of San Bernardino Public Wo	4/3/2009	2/2/2010		\$14,875.00	\$14,875.00	70 Vehicles (Diagnostic)	\$0.00	Yes
ML08034	County of San Bernardino Public Wo	3/27/2009	7/26/2015		\$150,000.00	\$150,000.00	8 CNG Heavy-Duty Vehicles	\$0.00	Yes



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML08035	City of La Verne	3/6/2009	11/5/2009		\$11,925.00	\$11,925.00	53 Vehicles (Diagnostic)	\$0.00	Yes
ML08036	City of South Pasadena	5/12/2009	7/11/2013		\$169,421.00	\$169,421.00	New CNG Station	\$0.00	Yes
ML08037	City of Glendale	5/20/2009	5/19/2015		\$325,000.00	\$325,000.00	13 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08038	Los Angeles Department of Water an	7/16/2010	7/15/2017		\$1,050,000.00	\$1,050,000.00	42 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08039	City of Rancho Palos Verdes	6/5/2009	8/4/2015		\$50,000.00	\$50,000.00	2 LPG Transit Buses	\$0.00	Yes
ML08042	City of Ontario, Housing & Municipal	5/1/2009	1/31/2016		\$175,000.00	\$175,000.00	7 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08044	City of Chino	3/19/2009	3/18/2015		\$25,000.00	\$25,000.00	1 CNG Heavy-Duty Vehicle	\$0.00	Yes
ML08045	City of Santa Clarita	2/20/2009	6/19/2010		\$3,213.00	\$3,150.00	14 Vehicles (Diagnostic)	\$63.00	Yes
ML08046	City of Paramount	2/20/2009	2/19/2015		\$25,000.00	\$25,000.00	1 CNG Heavy-Duty Vehicle	\$0.00	Yes
ML08047	City of Culver City Transportation De	5/12/2009	8/11/2015		\$150,000.00	\$150,000.00	6 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08048	City of Santa Clarita	2/20/2009	6/19/2015		\$25,000.00	\$25,000.00	1 CNG Heavy-Duty Vehicle	\$0.00	Yes
ML08050	City of Laguna Beach Public Works	8/12/2009	4/11/2016	10/11/2016	\$75,000.00	\$75,000.00	3 LPG Trolleys	\$0.00	Yes
MS08001	Los Angeles County MTA	12/10/2010	6/9/2014		\$1,500,000.00	\$1,499,999.66	Big Rig Freeway Service Patrol	\$0.34	Yes
MS08003	A-Z Bus Sales, Inc.	5/2/2008	12/31/2008	2/28/2009	\$1,480,000.00	\$1,400,000.00	Alternative Fuel School Bus Incentive Progra	\$80,000.00	Yes
MS08004	BusWest	5/2/2008	12/31/2008		\$1,440,000.00	\$1,440,000.00	Alternative Fuel School Bus Incentive Progra	\$0.00	Yes
MS08005	Burrtec Waste Industries, Inc.	10/23/2008	11/22/2014	10/22/2015	\$450,000.00	\$450,000.00	15 H.D. Nat. Gas Vehicles - Azusa	\$0.00	Yes
MS08006	Burrtec Waste Industries, Inc.	10/23/2008	11/22/2014	10/22/2015	\$450,000.00	\$450,000.00	15 H.D. Nat. Gas Vehicles - Saugus	\$0.00	Yes
MS08009	Los Angeles World Airports	12/24/2008	12/23/2014		\$870,000.00	\$870,000.00	29 H.D. Nat. Gas Vehicles	\$0.00	Yes
MS08012	California Cartage Company, LLC	12/21/2009	10/20/2015	4/20/2016	\$480,000.00	\$480,000.00	12 H.D. Nat. Gas Yard Tractors	\$0.00	Yes
MS08014	City of San Bernardino	12/5/2008	6/4/2015		\$390,000.00	\$360,000.00	13 H.D. Nat. Gas Vehicles	\$30,000.00	Yes
MS08015	Yosemite Waters	5/12/2009	5/11/2015		\$180,000.00	\$117,813.60	11 H.D. Propane Vehicles	\$62,186.40	Yes
MS08016	TransVironmental Solutions, Inc.	1/23/2009	12/31/2010	9/30/2011	\$227,198.00	\$80,351.34	Rideshare 2 School Program	\$146,846.66	Yes
MS08017	Omnitrans	12/13/2008	12/12/2015	12/12/2016	\$900,000.00	\$900,000.00	30 CNG Buses	\$0.00	Yes
MS08019	Enterprise Rent-A-Car Company of L	2/12/2010	7/11/2016		\$300,000.00	\$300,000.00	10 CNG Vehicles	\$0.00	Yes
MS08020	Ware Disposal Company, Inc.	11/25/2008	2/24/2016		\$900,000.00	\$900,000.00	30 CNG Vehicles	\$0.00	Yes
MS08021	CalMet Services, Inc.	1/9/2009	1/8/2016	7/8/2016	\$900,000.00	\$900,000.00	30 CNG Vehicles	\$0.00	Yes
MS08022	SunLine Transit Agency	12/18/2008	3/17/2015		\$311,625.00	\$311,625.00	15 CNG Buses	\$0.00	Yes
MS08053	City of Los Angeles, Bureau of Sanit	2/18/2009	12/17/2015		\$400,000.00	\$400,000.00	New LNG/CNG Station	\$0.00	Yes
MS08056	Clean Energy Fuels Corp.	11/26/2009	2/25/2015		\$400,000.00	\$400,000.00	New LNG Station - POLB-Anah. & I	\$0.00	Yes
MS08057	Orange County Transportation Autho	5/14/2009	7/13/2015		\$400,000.00	\$400,000.00	New CNG Station - Garden Grove	\$0.00	Yes
MS08058	Clean Energy Fuels Corp.	11/26/2009	3/25/2016	3/25/2017	\$400,000.00	\$400,000.00	New CNG Station - Ontario Airport	\$0.00	Yes
MS08061	Clean Energy Fuels Corp.	12/4/2009	3/3/2015		\$400,000.00	\$400,000.00	New CNG Station - L.A.-La Cienega	\$0.00	Yes
MS08063	Go Natural Gas	9/25/2009	1/24/2016	1/24/2017	\$400,000.00	\$400,000.00	New CNG Station - Moreno Valley	\$0.00	Yes
MS08064	Hemet Unified School District	1/9/2009	3/8/2015		\$75,000.00	\$75,000.00	Expansion of Existing Infrastructure	\$0.00	Yes
MS08065	Pupil Transportation Cooperative	11/20/2008	7/19/2014		\$10,500.00	\$10,500.00	Existing CNG Station Modifications	\$0.00	Yes
MS08066	Clean Energy Fuels Corp.	11/26/2009	2/25/2015		\$400,000.00	\$400,000.00	New CNG Station - Palm Spring Airport	\$0.00	Yes
MS08067	Trillium CNG	3/19/2009	6/18/2015	6/18/2016	\$311,600.00	\$254,330.00	New CNG Station	\$57,270.00	Yes



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS08069	Perris Union High School District	6/5/2009	8/4/2015	8/4/2016	\$225,000.00	\$225,000.00	New CNG Station	\$0.00	Yes
MS08070	Clean Energy Fuels Corp.	11/26/2009	2/25/2015		\$400,000.00	\$400,000.00	New CNG Station - Paramount	\$0.00	Yes
MS08071	ABC Unified School District	1/16/2009	1/15/2015		\$63,000.00	\$63,000.00	New CNG Station	\$0.00	Yes
MS08072	Clean Energy Fuels Corp.	12/4/2009	3/3/2015		\$400,000.00	\$354,243.38	New CNG Station - Burbank	\$45,756.62	Yes
MS08073	Clean Energy Fuels Corp.	11/26/2009	2/25/2015		\$400,000.00	\$400,000.00	New CNG Station - Norwalk	\$0.00	Yes
MS08075	Disneyland Resort	12/10/2008	2/1/2015		\$200,000.00	\$200,000.00	Expansion of Existing CNG Infrastructure	\$0.00	Yes
MS08076	Azusa Unified School District	10/17/2008	11/16/2014	1/31/2017	\$172,500.00	\$172,500.00	New CNG station and maint. Fac. Modificati	\$0.00	Yes
MS08078	SunLine Transit Agency	12/10/2008	6/9/2015	2/9/2016	\$189,000.00	\$189,000.00	CNG Station Upgrade	\$0.00	Yes
MS09002	A-Z Bus Sales, Inc.	11/7/2008	12/31/2009	12/31/2010	\$2,520,000.00	\$2,460,000.00	Alternative Fuel School Bus Incentive Progra	\$60,000.00	Yes
MS09004	A-Z Bus Sales, Inc.	1/30/2009	3/31/2009		\$156,000.00	\$156,000.00	Alternative Fuel School Bus Incentive Progra	\$0.00	Yes
MS09047	BusWest	7/9/2010	12/31/2010	4/30/2011	\$480,000.00	\$480,000.00	Alternative Fuel School Bus Incentive Progra	\$0.00	Yes

**Total: 57**

#### **Closed/Incomplete Contracts**

ML08025	Los Angeles County Department of P	10/30/2009	3/29/2011		\$75,000.00	\$0.00	150 Vehicles (Diagnostic)	\$75,000.00	No
MS08079	ABC Unified School District	1/16/2009	12/15/2009	12/15/2010	\$50,000.00	\$0.00	Maintenance Facility Modifications	\$50,000.00	No

**Total: 2**

#### **Open/Complete Contracts**

ML08040	City of Riverside	9/11/2009	9/10/2016	3/10/2019	\$455,500.00	\$455,500.00	16 CNG Vehicles, Expand CNG Station & M	\$0.00	Yes
ML08043	City of Desert Hot Springs	9/25/2009	3/24/2016	3/24/2021	\$25,000.00	\$25,000.00	1 CNG Heavy-Duty Vehicle	\$0.00	Yes
MS08018	Los Angeles County Department of P	8/7/2009	10/6/2016	4/6/2018	\$60,000.00	\$60,000.00	2 CNG Vehicles	\$0.00	Yes

**Total: 3**



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
<b>FY 2008-2009 Contracts</b>									
<b>Open Contracts</b>									
ML09033	City of Beverly Hills	3/4/2011	5/3/2017	5/3/2018	\$550,000.00	\$100,000.00	10 Nat. Gas Heavy-Duty Vehicles & CNG St	\$450,000.00	No
ML09036	City of Long Beach Fleet Services B	5/7/2010	5/6/2017	5/6/2022	\$875,000.00	\$850,000.00	Purchase 35 Natural Gas Refuse Trucks	\$25,000.00	No
<b>Total: 2</b>									
<b>Declined/Cancelled Contracts</b>									
ML09017	County of San Bernardino Public Wo	1/28/2010	7/27/2016		\$200,000.00	\$0.00	8 Nat. Gas Heavy-Duty Vehicles	\$200,000.00	No
ML09018	Los Angeles Department of Water an	7/16/2010	9/15/2012		\$850,000.00	\$0.00	Retrofit 85 Off-Road Vehicles w/DECS	\$850,000.00	No
ML09019	City of San Juan Capistrano Public	12/4/2009	11/3/2010		\$10,125.00	\$0.00	Remote Vehicle Diagnostics/45 Vehicles	\$10,125.00	No
ML09022	Los Angeles County Department of P				\$8,250.00	\$0.00	Remote Vehicle Diagnostics/15 Vehicles	\$8,250.00	No
ML09025	Los Angeles County Department of P	10/15/2010	12/14/2012	6/14/2013	\$50,000.00	\$0.00	Remote Vehicle Diagnostics/85 Vehicles	\$50,000.00	No
ML09028	Riverside County Waste Manageme				\$140,000.00	\$0.00	Retrofit 7 Off-Road Vehicles w/DECS	\$140,000.00	No
ML09039	City of Inglewood				\$310,000.00	\$0.00	Purchase 12 H.D. CNG Vehicles and Remot	\$310,000.00	No
ML09040	City of Cathedral City				\$83,125.00	\$0.00	Purchase 3 H.D. CNG Vehicles and Remote	\$83,125.00	No
ML09044	City of San Dimas				\$425,000.00	\$0.00	Install CNG Station and Purchase 1 CNG S	\$425,000.00	No
ML09045	City of Orange				\$125,000.00	\$0.00	Purchase 5 CNG Sweepers	\$125,000.00	No
MS09003	FuelMaker Corporation				\$296,000.00	\$0.00	Home Refueling Apparatus Incentives	\$296,000.00	No
<b>Total: 11</b>									
<b>Closed Contracts</b>									
ML09007	City of Rancho Cucamonga	2/26/2010	4/25/2012		\$117,500.00	\$62,452.57	Maintenance Facility Modification	\$55,047.43	Yes
ML09008	City of Culver City Transportation De	1/19/2010	7/18/2016	7/18/2017	\$175,000.00	\$175,000.00	8 Nat. Gas Heavy-Duty Vehicles	\$0.00	Yes
ML09010	City of Palm Springs	1/8/2010	2/7/2016		\$25,000.00	\$25,000.00	1 Nat. Gas Heavy-Duty Vehicle	\$0.00	Yes
ML09011	City of San Bernardino	2/19/2010	5/18/2016		\$250,000.00	\$250,000.00	10 Nat. Gas Heavy-Duty Vehicles	\$0.00	Yes
ML09012	City of Gardena	3/12/2010	11/11/2015		\$25,000.00	\$25,000.00	1 Nat. Gas Heavy-Duty Vehicle	\$0.00	Yes
ML09013	City of Riverside Public Works	9/10/2010	12/9/2011	7/31/2013	\$144,470.00	\$128,116.75	Traffic Signal Synchr./Moreno Valley	\$16,353.25	Yes
ML09014	City of Riverside Public Works	9/10/2010	12/9/2011	7/31/2013	\$113,030.00	\$108,495.94	Traffic Signal Synchr./Corona	\$4,534.06	Yes
ML09015	City of Riverside Public Works	9/10/2010	12/9/2011	7/31/2013	\$80,060.00	\$79,778.52	Traffic Signal Synchr./Co. of Riverside	\$281.48	Yes
ML09016	County of San Bernardino Public Wo	1/28/2010	3/27/2014		\$50,000.00	\$50,000.00	Install New CNG Station	\$0.00	Yes
ML09020	County of San Bernardino	8/16/2010	2/15/2012		\$49,770.00	\$49,770.00	Remote Vehicle Diagnostics/252 Vehicles	\$0.00	Yes
ML09021	City of Palm Desert	7/9/2010	3/8/2012		\$39,450.00	\$38,248.87	Traffic Signal Synchr./Rancho Mirage	\$1,201.13	Yes
ML09023	Los Angeles County Department of P	12/10/2010	12/9/2017		\$50,000.00	\$50,000.00	2 Heavy-Duty Alternative Fuel Transit Vehicl	\$0.00	Yes
ML09024	Los Angeles County Department of P	10/15/2010	12/14/2012	6/14/2013	\$400,000.00	\$0.00	Maintenance Facility Modifications	\$400,000.00	No
ML09027	Los Angeles County Department of P	7/23/2010	3/22/2012	6/22/2012	\$150,000.00	\$150,000.00	Freeway Detector Map Interface	\$0.00	Yes
ML09029	City of Whittier	11/6/2009	4/5/2016		\$25,000.00	\$25,000.00	1 Nat. Gas Heavy-Duty Vehicle	\$0.00	Yes
ML09030	City of Los Angeles GSD/Fleet Servi	6/18/2010	6/17/2011		\$22,310.00	\$22,310.00	Remote Vehicle Diagnostics/107 Vehicles	\$0.00	Yes
ML09031	City of Los Angeles, Department of	10/29/2010	10/28/2017		\$825,000.00	\$825,000.00	33 Nat. Gas Heavy-Duty Vehicles	\$0.00	Yes



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML09034	City of La Palma	11/25/2009	6/24/2015		\$25,000.00	\$25,000.00	1 LPG Heavy-Duty Vehicle	\$0.00	Yes
ML09037	City of Redondo Beach	6/18/2010	6/17/2016		\$50,000.00	\$50,000.00	Purchase Two CNG Sweepers	\$0.00	Yes
ML09038	City of Chino	9/27/2010	5/26/2017		\$250,000.00	\$250,000.00	Upgrade Existing CNG Station	\$0.00	Yes
ML09041	City of Los Angeles, Bureau of Sanit	10/1/2010	9/30/2017		\$875,000.00	\$875,000.00	Purchase 35 H.D. Nat. Gas Vehicles	\$0.00	Yes
ML09042	Los Angeles Department of Water an	12/10/2010	12/9/2017		\$1,400,000.00	\$1,400,000.00	Purchase 56 Dump Trucks	\$0.00	Yes
ML09046	City of Newport Beach	5/20/2010	5/19/2016		\$162,500.00	\$162,500.00	Upgrade Existing CNG Station, Maintenance	\$0.00	Yes
ML09047	Los Angeles County Department of P	8/13/2014	8/12/2015	11/12/2015	\$400,000.00	\$272,924.53	Maintenance Facility Modifications	\$127,075.47	No
MS09001	Administrative Services Co-Op/Long	3/5/2009	6/30/2012	12/31/2013	\$225,000.00	\$150,000.00	15 CNG Taxicabs	\$75,000.00	Yes
MS09005	Gas Equipment Systems, Inc.	6/19/2009	10/18/2010		\$71,000.00	\$71,000.00	Provide Temp. Fueling for Mountain Area C	\$0.00	Yes

**Total: 26**

#### Open/Complete Contracts

ML09009	City of South Pasadena	11/5/2010	12/4/2016	3/4/2019	\$125,930.00	\$125,930.00	CNG Station Expansion	\$0.00	Yes
ML09026	Los Angeles County Department of P	10/15/2010	10/14/2017	4/14/2019	\$150,000.00	\$80,411.18	3 Off-Road Vehicles Repowers	\$69,588.82	Yes
ML09032	Los Angeles World Airports	4/8/2011	4/7/2018		\$175,000.00	\$175,000.00	7 Nat. Gas Heavy-Duty Vehicles	\$0.00	Yes
ML09035	City of Fullerton	6/17/2010	6/16/2017	12/16/2018	\$450,000.00	\$450,000.00	2 Heavy-Duty CNG Vehicles & Install CNG	\$0.00	Yes
ML09043	City of Covina	10/8/2010	4/7/2017	10/7/2018	\$179,591.00	\$179,591.00	Upgrade Existing CNG Station	\$0.00	Yes

**Total: 5**



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
<b>FY 2010-2011 Contracts</b>									
<b>Open Contracts</b>									
ML11029	City of Santa Ana	9/7/2012	3/6/2020	3/6/2023	\$262,500.00	\$75,000.00	Expansion of Existing CNG Station, Install N	\$187,500.00	No
ML11032	City of Gardena	3/2/2012	9/1/2018	10/1/2020	\$102,500.00	\$0.00	Purchase Heavy-Duty CNG Vehicle, Install	\$102,500.00	No
ML11038	City of Santa Monica	5/18/2012	7/17/2018		\$400,000.00	\$0.00	Maintenance Facility Modifications	\$400,000.00	No
ML11045	City of Newport Beach	2/3/2012	8/2/2018	3/2/2021	\$30,000.00	\$0.00	Purchase 1 Nat. Gas H.D. Vehicle	\$30,000.00	No
MS11065	Temecula Valley Unified School Distr	8/11/2012	1/10/2019		\$50,000.00	\$46,112.64	Expansion of Existing CNG Station	\$3,887.36	No
MS11091	California Cartage Company, LLC	4/5/2013	8/4/2016	2/4/2018	\$55,000.00	\$0.00	Retrofit Two H.D. Off-Road Vehicles Under	\$55,000.00	No
<b>Total: 6</b>									
<b>Declined/Cancelled Contracts</b>									
MS11013	Go Natural Gas, Inc.				\$150,000.00	\$0.00	New CNG Station - Huntington Beach	\$150,000.00	No
MS11014	Go Natural Gas, Inc.				\$150,000.00	\$0.00	New CNG Station - Santa Ana	\$150,000.00	No
MS11015	Go Natural Gas, Inc.				\$150,000.00	\$0.00	New CNG Station - Inglewood	\$150,000.00	No
MS11046	Luis Castro				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11047	Ivan Borjas				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11048	Phase II Transportation				\$1,080,000.00	\$0.00	Repower 27 Heavy-Duty Vehicles	\$1,080,000.00	No
MS11049	Ruben Caceras				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11050	Carlos Arrue				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11051	Francisco Vargas				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11053	Jose Ivan Soltero				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11054	Albino Meza				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11059	Go Natural Gas				\$150,000.00	\$0.00	New Public Access CNG Station - Paramou	\$150,000.00	No
MS11063	Standard Concrete Products				\$310,825.00	\$0.00	Retrofit Two Off-Road Vehicles under Showc	\$310,825.00	No
MS11070	American Honda Motor Company				\$100,000.00	\$0.00	Expansion of Existing CNG Station	\$100,000.00	No
MS11072	Trillium USA Company DBA Californi				\$150,000.00	\$0.00	New Public Access CNG Station	\$150,000.00	No
MS11077	DCL America Inc.				\$263,107.00	\$0.00	Retrofit of 13 Off-Road Diesel Vehicles with	\$263,107.00	No
MS11083	Cattrac Construction, Inc.				\$500,000.00	\$0.00	Install DECS on Eight Off-Road Vehicles	\$500,000.00	No
MS11084	Ivanhoe Energy Services and Develo				\$66,750.00	\$0.00	Retrofit One H.D. Off-Road Vehicle Under S	\$66,750.00	No
MS11088	Diesel Emission Technologies				\$32,750.00	\$0.00	Retrofit Three H.D. Off-Road Vehicles Under	\$32,750.00	No
MS11089	Diesel Emission Technologies				\$9,750.00	\$0.00	Retrofit One H.D. Off-Road Vehicle Under S	\$9,750.00	No
MS11090	Diesel Emission Technologies				\$14,750.00	\$0.00	Retrofit One H.D. Off-Road Vehicle Under S	\$14,750.00	No
<b>Total: 21</b>									
<b>Closed Contracts</b>									
ML11007	Coachella Valley Association of Gov	7/29/2011	7/28/2012		\$250,000.00	\$249,999.96	Regional PM10 Street Sweeping Program	\$0.04	Yes
ML11027	City of Los Angeles, Dept. of Genera	5/4/2012	7/3/2015	1/3/2016	\$300,000.00	\$300,000.00	Maintenance Facility Modifications	\$0.00	Yes
ML11035	City of La Quinta	11/18/2011	11/17/2012		\$25,368.00	\$25,368.00	Retrofit 3 On-Road Vehicles w/DECS	\$0.00	Yes



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS11001	Mineral LLC	4/22/2011	4/30/2013	4/30/2015	\$111,827.00	\$103,136.83	Design, Develop, Host and Maintain MSRC	\$8,690.17	Yes
MS11002	A-Z Bus Sales, Inc.	7/15/2011	12/31/2011	6/30/2013	\$1,705,000.00	\$1,705,000.00	Alternative Fuel School Bus Incentive Progra	\$0.00	Yes
MS11003	BusWest	7/26/2011	12/31/2011	12/31/2012	\$1,305,000.00	\$1,305,000.00	Alternative Fuel School Bus Incentive Progra	\$0.00	Yes
MS11004	Los Angeles County MTA	9/9/2011	2/29/2012		\$450,000.00	\$299,743.34	Clean Fuel Transit Service to Dodger Stadiu	\$150,256.66	Yes
MS11006	Orange County Transportation Autho	10/7/2011	2/29/2012	8/31/2012	\$268,207.00	\$160,713.00	Metrolink Service to Angel Stadium	\$107,494.00	Yes
MS11018	Orange County Transportation Autho	10/14/2011	1/31/2012		\$211,360.00	\$211,360.00	Express Bus Service to Orange County Fair	\$0.00	Yes
MS11052	Krisda Inc	9/27/2012	6/26/2013		\$120,000.00	\$120,000.00	Repower Three Heavy-Duty Vehicles	\$0.00	Yes
MS11056	The Better World Group	12/30/2011	12/29/2013	12/29/2015	\$206,836.00	\$186,953.46	Programmatic Outreach Services	\$19,882.54	Yes
MS11057	Riverside County Transportation Co	7/28/2012	3/27/2013		\$100,000.00	\$89,159.40	Develop and Implement 511 "Smart Phone"	\$10,840.60	Yes
MS11058	L A Service Authority for Freeway E	5/31/2013	4/30/2014		\$123,395.00	\$123,395.00	Implement 511 "Smart Phone" Application	\$0.00	Yes
MS11061	Eastern Municipal Water District	3/29/2012	5/28/2015		\$11,659.00	\$1,450.00	Retrofit One Off-Road Vehicle under Showc	\$10,209.00	Yes
MS11062	Load Center	9/7/2012	1/6/2016	12/6/2016	\$175,384.00	\$169,883.00	Retrofit Six Off-Road Vehicles under Showc	\$5,501.00	Yes
MS11074	SunLine Transit Agency	5/11/2012	7/31/2012		\$41,849.00	\$22,391.00	Transit Service for Coachella Valley Festival	\$19,458.00	Yes
MS11080	Southern California Regional Rail Au	4/6/2012	7/31/2012		\$26,000.00	\$26,000.00	Metrolink Service to Auto Club Speedway	\$0.00	Yes
MS11086	DCL America Inc.	6/7/2013	10/6/2016		\$500,000.00	\$359,076.96	Retrofit Eight H.D. Off-Road Vehicles Under	\$140,923.04	Yes
MS11087	Cemex Construction Material Pacific,	10/16/2012	2/15/2016		\$448,766.00	\$448,760.80	Retrofit 13 H.D. Off-Road Vehicles Under Sh	\$5.20	Yes
MS11092	Griffith Company	2/15/2013	6/14/2016	12/14/2017	\$390,521.00	\$78,750.00	Retrofit 17 H.D. Off-Road Vehicles Under Sh	\$311,771.00	No

**Total: 20**

#### Closed/Incomplete Contracts

MS11064	City of Hawthorne	7/28/2012	8/27/2018	8/27/2019	\$175,000.00	\$0.00	New Limited Access CNG Station	\$175,000.00	No
MS11076	SA Recycling, LLC	5/24/2012	9/23/2015		\$424,801.00	\$0.00	Retrofit of 13 Off-Road Diesel Vehicles with	\$424,801.00	No
MS11081	Metropolitan Stevedore Company	9/7/2012	1/6/2016		\$45,416.00	\$0.00	Install DECS on Two Off-Road Vehicles	\$45,416.00	No
MS11082	Baumot North America, LLC	8/2/2012	12/1/2015		\$65,958.00	\$4,350.00	Install DECS on Four Off-Road Vehicles	\$61,608.00	Yes
MS11085	City of Long Beach Fleet Services B	8/23/2013	12/22/2016		\$159,012.00	\$0.00	Retrofit Seven H.D. Off-Road Vehicles Unde	\$159,012.00	No

**Total: 5**

#### Open/Complete Contracts

ML11020	City of Indio	2/1/2013	3/31/2019	9/30/2020	\$15,000.00	\$9,749.50	Retrofit one H.D. Vehicles w/DECS, repower	\$5,250.50	Yes
ML11021	City of Whittier	1/27/2012	9/26/2018	6/26/2019	\$210,000.00	\$210,000.00	Purchase 7 Nat. Gas H.D. Vehicles	\$0.00	Yes
ML11022	City of Anaheim	3/16/2012	7/15/2018		\$150,000.00	\$150,000.00	Purchase of 5 H.D. Vehicles	\$0.00	Yes
ML11023	City of Rancho Cucamonga	4/20/2012	12/19/2018	9/19/2020	\$260,000.00	\$260,000.00	Expand Existing CNG Station, 2 H.D. Vehicl	\$0.00	Yes
ML11024	County of Los Angeles, Dept of Publi	12/5/2014	6/4/2022		\$90,000.00	\$90,000.00	Purchase 3 Nat. Gas H.D. Vehicles	\$0.00	Yes
ML11025	County of Los Angeles Department o	3/14/2014	9/13/2021		\$150,000.00	\$150,000.00	Purchase 5 Nat. Gas H.D. Vehicles	\$0.00	Yes
ML11026	City of Redlands	3/2/2012	10/1/2018		\$90,000.00	\$90,000.00	Purchase 3 Nat. Gas H.D. Vehicles	\$0.00	Yes
ML11028	City of Glendale	1/13/2012	5/12/2018		\$300,000.00	\$300,000.00	Purchase 10 H.D. CNG Vehicles	\$0.00	Yes
ML11030	City of Fullerton	2/3/2012	3/2/2018		\$109,200.00	\$109,200.00	Purchase 2 Nat. Gas H.D. Vehicles, Retrofit	\$0.00	Yes
ML11031	City of Culver City Transportation De	12/2/2011	12/1/2018		\$300,000.00	\$300,000.00	Purchase 10 H.D. Nat. Gas Vehicles	\$0.00	Yes
ML11033	City of Los Angeles, Bureau of Sanit	3/16/2012	1/15/2019		\$1,080,000.00	\$1,080,000.00	Purchase 36 LNG H.D. Vehicles	\$0.00	Yes



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML11034	City of Los Angeles, Department of	5/4/2012	1/3/2019		\$630,000.00	\$630,000.00	Purchase 21 H.D. CNG Vehicles	\$0.00	Yes
ML11036	City of Riverside	1/27/2012	1/26/2019	3/26/2021	\$670,000.00	\$670,000.00	Install New CNG Station, Purchase 9 H.D. N	\$0.00	Yes
ML11037	City of Anaheim	12/22/2012	12/21/2019		\$300,000.00	\$300,000.00	Purchase 12 Nat. Gas H.D. Vehicles	\$0.00	Yes
ML11039	City of Ontario, Housing & Municipal	1/27/2012	9/26/2018		\$180,000.00	\$180,000.00	Purchase 6 Nat. Gas H.D. Vehicles	\$0.00	Yes
ML11040	City of South Pasadena	5/4/2012	1/3/2019	1/3/2022	\$30,000.00	\$30,000.00	Purchase 1 Nat. Gas H.D. Vehicle	\$0.00	Yes
ML11041	City of Santa Ana	9/7/2012	11/6/2018	1/6/2021	\$265,000.00	\$244,651.86	Purchase 7 LPG H.D. Vehicles, Retrofit 6 H.	\$20,348.14	Yes
ML11042	City of Chino	2/17/2012	4/16/2018		\$30,000.00	\$30,000.00	Purchase 1 Nat. Gas H.D. Vehicle, Repower	\$0.00	Yes
ML11043	City of Hemet Public Works	2/3/2012	2/2/2019		\$60,000.00	\$60,000.00	Purchase 2 H.D. Nat. Gas Vehicles	\$0.00	Yes
ML11044	City of Ontario, Housing & Municipal	1/27/2012	6/26/2019		\$400,000.00	\$400,000.00	Expand Existing CNG Station	\$0.00	Yes
MS11008	USA Waste of California, Inc.	10/24/2013	4/23/2020		\$125,000.00	\$125,000.00	Expansion of Existing LCNG Station	\$0.00	Yes
MS11009	USA Waste of California, Inc.	10/24/2013	4/23/2020		\$125,000.00	\$125,000.00	Expansion of Existing LCNG Station	\$0.00	Yes
MS11010	Border Valley Trading	8/26/2011	10/25/2017	4/25/2020	\$150,000.00	\$150,000.00	New LNG Station	\$0.00	Yes
MS11011	EDCO Disposal Corporation	12/30/2011	4/29/2019		\$100,000.00	\$100,000.00	New CNG Station - Signal Hill	\$0.00	Yes
MS11012	EDCO Disposal Corporation	12/30/2011	4/29/2019		\$100,000.00	\$100,000.00	New CNG Station - Buena Park	\$0.00	Yes
MS11016	CR&R Incorporated	4/12/2013	10/11/2019		\$100,000.00	\$100,000.00	New CNG Station - Perris	\$0.00	Yes
MS11017	CR&R, Inc.	3/2/2012	2/1/2018		\$100,000.00	\$100,000.00	Expansion of existing station - Garden Grove	\$0.00	Yes
MS11019	City of Corona	11/29/2012	4/28/2020		\$225,000.00	\$225,000.00	Expansion of Existing CNG Station	\$0.00	Yes
MS11055	KEC Engineering	2/3/2012	8/2/2018	8/2/2019	\$200,000.00	\$200,000.00	Repower 5 H.D. Off-Road Vehicles	\$0.00	Yes
MS11060	Rowland Unified School District	8/17/2012	1/16/2019	1/16/2020	\$175,000.00	\$175,000.00	New Limited Access CNG Station	\$0.00	Yes
MS11066	Torrance Unified School District	11/19/2012	9/18/2018		\$42,296.00	\$42,296.00	Expansion of Existing CNG Station	\$0.00	Yes
MS11067	City of Redlands	5/24/2012	11/23/2018	11/23/2019	\$85,000.00	\$85,000.00	Expansion of Existing CNG Station	\$0.00	Yes
MS11068	Ryder System Inc.	7/28/2012	10/27/2018		\$175,000.00	\$175,000.00	New Public Access L/CNG Station (Fontana)	\$0.00	Yes
MS11069	Ryder System Inc.	7/28/2012	8/27/2018		\$175,000.00	\$175,000.00	New Public Access L/CNG Station (Orange)	\$0.00	Yes
MS11071	City of Torrance Transit Department	12/22/2012	1/21/2019	1/21/2020	\$175,000.00	\$166,250.00	New Limited Access CNG Station	\$8,750.00	Yes
MS11073	Los Angeles Unified School District	9/11/2015	2/10/2022		\$175,000.00	\$175,000.00	Expansion of Existing CNG Station	\$0.00	Yes
MS11079	Bear Valley Unified School District	2/5/2013	10/4/2019		\$175,000.00	\$175,000.00	New Limited Access CNG Station	\$0.00	Yes

**Total: 37**



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
<b>FY 2011-2012 Contracts</b>									
<b>Open Contracts</b>									
ML12014	City of Santa Ana	11/8/2013	8/7/2020		\$384,000.00	\$4,709.00	9 H.D. Nat. Gas & LPG Trucks, EV Charging	\$379,291.00	No
ML12018	City of West Covina	10/18/2013	10/17/2020	8/17/2023	\$300,000.00	\$0.00	Expansion of Existing CNG Station	\$300,000.00	No
ML12041	City of Anaheim Public Utilities Depa	4/4/2014	11/3/2015	11/3/2017	\$68,977.00	\$38,742.16	EV Charging Infrastructure	\$30,234.84	No
ML12043	City of Hemet	6/24/2013	9/23/2019		\$60,000.00	\$0.00	Two Heavy-Duty Nat. Gas Vehicles	\$60,000.00	No
ML12045	City of Baldwin Park DPW	2/14/2014	12/13/2020	6/13/2022	\$400,000.00	\$0.00	Install New CNG Station	\$400,000.00	No
ML12048	City of La Palma	1/4/2013	11/3/2018		\$20,000.00	\$0.00	Two Medium-Duty LPG Vehicles	\$20,000.00	No
ML12051	City of Bellflower	2/7/2014	2/6/2016	5/6/2018	\$100,000.00	\$0.00	EV Charging Infrastructure	\$100,000.00	No
ML12057	City of Coachella	8/28/2013	8/27/2019	1/27/2022	\$57,456.00	\$40,375.80	Purchase One Nat. Gas H.D. Vehicle/Street	\$17,080.20	No
ML12090	City of Palm Springs	10/9/2015	10/8/2021		\$21,163.00	\$0.00	EV Charging Infrastructure	\$21,163.00	No
MS12008	Bonita Unified School District	7/12/2013	12/11/2019	4/11/2021	\$175,000.00	\$0.00	Construct New Limited-Acess CNG Station	\$175,000.00	No
MS12060	City of Santa Monica	4/4/2014	8/3/2017	8/3/2018	\$500,000.00	\$412,584.46	Implement Westside Bikeshare Program	\$87,415.54	No
MS12077	City of Coachella	6/14/2013	6/13/2020		\$225,000.00	\$0.00	Construct New CNG Station	\$225,000.00	No
MS12083	Brea Olinda Unified School District	7/30/2015	2/29/2024		\$59,454.00	\$0.00	Install New CNG Infrastructure	\$59,454.00	No
MS12084	Airport Mobil Inc.	12/6/2013	5/5/2020		\$150,000.00	\$0.00	Install New CNG Infrastructure	\$150,000.00	No
MS12089	Riverside County Transportation Co	10/18/2013	9/17/2015		\$249,136.00	\$111,052.74	Implement Rideshare Incentives Program	\$138,083.26	No
<b>Total: 15</b>									
<b>Declined/Cancelled Contracts</b>									
ML12016	City of Cathedral City	1/4/2013	10/3/2019		\$60,000.00	\$0.00	CNG Vehicle & Electric Vehicle Infrastructur	\$60,000.00	No
ML12038	City of Long Beach Public Works				\$26,000.00	\$0.00	Electric Vehicle Charging Infrastructure	\$26,000.00	No
ML12040	City of Duarte Transit				\$30,000.00	\$0.00	One Heavy-Duty Nat. Gas Vehicle	\$30,000.00	No
ML12044	County of San Bernardino Public Wo				\$250,000.00	\$0.00	Install New CNG Station	\$250,000.00	No
ML12052	City of Whittier	3/14/2013	7/13/2019		\$165,000.00	\$0.00	Expansion of Existing CNG Station	\$165,000.00	No
ML12053	City of Mission Viejo				\$60,000.00	\$0.00	EV Charging Infrastructure	\$60,000.00	No
MS12007	WestAir Gases & Equipment				\$100,000.00	\$0.00	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	\$0.00	Purchase 3 Medium-Heavy Duty Vehicles	\$75,000.00	No
MS12030	Complete Landscape Care, Inc.				\$150,000.00	\$0.00	Purchase 6 Medium-Heavy Duty Vehicles	\$150,000.00	No
MS12067	Leatherwood Construction, Inc.	11/8/2013	3/7/2017		\$122,719.00	\$0.00	Retrofit Six Vehicles w/DECS - Showcase III	\$122,719.00	No
MS12070	Valley Music Travel/CID Entertainme				\$99,000.00	\$0.00	Implement Shuttle Service to Coachella Mus	\$99,000.00	No
<b>Total: 11</b>									
<b>Closed Contracts</b>									
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
ML12019	City of Palm Springs	9/6/2013	7/5/2015		\$38,000.00	\$16,837.00	EV Charging Infrastructure	\$21,163.00	Yes
ML12021	City of Rancho Cucamonga	9/14/2012	1/13/2020		\$40,000.00	\$40,000.00	Four Medium-Duty Nat. Gas Vehicles	\$0.00	Yes
ML12023	County of Los Angeles Internal Servi	8/1/2013	2/28/2015		\$250,000.00	\$192,333.00	EV Charging Infrastructure	\$57,667.00	Yes



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML12037	Coachella Valley Association of Gov	3/14/2013	3/13/2014		\$250,000.00	\$250,000.00	Street Sweeping Operations	\$0.00	Yes
ML12042	City of Chino Hills	1/18/2013	3/17/2017		\$87,500.00	\$87,500.00	Expansion of Existing CNG Station	\$0.00	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	\$0.00	Yes
ML12056	City of Cathedral City	3/26/2013	5/25/2014		\$25,000.00	\$25,000.00	Regional Street Sweeping Program	\$0.00	Yes
ML12066	City of Manhattan Beach	1/7/2014	4/6/2015		\$5,900.00	\$5,900.00	Electric Vehicle Charging Infrastructure	\$0.00	Yes
MS12001	Los Angeles County MTA	7/1/2012	4/30/2013		\$300,000.00	\$211,170.00	Clean Fuel Transit Service to Dodger Stadiu	\$88,830.00	Yes
MS12002	Orange County Transportation Autho	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 Autho	7/20/2012	2/28/2013		\$234,669.00	\$167,665.12	Implement Metrolink Service to Angel Stadiu	\$67,003.88	Yes
MS12005	USA Waste of California, Inc.	10/19/2012	8/18/2013		\$75,000.00	\$75,000.00	Vehicle Maintenance Facility Modifications	\$0.00	Yes
MS12006	Waste Management Collection & Re	10/19/2012	8/18/2013		\$75,000.00	\$75,000.00	Vehicle Maintenance Facility Modifications	\$0.00	Yes
MS12012	Rim of the World Unified School Dist	12/20/2012	5/19/2014		\$75,000.00	\$75,000.00	Vehicle Maintenance Facility Modifications	\$0.00	Yes
MS12059	Orange County Transportation Autho	2/28/2013	12/27/2014		\$75,000.00	\$75,000.00	Maintenance Facilities Modifications	\$0.00	Yes
MS12061	Orange County Transportation Autho	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"	\$9,450.51	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 Autho	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 Au	3/1/2013	9/30/2013		\$57,363.00	\$47,587.10	Implement Metrolink Service to Autoclub Sp	\$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	\$18,350.59	Yes
MS12076	City of Ontario, Housing & Municipal	3/8/2013	4/7/2015		\$75,000.00	\$75,000.00	Maintenance Facilities Modification	\$0.00	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
MS12081	Penske Truck Leasing Co., L.P.	1/7/2014	1/6/2016		\$75,000.00	\$75,000.00	Maintenance Facility Modifications - Santa A	\$0.00	Yes
MS12085	Bear Valley Unified School District	4/25/2013	6/24/2014		\$75,000.00	\$75,000.00	Maintenance Facility Modifications	\$0.00	Yes
MS12087	Los Angeles County MTA	8/29/2013	11/28/2015		\$125,000.00	\$125,000.00	Implement Rideshare Incentives Program	\$0.00	Yes
MS12088	Orange County Transportation Autho	12/6/2013	3/5/2016		\$125,000.00	\$18,496.50	Implement Rideshare Incentives Program	\$106,503.50	Yes
MS12Hom	Mansfield Gas Equipment Systems				\$296,000.00	\$0.00	Home Refueling Apparatus Incentive Progra	\$296,000.00	No

**Total: 31**

#### Closed/Incomplete Contracts

MS12079	Penske Truck Leasing Co., L.P.	1/7/2014	1/6/2016		\$75,000.00	\$0.00	Maintenance Facility Modifications - Boyle H	\$75,000.00	No
---------	--------------------------------	----------	----------	--	-------------	--------	--	-------------	----

**Total: 1**

#### Open/Complete Contracts

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	\$0.00	Yes
ML12017	City of Los Angeles, Bureau of Sanit	6/26/2013	5/25/2020	11/25/2021	\$950,000.00	\$950,000.00	32 H.D. Nat. Gas Vehicles	\$0.00	Yes
ML12020	City of Los Angeles, Department of	9/27/2012	3/26/2019	3/26/2020	\$450,000.00	\$450,000.00	15 H.D. Nat. Gas Vehicles	\$0.00	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	\$0.00	Yes
ML12039	City of Redlands	2/8/2013	10/7/2019		\$90,000.00	\$90,000.00	Three Heavy-Duty Nat. Gas Vehicles	\$0.00	Yes



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML12046	City of Irvine	8/11/2013	3/10/2021		\$30,000.00	\$30,000.00	One Heavy-Duty Nat. Gas Vehicle	\$0.00	Yes
ML12047	City of Orange	2/1/2013	1/31/2019		\$30,000.00	\$30,000.00	One Heavy-Duty Nat. Gas Vehicle	\$0.00	Yes
ML12055	City of Manhattan Beach	3/1/2013	12/31/2018		\$10,000.00	\$10,000.00	One Medium-Duty Nat. Gas Vehicle	\$0.00	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	\$0.00	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	\$0.00	Yes
MS12010	Murrieta Valley Unified School Distric	4/5/2013	9/4/2019		\$242,786.00	\$242,786.00	Construct New Limited-Access CNG Station	\$0.00	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 -	\$0.00	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 -	\$0.00	Yes
MS12025	Silverado Stages, Inc.	11/2/2012	7/1/2018		\$150,000.00	\$150,000.00	Purchase Six Medium-Heavy Duty Vehicles	\$0.00	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-He	\$5,000.00	Yes
MS12029	Community Action Partnership of Or	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	\$0.00	Yes
MS12033	Mike Diamond/Phace Management	12/22/2012	12/21/2018	6/21/2021	\$148,900.00	\$148,900.00	Purchase 20 Medium-Heavy Duty Vehicles	\$0.00	No
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	\$0.00	No
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/VS	1/4/2013	11/3/2018		\$50,000.00	\$50,000.00	Purchase 2 Medium-Heavy Duty Vehicles	\$0.00	Yes
MS12058	Krisda Inc	4/24/2013	1/23/2019		\$25,000.00	\$25,000.00	Repower One Heavy-Duty Off-Road Vehicle	\$0.00	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	\$0.00	Yes
MS12071	Transit Systems Unlimited, Inc.	5/17/2013	12/16/2018		\$21,250.00	\$21,250.00	Expansion of Existing CNG Station	\$0.00	Yes
MS12072	99 Cents Only Stores	4/5/2013	9/4/2019		\$100,000.00	\$100,000.00	Construct New CNG Station	\$0.00	Yes
MS12073	FirstCNG, LLC	7/27/2013	12/26/2019		\$150,000.00	\$150,000.00	Construct New CNG Station	\$0.00	Yes
MS12074	Arcadia Unified School District	7/5/2013	9/4/2019		\$175,000.00	\$175,000.00	Expansion of Existing CNG Infrastructure	\$0.00	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	\$0.00	No
MS12080	City of Pasadena	11/8/2013	8/7/2020	2/7/2022	\$225,000.00	\$225,000.00	Expansion of Existing CNG Infrastructure	\$0.00	Yes
MS12082	City of Los Angeles, Bureau of Sanit	11/20/2013	2/19/2021	2/19/2023	\$175,000.00	\$175,000.00	Install New CNG Infrastructure	\$0.00	Yes
MS12086	SuperShuttle International, Inc.	3/26/2013	3/25/2019		\$225,000.00	\$225,000.00	Purchase 23 Medium-Heavy Duty Vehicles	\$0.00	Yes

**Total: 33**



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
<b>FY 2012-2014 Contracts</b>									
<b>Open Contracts</b>									
ML14012	City of Santa Ana	2/13/2015	10/12/2021		\$244,000.00	\$0.00	EV Charging and 7 H.D. LPG Vehicles	\$244,000.00	No
ML14016	City of Anaheim	4/3/2015	9/2/2021		\$380,000.00	\$0.00	Purchase 2 H.D. Vehicles, Expansion of Exi	\$380,000.00	No
ML14018	City of Los Angeles, Department of	3/6/2015	9/5/2021	12/5/2022	\$810,000.00	\$720,000.00	Purchase 27 H.D. Nat. Gas Vehicles	\$90,000.00	No
ML14019	City of Corona Public Works	12/5/2014	6/4/2020	11/4/2022	\$178,263.00	\$15,468.52	EV Charging, Bicycle Racks, Bicycle Locker	\$162,794.48	No
ML14021	Riverside County Regional Park and	7/24/2014	12/23/2016	9/23/2018	\$250,000.00	\$0.00	Bicycle Trail Improvements	\$250,000.00	No
ML14023	County of Los Angeles Department o	10/2/2015	9/1/2017	9/1/2018	\$230,000.00	\$0.00	Maintenance Fac. Modifications-Westcheste	\$230,000.00	No
ML14024	County of Los Angeles Department o	10/2/2015	9/1/2017	9/1/2018	\$230,000.00	\$0.00	Maintenance Fac. Modifications-Baldwin Par	\$230,000.00	No
ML14025	County of Los Angeles Dept of Publi	10/2/2015	7/1/2018		\$300,000.00	\$0.00	Construct New CNG Station in Malibu	\$300,000.00	No
ML14026	County of Los Angeles Dept of Publi	10/2/2015	5/1/2023		\$300,000.00	\$0.00	Construct New CNG Station in Castaic	\$300,000.00	No
ML14027	County of Los Angeles Dept of Publi	10/2/2015	5/1/2023	6/1/2024	\$500,000.00	\$0.00	Construct New CNG Station in Canyon Coun	\$500,000.00	No
ML14030	County of Los Angeles Internal Servi	1/9/2015	3/8/2018	6/8/2019	\$425,000.00	\$25,000.00	Bicycle Racks, Outreach & Education	\$400,000.00	No
ML14033	City of Irvine	7/11/2014	2/10/2021		\$60,000.00	\$0.00	Purchase 2 H.D. CNG Vehicles	\$60,000.00	No
ML14049	City of Moreno Valley	7/11/2014	3/10/2021		\$105,000.00	\$48,250.00	One HD Nat Gas Vehicle, EV Charging, Bicy	\$56,750.00	No
ML14051	City of Brea	9/5/2014	1/4/2017	7/4/2018	\$450,000.00	\$0.00	Installation of Bicycle Trail	\$450,000.00	No
ML14055	City of Highland	10/10/2014	3/9/2018		\$500,000.00	\$0.00	Bicycle Lanes and Outreach	\$500,000.00	No
ML14056	City of Redlands	9/5/2014	5/4/2016	5/4/2018	\$125,000.00	\$0.00	Bicycle Lanes	\$125,000.00	No
ML14060	County of Los Angeles Internal Servi	10/6/2017	1/5/2019		\$104,400.00	\$0.00	Electric Vehicle Charging Infrastructure	\$104,400.00	No
ML14062	City of San Fernando	3/27/2015	5/26/2021		\$387,091.00	\$0.00	Expand Existing CNG Fueling Station	\$387,091.00	No
ML14066	City of South Pasadena	9/12/2014	7/11/2016	2/11/2018	\$142,096.00	\$0.00	Bicycle Trail Improvements	\$142,096.00	No
ML14067	City of Duarte Transit	12/4/2015	1/3/2023	6/3/2024	\$60,000.00	\$0.00	Purchase Two Heavy-Duty Nat. Gas Vehicle	\$60,000.00	No
ML14068	City of South Pasadena	9/12/2014	10/11/2015	1/11/2020	\$10,183.00	\$0.00	Electric Vehicle Charging Infrastructure	\$10,183.00	No
ML14069	City of Beaumont	3/3/2017	3/2/2025		\$200,000.00	\$0.00	Construct New CNG Infrastructure	\$200,000.00	No
ML14070	City of Rancho Cucamonga	9/3/2016	12/2/2018		\$365,245.00	\$0.00	Bicycle Trail Improvements	\$365,245.00	No
ML14072	City of Cathedral City	8/13/2014	1/12/2021		\$136,000.00	\$0.00	Medium & H.D. Vehicles, EV Charging, Bike	\$136,000.00	No
ML14093	County of Los Angeles Dept of Publi	8/14/2015	1/13/2019		\$150,000.00	\$0.00	San Gabriel BikeTrail Underpass Improveme	\$150,000.00	No
ML14094	City of Yucaipa	6/9/2017	6/8/2018		\$84,795.00	\$0.00	Installation of Bicycle Lanes	\$84,795.00	No
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 Stadiu	\$17,124.32	No
MS14037	Penske Truck Leasing Co., L.P.	4/7/2017	6/6/2020		\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - Carson	\$75,000.00	No
MS14057	Los Angeles County MTA	11/7/2014	10/6/2019		\$1,250,000.00	\$0.00	Implement Various Signal Synchronization P	\$1,250,000.00	No
MS14059	Riverside County Transportation Co	9/5/2014	3/4/2018		\$1,250,000.00	\$0.00	Implement Various Signal Synchronization P	\$1,250,000.00	No
MS14072	San Bernardino County Transportatio	3/27/2015	3/26/2018		\$1,250,000.00	\$0.00	Implement Various Signal Synchronization P	\$1,250,000.00	No
MS14075	Fullerton Joint Union High School Di	7/22/2016	11/21/2023		\$300,000.00	\$0.00	Expansion of Existing CNG Infrastructure/Ma	\$300,000.00	No
MS14076	Rialto Unified School District	6/17/2015	2/16/2022		\$225,000.00	\$0.00	New Public Access CNG Station	\$225,000.00	No
MS14079	Waste Resources, Inc.	9/14/2016	8/13/2022	8/13/2023	\$100,000.00	\$0.00	New Limited Access CNG Station	\$100,000.00	No



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS14082	Grand Central Recycling & Transfer	12/4/2015	3/3/2023	3/3/2024	\$150,000.00	\$0.00	Construct New Public Access CNG Station	\$150,000.00	No
MS14083	Hacienda La Puente Unified School	7/10/2015	3/9/2022		\$175,000.00	\$0.00	New Limited Access CNG Station	\$175,000.00	No
MS14089	Top Shelf Consulting, LLC	1/18/2017	8/4/2016	3/31/2017	\$200,000.00	\$200,000.00	Enhanced Fleet Modernization Program	\$0.00	Yes
MS14092	West Covina Unified School District	9/3/2016	12/2/2022		\$124,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$124,000.00	No
<b>Total: 38</b>									
<b>Declined/Cancelled Contracts</b>									
ML14063	City of Hawthorne				\$32,000.00	\$0.00	Expansion of Existng CNG Infrastructure	\$32,000.00	No
MS14035	Penske Truck Leasing Co., L.P.				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - Sun Valle	\$75,000.00	No
MS14036	Penske Truck Leasing Co., L.P.				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - La Mirad	\$75,000.00	No
MS14038	Penske Truck Leasing Co., L.P.				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - Fontana	\$75,000.00	No
MS14043	City of Anaheim				\$175,000.00	\$0.00	Expansion of Existing CNG Station	\$175,000.00	No
MS14078	American Honda Motor Co., Inc.	9/4/2015	8/3/2022		\$150,000.00	\$0.00	New Public Access CNG Station	\$150,000.00	No
MS14085	Prologis, L.P.				\$100,000.00	\$0.00	New Limited Access CNG Station	\$100,000.00	No
MS14086	San Gabriel Valley Towing I				\$150,000.00	\$0.00	New Public Access CNG Station	\$150,000.00	No
MS14091	Serv-Wel Disposal				\$100,000.00	\$0.00	New Limited-Access CNG Infrastructure	\$100,000.00	No
<b>Total: 9</b>									
<b>Closed Contracts</b>									
ML14010	City of Cathedral City	8/13/2014	10/12/2015		\$25,000.00	\$25,000.00	Street Sweeping Operations	\$0.00	Yes
ML14011	City of Palm Springs	6/13/2014	1/12/2016		\$79,000.00	\$78,627.00	Bicycle Racks, Bicycle Outreach & Educatio	\$373.00	Yes
ML14015	Coachella Valley Association of Gov	6/6/2014	9/5/2015		\$250,000.00	\$250,000.00	Street Sweeping Operations	\$0.00	Yes
ML14020	County of Los Angeles Dept of Publi	8/13/2014	1/12/2018		\$150,000.00	\$0.00	San Gabriel BikeTrail Underpass Improveme	\$150,000.00	No
ML14029	City of Irvine	7/11/2014	6/10/2017		\$90,500.00	\$71,056.78	Bicycle Trail Improvements	\$19,443.22	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
ML14065	City of Orange	9/5/2014	8/4/2015		\$10,000.00	\$10,000.00	Electric Vehicle Charging Infrastructure	\$0.00	Yes
MS14002	Orange County Transportation Autho	9/6/2013	4/30/2014		\$576,833.00	\$576,833.00	Clean Fuel Transit Service to Orange Count	\$0.00	Yes
MS14003	Orange County Transportation Autho	8/1/2013	4/30/2014	10/30/2014	\$194,235.00	\$184,523.00	Implement Metrolink Service to Angel Stadiu	\$9,712.00	Yes
MS14004	Orange County Transportation Autho	9/24/2013	4/30/2014		\$36,800.00	\$35,485.23	Implement Express Bus Service to Solar De	\$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 Hollyw	\$3,680.00	Yes
MS14007	Orange County Transportation Autho	6/6/2014	4/30/2015		\$208,520.00	\$189,622.94	Implement Special Metrolink Service to Ang	\$18,897.06	Yes
MS14008	Orange County Transportation Autho	8/13/2014	5/31/2015		\$601,187.00	\$601,187.00	Implement Clean Fuel Bus Service to Orang	\$0.00	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 Progra	\$0.00	Yes
MS14039	Waste Management Collection and	7/10/2015	4/9/2016		\$75,000.00	\$75,000.00	Vehicle Maint. Fac. Modifications - Irvine	\$0.00	Yes
MS14040	Waste Management Collection and	7/10/2015	4/9/2016		\$75,000.00	\$75,000.00	Vehicle Maint. Fac. Modifications - Santa An	\$0.00	Yes
MS14047	Southern California Regional Rail Au	3/7/2014	9/30/2014		\$49,203.00	\$32,067.04	Special Metrolink Service to Autoclub Speed	\$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 Progra	\$93,000.00	Yes
MS14058	Orange County Transportation Autho	11/7/2014	4/6/2016	4/6/2017	\$1,250,000.00	\$1,250,000.00	Implement Various Signal Synchronization P	\$0.00	Yes
MS14073	Anaheim Transportation Network	1/9/2015	4/30/2017		\$221,312.00	\$221,312.00	Anaheim Resort Circulator Service	\$0.00	Yes



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS14087	Orange County Transportation Autho	8/14/2015	4/30/2016		\$239,645.00	\$195,377.88	Implement Special Metrolink Service to Ang	\$44,267.12	Yes
MS14088	Southern California Regional Rail Au	5/7/2015	9/30/2015		\$79,660.00	\$66,351.44	Special Metrolink Service to Autoclub Speed	\$13,308.56	Yes

### Closed/Incomplete Contracts

## Open/Complete Contracts

**Total: 23**



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
<b>FY 2014-2016 Contracts</b>									
<b>Open Contracts</b>									
ML16005	City of Palm Springs	3/4/2016	10/3/2017		\$40,000.00	\$0.00	Install Bicycle Racks, and Implement Bicycl	\$40,000.00	No
ML16006	City of Cathedral City	4/27/2016	4/26/2022		\$55,000.00	\$0.00	Purchase 1 H.D. Nat. Gas Vehicle, Bicycle	\$55,000.00	No
ML16007	City of Culver City Transportation De	10/6/2015	4/5/2023		\$246,000.00	\$210,000.00	Purchase 7 H.D. Nat. Gas Vehicles, EV Cha	\$36,000.00	No
ML16008	City of Pomona	9/20/2016	11/19/2022		\$310,000.00	\$0.00	Purchase 4 Medium-Duty and 9 Heavy-Duty	\$310,000.00	No
ML16009	City of Fountain Valley	10/6/2015	2/5/2018	2/5/2019	\$46,100.00	\$0.00	Install EV Charging Infrastructure	\$46,100.00	No
ML16010	City of Fullerton	10/7/2016	4/6/2023		\$370,500.00	\$0.00	Expand Existing CNG Station, EV Charging I	\$370,500.00	No
ML16013	City of Monterey Park	12/4/2015	7/3/2022	7/3/2023	\$90,000.00	\$0.00	Purchase 3 Heavy-Duty Nat. Gas Vehicles	\$90,000.00	No
ML16016	City of Los Angeles, Department of	2/5/2016	12/4/2022		\$630,000.00	\$0.00	Purchase 21 Heavy-Duty Nat. Gas Vehicles	\$630,000.00	No
ML16017	City of Long Beach	2/5/2016	8/4/2023		\$1,445,400.00	\$809,642.73	Purchase 48 Medium-Duty, 16 H.D. Nat. Ga	\$635,757.27	No
ML16018	City of Hermosa Beach	10/7/2016	1/6/2023		\$29,520.00	\$0.00	Purchase 2 M.D. Nat. Gas Vehicles, Bicycle	\$29,520.00	No
ML16019	City of Los Angeles, Dept of General	1/25/2017	3/24/2020		\$102,955.00	\$0.00	Install EV Charging Infrastructure	\$102,955.00	No
ML16020	City of Pomona	4/1/2016	2/1/2018	8/1/2018	\$440,000.00	\$0.00	Install Road Surface Bicycle Detection Syste	\$440,000.00	No
ML16021	City of Santa Clarita	10/7/2016	6/6/2024		\$49,400.00	\$0.00	Install EV Charging Infrastructure	\$49,400.00	No
ML16022	Los Angeles Department of Water an	5/5/2017	3/4/2024		\$360,000.00	\$0.00	Purchase 13 H.D. Nat. Gas Vehicles	\$360,000.00	No
ML16025	City of South Pasadena	6/22/2016	4/21/2023		\$180,535.00	\$0.00	Purchase 2 H.D. Nat. Gas Vehicles, Expand	\$180,535.00	No
ML16032	City of Azusa	9/9/2016	4/8/2019	4/8/2020	\$474,925.00	\$0.00	Implement a "Complete Streets" Pedestrian	\$474,925.00	No
ML16033	Coachella Valley Association of Gov	4/27/2016	4/26/2018		\$250,000.00	\$0.00	Street Sweeping Operations in Coachella Va	\$250,000.00	No
ML16034	City of Riverside	3/11/2016	10/10/2018		\$500,000.00	\$0.00	Implement a "Complete Streets" Pedestrian	\$500,000.00	No
ML16035	City of Wildomar	4/1/2016	11/1/2017		\$500,000.00	\$0.00	Install Bicycle Lanes	\$500,000.00	No
ML16036	City of Brea	3/4/2016	12/3/2018		\$500,000.00	\$0.00	Install a Class 1 Bikeway	\$500,000.00	No
ML16038	City of Palm Springs	4/1/2016	7/31/2022		\$230,000.00	\$0.00	Install Bicycle Lanes & Purchase 4 Heavy-D	\$230,000.00	No
ML16039	City of Torrance Transit Department	1/6/2017	9/5/2022		\$32,000.00	\$0.00	Install EV Charging Infrastructure	\$32,000.00	No
ML16040	City of Eastvale	1/6/2017	7/5/2022		\$110,000.00	\$0.00	Install EV Charging Infrastructure	\$110,000.00	No
ML16041	City of Moreno Valley	9/3/2016	1/2/2021	1/2/2022	\$20,000.00	\$0.00	Install EV Charging Infrastructure	\$20,000.00	No
ML16042	City of San Dimas	4/1/2016	12/31/2019	12/31/2020	\$55,000.00	\$0.00	Install EV Charging Infrastructure	\$55,000.00	No
ML16045	City of Anaheim	6/22/2016	8/21/2019		\$275,000.00	\$0.00	Maintenance Facility Modifications	\$275,000.00	No
ML16046	City of El Monte	4/1/2016	5/31/2021	5/31/2023	\$20,160.00	\$0.00	Install EV Charging Infrastructure	\$20,160.00	No
ML16047	City of Fontana	1/6/2017	8/5/2019		\$500,000.00	\$0.00	Enhance an Existing Class 1 Bikeway	\$500,000.00	No
ML16048	City of Placentia	3/26/2016	5/25/2021	6/25/2022	\$90,000.00	\$18,655.00	Install a Bicycle Locker and EV Charging Infr	\$71,345.00	No
ML16049	City of Buena Park	4/1/2016	11/30/2018		\$429,262.00	\$0.00	Installation of a Class 1 Bikeway	\$429,262.00	No
ML16052	City of Rancho Cucamonga	9/3/2016	11/2/2019		\$315,576.00	\$0.00	Install Two Class 1 Bikeways	\$315,576.00	No
ML16053	City of Claremont	3/11/2016	7/10/2018		\$498,750.00	\$0.00	Implement a "Complete Streets" Pedestrian	\$498,750.00	No
ML16054	City of Yucaipa	3/26/2016	7/26/2018		\$120,000.00	\$0.00	Implement a "Complete Streets" Pedestrian	\$120,000.00	No
ML16056	City of Ontario	3/23/2016	9/22/2020		\$150,000.00	\$0.00	Expansion of an Existing CNG Station	\$150,000.00	No



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML16057	City of Yucaipa	4/27/2016	1/26/2019		\$380,000.00	\$0.00	Implement a "Complete Streets" Pedestrian	\$380,000.00	No
ML16058	Los Angeles County Department of P	10/7/2016	4/6/2024		\$491,898.00	\$0.00	Purchase 15 H.D. Nat. Gas Vehicles and Ins	\$491,898.00	No
ML16059	City of Burbank	4/1/2016	2/28/2022		\$180,000.00	\$180,000.00	Purchase 6 H.D. Nat. Gas Vehicles	\$0.00	No
ML16060	City of Cudahy	2/5/2016	10/4/2017		\$73,910.00	\$0.00	Implement an "Open Streets" Event	\$73,910.00	No
ML16064	County of Orange, OC Parks	2/21/2017	10/20/2018		\$204,073.00	\$0.00	Implement "Open Streets" Events with Vario	\$204,073.00	No
ML16066	City of Long Beach Public Works	1/13/2017	9/12/2018		\$75,050.00	\$0.00	Implement an "Open Streets" Event	\$75,050.00	No
ML16068	Riverside County Dept of Public Heal	12/2/2016	8/1/2018		\$171,648.00	\$171,648.00	Implement an "Open Streets" Events with V	\$0.00	No
ML16069	City of West Covina	3/10/2017	6/9/2021		\$54,199.00	\$0.00	Installation of EV Charging Infrastructure	\$54,199.00	No
ML16070	City of Beverly Hills	2/21/2017	6/20/2023		\$90,000.00	\$0.00	Purchase 3 H.D. Nat. Gas Vehicles	\$90,000.00	No
ML16071	City of Highland	5/5/2017	1/4/2020		\$264,500.00	\$0.00	Implement a "Complete Streets" Pedestrian	\$264,500.00	No
ML16074	City of La Verne	7/22/2016	1/21/2023		\$365,000.00	\$0.00	Install CNG Fueling Station	\$365,000.00	No
ML16075	City of San Fernando	10/27/2016	2/26/2019		\$354,000.00	\$0.00	Install a Class 1 Bikeway	\$354,000.00	No
ML16076	City of San Fernando	2/21/2017	8/20/2021		\$100,000.00	\$0.00	Install EV Charging Infrastructure	\$100,000.00	No
ML16078	City of Moreno Valley	5/6/2016	11/5/2017	5/5/2018	\$32,800.00	\$5,569.49	Install Bicycle Infrastructure & Implement Bi	\$27,230.51	No
ML16083	City of El Monte	4/1/2016	4/30/2021	4/30/2023	\$57,210.00	\$0.00	Install EV Charging Infrastructure	\$57,210.00	No
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 Stadiu	\$17,960.16	No
MS16029	Orange County Transportation Autho	1/12/2018	6/11/2020		\$851,883.00	\$0.00	Transportation Control Measure Partnership	\$851,883.00	No
MS16030	The Better World Group	12/19/2015	12/31/2017	12/31/2019	\$256,619.00	\$104,648.69	Programmic Outreach Services to the MSR	\$151,970.31	No
MS16082	Riverside County Transportation Co	9/3/2016	8/2/2018		\$590,759.00	\$209,537.94	Extended Freeway Service Patrols	\$381,221.06	No
MS16084	Transit Systems Unlimited, Inc.	5/6/2016	2/28/2018		\$565,600.00	\$396,930.00	Implement Special Shuttle Service from Uni	\$168,670.00	No
MS16086	San Bernardino County Transportatio	9/3/2016	10/2/2021		\$800,625.00	\$105,038.28	Freeway Service Patrols	\$695,586.72	No
MS16087	Burrtec Waste & Recycling Services,	7/8/2016	3/7/2023		\$100,000.00	\$0.00	Construct New Limited-Access CNG Station	\$100,000.00	No
MS16090	Los Angeles County MTA	10/27/2016	4/26/2020		\$2,500,000.00	\$0.00	Expansion of the Willowbrook/Rosa Parks Tr	\$2,500,000.00	No
MS16091	San Bernardino County Transportatio	10/7/2016	11/6/2018		\$1,000,000.00	\$0.00	Traffic Signal Synchronization Projects	\$1,000,000.00	No
MS16092	San Bernardino County Transportatio	2/3/2017	1/2/2019		\$250,000.00	\$84,744.00	Implement a Series of "Open Streets" Event	\$165,256.00	No
MS16093	Orange County Transportation Autho	9/3/2016	3/2/2018		\$1,553,657.00	\$0.00	Implement a Mobile Ticketing System	\$1,553,657.00	No
MS16094	Riverside County Transportation Co	1/25/2017	1/24/2022		\$1,909,241.00	\$0.00	MetroLink First Mile/Last Mile Mobility Strate	\$1,909,241.00	No
MS16096	San Bernardino County Transportatio	10/27/2016	12/26/2019		\$450,000.00	\$0.00	EV Charging Infrastructure	\$450,000.00	No
MS16097	Walnut Valley Unified School District	10/7/2016	11/6/2022		\$250,000.00	\$175,000.00	Expand CNG Station & Modify Maintenance	\$75,000.00	No
MS16099	Foothill Transit	3/3/2017	3/31/2017		\$50,000.00	\$0.00	Provide Special Bus Service to the Los Ange	\$50,000.00	No
MS16102	Nasa Services, Inc.	2/21/2017	4/20/2023		\$100,000.00	\$0.00	Construct a Limited-Access CNG Station	\$100,000.00	No
MS16103	Arrow Services, Inc.	2/3/2017	4/2/2023		\$100,000.00	\$90,000.00	Construct a Limited-Access CNG Station	\$10,000.00	No
MS16105	Huntington Beach Union High School	3/3/2017	7/2/2024		\$175,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$175,000.00	No
MS16110	City of Riverside	10/6/2017	2/5/2025		\$300,000.00	\$0.00	Expansion of Exisiting CNG Station and Mai	\$300,000.00	No
MS16112	Orange County Transportation Autho	4/14/2017	3/13/2024		\$1,470,000.00	\$0.00	Repower Up to 98 Transit Buses	\$1,470,000.00	No
MS16113	Los Angeles County MTA	5/12/2017	4/11/2024		\$1,875,000.00	\$0.00	Repower Up to 125 Transit Buses	\$1,875,000.00	No
MS16114	City of Norwalk	3/3/2017	6/2/2024		\$45,000.00	\$0.00	Repower Up to 3 Transit Buses	\$45,000.00	No



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS16115	City of Santa Monica	4/14/2017	7/13/2025		\$870,000.00	\$0.00	Repower Up to 58 Transit Buses	\$870,000.00	No
MS16117	Omnitrans	4/21/2017	6/20/2023		\$175,000.00	\$166,250.00	Expansion of Existing CNG Infrastructure	\$8,750.00	No
MS16118	Omnitrans	4/21/2017	6/20/2023		\$175,000.00	\$166,250.00	Expansion of Existing CNG Infrastructure	\$8,750.00	No
MS16119	Omnitrans	4/21/2017	8/20/2022		\$150,000.00	\$0.00	New Public Access CNG Station	\$150,000.00	No
MS16120	Omnitrans	4/7/2017	5/6/2025		\$945,000.00	\$0.00	Purchase 39 Transit Buses and Repower 24	\$945,000.00	No
MS16121	Long Beach Transit	11/3/2017	4/2/2024		\$600,000.00	\$0.00	Purchase 40 New Transit Buses with Near-Z	\$600,000.00	No

**Total: 77**

#### Pending Execution Contracts

ML16067	City of South El Monte				\$73,329.00	\$0.00	Implement an "Open Streets" Event	\$73,329.00	No
ML16077	City of Rialto				\$463,216.00	\$0.00	Pedestrian Access Improvements, Bicycle L	\$463,216.00	No
MS16106	City of Lawndale				\$175,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$175,000.00	No
MS16108	VNG 5703 Gage Avenue, LLC				\$150,000.00	\$0.00	Construct Public-Access CNG Station in Bell	\$150,000.00	No
MS16109	Sanitation Districts of Los Angeles C				\$275,000.00	\$0.00	Expansion of an Existing L/CNG Station	\$275,000.00	No
MS16111	VNG 5703 Gage Avenue, LLC				\$150,000.00	\$0.00	Construct Public Access CNG Station in Pla	\$150,000.00	No

**Total: 6**

#### Declined/Cancelled Contracts

ML16014	City of Dana Point				\$153,818.00	\$0.00	Extend an Existing Class 1 Bikeway	\$153,818.00	No
ML16065	City of Temple City				\$500,000.00	\$0.00	Implement a "Complete Streets" Pedestrian	\$500,000.00	No
MS16043	LBA Realty Company LLC				\$100,000.00	\$0.00	Install Limited-Access CNG Station	\$100,000.00	No
MS16080	Riverside County Transportation Co				\$1,200,000.00	\$0.00	Passenger Rail Service for Coachella and St	\$1,200,000.00	No
MS16098	Long Beach Transit				\$198,957.00	\$0.00	Provide Special Bus Service to Stub Hub Ce	\$198,957.00	No
MS16104	City of Perris				\$175,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$175,000.00	No
MS16107	Athens Services				\$100,000.00	\$0.00	Construct a Limited-Access CNG Station	\$100,000.00	No

**Total: 7**

#### Closed Contracts

ML16015	City of Yorba Linda	3/4/2016	11/3/2017		\$85,000.00	\$85,000.00	Install Bicycle Lanes	\$0.00	No
ML16026	City of Downey	5/6/2016	9/5/2017		\$40,000.00	\$40,000.00	Install EV Charging Infrastructure	\$0.00	No
ML16028	City of Azusa	9/9/2016	4/8/2018		\$25,000.00	\$25,000.00	Enhance Existing Class 1 Bikeway	\$0.00	Yes
ML16031	City of Cathedral City	12/19/2015	2/18/2017		\$25,000.00	\$25,000.00	Street Sweeping in Coachella Valley	\$0.00	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 Variou	\$61,308.75	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	\$0.00	Yes
MS16002	Orange County Transportation Autho	10/6/2015	5/31/2016		\$722,266.00	\$703,860.99	Clean Fuel Transit Service to Orange Count	\$18,405.01	Yes
MS16003	Special Olympics World Games Los	10/9/2015	12/30/2015		\$380,304.00	\$380,304.00	Low-Emission Transportation Service for Sp	\$0.00	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	\$18,390.00	Yes
MS16085	Southern California Regional Rail Au	3/11/2016	9/30/2016		\$78,033.00	\$64,285.44	Special MetroLink Service to Autoclub Spee	\$13,747.56	No
MS16089	Orange County Transportation Autho	7/8/2016	4/30/2017		\$128,500.00	\$128,500.00	Implement Special Bus Service to Angel Sta	\$0.00	Yes
MS16095	Orange County Transportation Autho	7/22/2016	5/31/2017		\$694,645.00	\$672,864.35	Implement Special Bus Service to Orange C	\$21,780.65	Yes



<b>Cont.#</b>	<b>Contractor</b>	<b>Start Date</b>	<b>Original End Date</b>	<b>Amended End Date</b>	<b>Contract Value</b>	<b>Remitted</b>	<b>Project Description</b>	<b>Award Balance</b>	<b>Billing Complete?</b>
MS16100	Southern California Regional Rail Au	5/5/2017	9/30/2017		\$80,455.00	\$66,169.43	Provide Metrolink Service to Autoclub Speed	\$14,285.57	Yes
<b>Total: 13</b>									
<b>Open/Complete Contracts</b>									
ML16011	City of Claremont	10/6/2015	6/5/2022		\$90,000.00	\$90,000.00	Purchase 3 Heavy-Duty Nat. Gas Vehicles	\$0.00	Yes
ML16012	City of Carson	1/15/2016	10/14/2022		\$60,000.00	\$60,000.00	Purchase 2 Heavy-Duty Nat. Gas Vehicles	\$0.00	Yes
ML16023	City of Banning	12/11/2015	12/10/2021		\$30,000.00	\$30,000.00	Purchase 1 H.D. Nat. Gas Vehicle	\$0.00	Yes
ML16024	City of Azusa	4/27/2016	2/26/2022		\$30,000.00	\$30,000.00	Purchase 1 H.D. Nat. Gas Vehicle	\$0.00	Yes
ML16027	City of Whittier	1/8/2016	11/7/2022		\$30,000.00	\$30,000.00	Purchase 1 H.D. Nat. Gas Vehicle	\$0.00	Yes
ML16037	City of Rancho Cucamonga	2/5/2016	11/4/2022		\$30,000.00	\$30,000.00	Purchase One Heavy-Duty Natural Gas Vehi	\$0.00	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	No
ML16055	City of Ontario	5/6/2016	5/5/2022		\$270,000.00	\$270,000.00	Purchase Nine Heavy-Duty Natural-Gas Veh	\$0.00	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		\$25,000.00	\$21,003.82	Installation of EV Charging Infrastructure	\$3,996.18	Yes
ML16063	City of Glendora	3/4/2016	4/3/2022		\$30,000.00	\$30,000.00	Purchase One H.D. Nat. Gas Vehicle	\$0.00	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	\$0.00	Yes
ML16079	City of Yucaipa	4/1/2016	3/31/2020		\$5,000.00	\$5,000.00	Purchase Electric Lawnmower	\$0.00	Yes
MS16081	EDCO Disposal Corporation	3/4/2016	10/3/2022		\$150,000.00	\$150,000.00	Expansion of Existing Public Access CNG St	\$0.00	Yes
MS16088	Transit Systems Unlimited, Inc.	5/12/2017	1/11/2023		\$17,000.00	\$17,000.00	Expansion of Existing CNG Station	\$0.00	Yes
MS16116	Riverside Transit Agency	3/3/2017	1/2/2023		\$10,000.00	\$9,793.00	Repower One Transit Bus	\$207.00	No
<b>Total: 16</b>									



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
--------	------------	------------	----------------------	---------------------	-------------------	----------	---------------------	------------------	----------------------

## ***FY 2016-2018 Contracts***

### ***Open Contracts***

MS18001	Los Angeles County MTA	6/29/2017	4/30/2018		\$807,945.00	\$0.00	Provide Clean Fuel Transit Service to Dodge	\$807,945.00	No
MS18002	Southern California Association of G	6/9/2017	11/30/2018		\$2,500,000.00	\$0.00	Regional Active Transportation Partnership	\$2,500,000.00	No
MS18003	Geographics	2/21/2017	2/20/2021		\$56,953.00	\$45,061.00	Design, Host and Maintain MSRC Website	\$11,892.00	No
MS18004	Orange County Transportation Autho	8/3/2017	4/30/2019		\$503,272.00	\$0.00	Provide Special Rail Service to Angel Stadiu	\$503,272.00	No
MS18005	Orange County Transportation Autho	1/5/2018	4/30/2019		\$834,222.00	\$0.00	Clean Fuel Bus Service to OC Fair	\$834,222.00	No
MS18006	Anaheim Transportation Network	10/6/2017	2/28/2020		\$219,564.00	\$0.00	Implement Anaheim Circulator Service	\$219,564.00	No
MS18008	Foothill Transit	1/12/2018	3/31/2019		\$100,000.00	\$0.00	Special Transit Service to LA County Fair	\$100,000.00	No
MS18010	Southern California Regional Rail Au	12/28/2017	7/31/2019		\$351,186.00	\$0.00	Implement Special Metrolink Service to Unio	\$351,186.00	No

**Total: 8**

### ***Pending Execution Contracts***

MS18009	Penske Truck Leasing Co., L.P.				\$82,500.00	\$0.00	Modify Maintenance Facility & Train Technici	\$82,500.00	No
MS18011	Southern California Regional Rail Au				\$239,565.00	\$0.00	Special Train Service to Festival of Lights	\$239,565.00	No
MS18012	City of Hermosa Beach				\$36,000.00	\$0.00	Construct New Limited-Access CNG Station	\$36,000.00	No
MS18013	California Energy Commission				\$3,000,000.00	\$0.00	Advise MSRC and Administer Hydrogen Infr	\$3,000,000.00	No
MS18014	Regents of the University of Californi				\$254,795.00	\$0.00	Planning for EV Charging Infrastructure Inve	\$254,795.00	No
MS18015	Southern California Association of G				\$2,000,000.00	\$0.00	Southern California Future Communities Par	\$2,000,000.00	No

**Total: 6**



 [Back to Agenda](#)

BOARD MEETING DATE: March 2, 2018

AGENDA NO. 31

REPORT: California Air Resources Board Monthly Meeting

SYNOPSIS: The California Air Resources Board held a meeting on February 8, 2018, in Sacramento, CA. The following is a summary of the meeting.

RECOMMENDED ACTION:  
Receive and file.

Judith Mitchell, Member  
SCAQMD Governing Board

dg

---

The California Air Resources Board (CARB or Board) held a meeting on February 8, 2018 in Sacramento at the California Environmental Protection Agency Headquarters Building. Key items presented are summarized below.

### **CONSENT ITEMS**

#### **18-1-1: Public Hearing to Consider Proposed Amendments to the Area Designations for State Ambient Air Quality Standards**

The Board adopted amendments to the regulations designating areas of California as attainment, nonattainment, nonattainment-transitional, or unclassified for pollutants with State ambient air quality standards. Based on 2014 to 2016 air quality data, a total of seven changes to area designations were approved for State ozone, PM2.5 and PM10 standards. For State ozone standards, the Lake Tahoe Air Basin was re-designated to attainment, while the North Central Coast Air Basin and Sutter and Yuba Counties in the Sacramento Valley Air Basin were designated nonattainment. For the State PM10 standard, Shasta County in the Sacramento Valley Air Basin was re-designated as attainment while Lassen and Modoc Counties in the Northeast Plateau Air Basin were designated as unclassified. Finally, the San Bernardino County portion of the federal Southeast Desert Modified Air Quality Maintenance Area for ozone was re-designated to attainment for the State PM2.5 standard.



## **DISCUSSION ITEMS**

### **18-1-2: Public Meeting to Hear 50-Year Air Quality Trends and Health Benefits Presentation**

February 8, 2018 marked the 50th Anniversary of the first CARB hearing. For this anniversary, the Board heard a retrospective presentation reviewing five decades of achievements improving air quality, public health, economic benefits, and environmental justice. In this presentation, staff showed that pollutant levels have decreased 75-99% in all communities in California despite the state doubling its population and quadrupling the amount of vehicle use. The work by CARB and our local partners to clean the air has resulted in the residents of California now enjoying healthier and longer lives with 29,500 premature deaths avoided each year.

### **18-1-3: The Haagen-Smit Legacy Awards**

For CARB's 50th Anniversary and to commemorate five decades of progress towards clean air, CARB highlighted the accomplishments of a select group of remarkable individuals who made significant contributions to meeting air quality and climate goals in California and beyond. In recognition of their accomplishments, David Hawkins, Congressman Henry Waxman, Professor Mario Molina, Governor Arnold Schwarzenegger, and Professor Gina McCarthy were presented Haagen-Smit Legacy Awards.

### **18-1-5: Report to the Board on the California Air Resources Board Program Priorities for 2018**

Executive Officer Richard Corey provided the Board with an overview of CARB priorities for 2018. In this presentation, Mr. Corey stated that CARB will continue the implementation of meaningfully and equitable programs to reduce greenhouse gases (GHG) and lower air pollution for all Californians. To meet climate goals, CARB will focus on implementation of the Scoping Plan, amendments to the Cap-and-Trade Program to conform to AB 398, lowering Short-Lived Climate Pollutants, updates to SB 375 regional GHG targets and plans reducing carbon emissions from the Electricity Sector and Natural & Working Lands. To reduce emissions from the transportation sector, CARB will advance cleaner cars and low-carbon fuels through the Advanced Clean Cars II Regulation, Electric Car charging infrastructure, increased stringency of the Low Carbon Fuel Standard, and outreach and education for zero-emission-vehicle buyers. And to transform the freight systems and reduce localized risk, CARB will proceed with rulemaking and incentive programs targeting Heavy-Duty vehicles and freight equipment in addition to programs to reduce hexavalent chromium and other toxic metals.



**18-1-4: Public Hearing to Consider Proposed California Greenhouse Gas Emissions Standards for Medium- and Heavy-Duty Engines and Vehicles, and Proposed Amendments to the Tractor-Trailer Greenhouse Gas Regulation Incentives**

The Board approved the California Phase 2 GHG Emissions Standards and amendments to the Tractor-Trailer GHG regulation. The California Phase 2 GHG emission standards harmonize with federal Phase 2 standards that were adopted by the U.S. EPA and the United States Department of Transportation's National Highway Traffic Safety Administration on October 25, 2016. The Phase 2 proposal also included minor differences from the federal Phase 2 program that are necessary to ease enforcement, align with existing California programs, and provide incentives to bring advanced technologies to market. Finally, staff raised concerns with U.S. EPA's proposed repeal of restrictions limiting the use of glider kit vehicles with old, polluting engines and U.S. EPA's potential rollback of trailer requirements.

**Attachment**

CARB February 8, 2018 Meeting Agenda





## PUBLIC MEETING AGENDA

**February 8, 2018**

### LOCATION:

California Environmental Protection Agency  
California Air Resources Board  
Byron Sher Auditorium, 2<sup>nd</sup> Floor  
1001 I Street  
Sacramento, California 95814

This facility is accessible by public transit. For transit information, call (916) 321-BUSS, website:

<http://www.sacrt.com>

(This facility is accessible to persons with disabilities.)

### TO SUBMIT WRITTEN COMMENTS ON AN AGENDA ITEM IN ADVANCE OF THE MEETING GO TO:

<http://www.arb.ca.gov/lispub/comm/bclist.php>

**Thursday  
February 8, 2018  
9:00 a.m.**

August 30, 2017, marked the 50th anniversary of Governor Ronald Reagan approving the Mulford-Carrell Act that created the State Air Resources Board. February 8, 2018, will mark the 50th Anniversary of the first California Air Resources Board meeting and will serve as a celebration of a half century of clearing California's skies and improving public health.

### **CONSENT CALENDAR:**

The following item on the consent calendar will be presented to the Board immediately after the start of the public meeting, unless removed from the consent calendar either upon a Board member's request or if someone in the audience wishes to speak on them.

#### **Consent Item #**

**18-1-1: Public Hearing to Consider Proposed Amendments to the Area Designations for State Ambient Air Quality Standards**

*The Board will consider proposed amendments to the regulations designating areas of California as attainment, nonattainment, nonattainment-transitional, or unclassified for pollutants with State ambient air quality standards. Based on 2014 to 2016 air quality data, a total of seven changes to area designations are proposed for ozone, PM2.5, and PM10.*

### **DISCUSSION ITEMS:**

**Note:** The following agenda items may be heard in a different order at the Board meeting.

#### **Agenda Item #**

**18-1-2: Public Meeting to Hear 50-Year Air Quality Trends and Health Benefits Presentation**

*February 8, 2018 marks the 50th Anniversary of the first California Air Resources Board hearing. The Board will hear a retrospective presentation reviewing five decades of achievement in improving air quality, public health, economic benefits, and environmental justice.*



**18-1-3: The Haagen-Smit Legacy Awards**

*The awards will be presented to the recipients of the Haagen-Smit Legacy Awards. This is a special year for the Awards Program as it is the 50th Anniversary of the legislation that created the Board. To commemorate five decades of progress towards clean air, CARB is highlighting the accomplishments of a select group of remarkable individuals who have had a significant impact on air quality and climate goals in California and beyond.*

**18-1-4: Public Hearing to Consider Proposed California Greenhouse Gas Emissions Standards for Medium- and Heavy-Duty Engines and Vehicles, and Proposed Amendments to the Tractor-Trailer Greenhouse Gas Regulation**

***(This item will not be heard prior to 1:00 p.m.)***

*The Board will consider approving the proposed California Phase 2 Greenhouse Gas (GHG) Emissions Standards and proposed amendments to the Tractor-Trailer GHG regulation. The proposed California Phase 2 GHG emission standards harmonize with federal Phase 2 standards that were adopted by the United States Environmental Protection Agency (U.S. EPA) and the United States Department of Transportation's National Highway Traffic Safety Administration on October 25, 2016. The Phase 2 proposal also includes minor California differences from the federal Phase 2 program that are necessary to ease enforcement, align with existing California programs, and provide incentives to bring advanced technologies to market. Finally, the Phase 2 proposal includes restrictions on the production of high-emitting glider vehicles that the U.S. EPA has recently proposed to repeal, but which CARB staff thinks are crucial for protecting public health and preventing the circumvention of emission standards.*

**18-1-5 Report to the Board on the California Air Resources Board Program Priorities for 2018**

*Executive Officer Richard Corey will provide the Board with an overview of California Air Resources Board priorities for 2018.*

**CLOSED SESSION**

*The Board will 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 or potential litigation, and as authorized by Government Code section 11126(a):*

*American Fuels and Petrochemical Manufacturers, et al. v. Jane O'Keeffe, et al., U.S. District Court (D. Ore. Portland), Case No. 3:15-CV-00467; Plaintiffs' appeal, U.S. Court of Appeals, Ninth Circuit, Case No. 15-35834.*

*California et al. v. U.S. Department of Transportation et al., United States District Court, Northern District of California, Case No. 4:17-CV-05439.*

*Electric Power Supply Association, et al. v. Star, et al., U.S. Court of Appeals, Seventh Circuit, Case No. 17-2445.*

*Friends of Oceano Dunes, Inc. v. California Coastal Commission, et al., Superior Court of California, San Luis Obispo County, Case No. 17CV-0576.*

*In re La Paloma Generating Company, LLC, U.S. Bankruptcy Court, District of Delaware, Case No. 16-bk-12700.*

*Mexichem Fluor Inc. v. United States Environmental Protection Agency et al., U.S. Court of Appeals, District of Columbia Circuit, Case Nos. 15-1328 and 15-1329.*



*POET, LLC, et al. v. California Air Resources Board, et al.*, Superior Court of California (Fresno County), Case No. 09CECG04659; plaintiffs' appeal, California Court of Appeal, Fifth District, Case No. F064045; California Supreme Court, Case No. S213394 [remanded to trial court]; plaintiff's appeal of trial court order discharging peremptory writ of mandate, Court of Appeal, Fifth District, Case No. F073340.

*POET, LLC, et al. v. California Air Resources Board, et al.*, Superior Court of California (Fresno County), Case No. 15CECG03380.

*Rocky Mountain Farmers Union, et al. v. Corey*, U.S. District Court (E.D. Cal. Fresno), Case No. 1:09-CV-02234-LJO-DLB; ARB interlocutory appeal, U.S. Court of Appeals, Ninth Circuit, Case No. 12-15131 [remanded to trial court].

*American Fuels and Petrochemical Manufacturers, et al. v. Corey, et al.*, U.S. District Court (E.D. Cal. Fresno), Case No. 1:10-CV-00163-AWI-GSA; ARB's interlocutory appeal, U.S. Court of Appeals, Ninth Circuit, Case No. 10-CV-00163 [remanded to trial court].

*Sowinski v. California Air Resources Board, et al.*, U.S. District Court, Central District of California, Case No. 8:15-CV-02123.

*State of California, et al. v. United States Environmental Protection Agency et al.*, U.S. District Court, Northern District of California, Oakland Division, Case No. 4:17-cv-6936-HSG.

*State of New York, et al. v. United States Environmental Protection Agency et al.*, U.S. Court of Appeals, District of Columbia Circuit, Case No. 17-1185.

*States of New York, California, Vermont, and Maryland, and the Commonwealth of Pennsylvania v. National Highway Traffic Safety Administration*, U.S. Court of Appeals, Second Circuit, Case Nos. 17-2780(L) and 17-2806.

*State of North Dakota, et al. v. United States Environmental Protection Agency*, U.S. Court of Appeals, District of Columbia Circuit, Case No. 16-1242.

*State of North Dakota v. United States Environmental Protection Agency*, U.S. Court of Appeals, District of Columbia Circuit, Case No. 15-1381.

*State of West Virginia et al. v. United States Environmental Protection Agency*, U.S. Court of Appeals, District of Columbia Circuit, Case No. 15-1363.

*State of Wyoming, et al. v. United States Department of the Interior, et al.*, U.S. District Court, District of Wyoming, Case No. 16-CV-285-SWS.

*Adam Brothers Farming, Inc. v. California Air Resources Board, et al.*, Santa Barbara County Superior Court, Case No. 15 CV04432.

*Alliance for California Business v. California Air Resources Board, et al.*, Glenn County Superior Court, Case No. 13CV01232; plaintiffs' appeal, Court of Appeal, Third District, Case No. C082828.

*Alliance for California Business v. California State Transportation Agency, et al.*, Sacramento County Superior Court, Case No. 34-2016-80002491.

*American Coatings Association, Inc. v. State of California and California Air Resources Board*, Sacramento County Superior Court, Case No. 04CS01707.



*Jack Cody dba Cody Transport v. California Air Resources Board, et al.*, Sacramento Superior Court, Case No. 34-2015-80002116; plaintiff's appeal, Court of Appeal, Third District, Case No. C083083.

*Dalton Trucking, Inc. v. United States Environmental Protection Agency*, U.S. Court of Appeals, District of Columbia Circuit, Case No. 13-1283 (dismissed), U.S. Court of Appeals, Ninth Circuit, Case No. 13-74019.

*John R. Lawson Rock & Oil, Inc. et al. v. California Air Resources Board et al.*, Fresno County Superior Court, Case No. 14-CECG01494; ARB's appeal, Court of Appeal, Fifth District, Case No. F074003.

*Murray Energy Corporation v. United States Environmental Protection Agency*, U.S. Court of Appeals, District of Columbia Circuit, Case No. 15-1385.

*Truck Trailer Manufacturers Association, Inc. v. United States Environmental Protection Agency, et al.*, U.S. Court of Appeals, District of Columbia Circuit, Case No. 16-1430.

*California Air Resources Board v. Adam Brothers Farming Inc.*, Santa Barbara County Superior Court, Case No. 16CV01758.

*People v. Southern California Gas Company*, Los Angeles Superior Court, Case No. BC 602973.

*In re: Volkswagen "Clean Diesel" MDL*, United States District Court, Northern District of California, Case No. 15-MD-2672-CRB (JSC).

*Mahan v. California Air Resources Board*, Sacramento County Superior Court, Case No. 34-2016-80002416.

#### **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 three minutes to ensure that everyone has a chance to speak.*

#### **TO ELECTRONICALLY SUBMIT WRITTEN COMMENTS ON AN AGENDA ITEM IN ADVANCE OF THE MEETING GO TO:**

<https://www.arb.ca.gov/lispub/comm/bclist.php>

(Note: not all agenda items are available for electronic submittals of written comments.)

**PLEASE NOTE:** No outside memory sticks or other external devices may be used at any time with the Board audio/visual system or any CARB computers. Therefore, PowerPoint presentations to be displayed at the Board meeting must be electronically submitted via email to the Clerk of the Board at [cotb@arb.ca.gov](mailto: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 CLERK OF THE BOARD:  
1001 I Street, 23<sup>rd</sup> Floor, Sacramento, California 95814  
(916) 322-5594  
CARB Homepage: [www.arb.ca.gov](http://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 Clerk of the Board at (916) 322-5594 or by facsimile at (916) 322-3928 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.

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 alternativo u otro idioma
- Una acomodación razonable relacionados con una incapacidad

Para solicitar estas comodidades especiales o necesidades de otro idioma, por favor llame a la oficina del Consejo al (916) 322-5594 o envíe un fax a (916) 322-3928 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.



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 32

**PROPOSAL:** Potential Strategies for Facility-Based Mobile Source Measures Adopted in 2016 AQMP

**SYNOPSIS:** Following the commitment made in the 2016 AQMP, staff has conducted significant public outreach over the past year to identify potential voluntary and, if needed, regulatory emission reduction strategies for sources covered by Facility-Based Mobile Source Measures. After reviewing the feedback received during this process, staff has developed a recommended approach tailored to each of the five facility sectors including airports, marine ports, new and redevelopment projects, rail yards, and warehouses. This recommendation includes a spectrum of potential voluntary and regulatory approaches that show the most promise for achieving emission reductions. Any potential rule or agreements included in this approach would be subject to a full public process, including further public outreach, environmental and economic analysis, and subsequent Board consideration. This action is to seek Board direction for next steps in the development of Facility-Based Mobile Source Measures.

**COMMITTEE:** Mobile Source, February 16, 2018, Reviewed

**RECOMMENDED ACTIONS:**

1. Direct staff to pursue the approach for developing Facility-Based emission reduction strategies for New Development and Redevelopment Projects described in the attached Staff Update and Recommendations, including any Board amendments,
2. Direct staff to pursue the approach for developing Facility-Based emission reduction strategies for Marine Ports described in the attached Staff Update and Recommendations, including any Board amendments,
3. Direct staff to pursue the approach for developing Facility-Based emission reduction strategies for Rail Yards described in the attached Staff Update and Recommendations, including any Board amendments,
4. Direct staff to pursue the approach for developing Facility-Based emission reduction strategies for Warehouses and Distribution Centers described in the attached Staff Update and Recommendations, including any Board amendments,



5. Direct staff to pursue the approach for developing Facility-Based emission reduction strategies for Commercial Airports described in the attached Staff Update and Recommendations, including any Board amendments

Wayne Natri  
Executive Officer

PF:SR:IM:DG

---

## **Background**

The 2016 AQMP adopted by the Board in March 2017 included a wide array of control measures to meet federal air quality standards. In particular, the 2023 and 2031 attainment dates for meeting the respective 80 ppb and 75 ppb 8-hour ozone standards require significant NO<sub>x</sub> emission reductions in a short time. In order to meet these air quality standards, the total South Coast Air Basin (Basin) NO<sub>x</sub> emissions must be reduced by approximately 45% beyond baseline 2023 levels, and 55% beyond baseline 2031 levels. The control strategies outlined in the 2016 AQMP and in CARB's Mobile Source Strategy focus on reducing emissions from mobile sources as they make up about 80% of the Basin's NO<sub>x</sub> emissions and are the largest contributor to the region's ozone problem.

Most of the emission reduction measures in CARB's Mobile Source Strategy were categorized as Further Deployment Measures that seek to accelerate the introduction of cleaner vehicles, such as zero emission and near-zero emission technologies. These Further Deployment Measures have not yet been fully defined by CARB, but can include a combination of incentives, regulations, efficiency improvements, and local measures. With the adoption of the 2016 AQMP, SCAQMD committed to assisting CARB to develop and implement the Further Deployment Measures. One critical SCAQMD strategy included the development of Facility-Based Mobile Source Measures (FBMSMs) that would reduce emissions from indirect sources (i.e. the emissions from mobile sources generated by, or attracted to facilities). Five FBMSMs were included in the Final 2016 AQMP, including New Development and Redevelopment Projects, Marine Ports, Rail Yards, Warehouses and Distribution Centers, and Commercial Airports.

In addition to these measures, when the CARB Board approved the Mobile Source Strategy, CARB staff was directed to return in March of 2018 to report on concepts for an indirect source rule for large freight facilities, or other alternatives capable of achieving similar levels of emission reductions. SCAQMD and CARB staff have continued to coordinate with each other extensively over the past year. CARB staff have presented potential new freight-related strategies in a series of workshops and a draft report<sup>1</sup>, and are expecting to report to their Board on March 22, 2018.

---

<sup>1</sup> <https://www.arb.ca.gov/gmp/sfti/FreightFacility.htm>



Finally, the 2016 AQMP estimated that in order to meet air quality standards, approximately \$1 billion per year would be needed to help offset the increased costs of lower emitting vehicles and equipment. This past year, the state legislature and CARB have provided hundreds of millions of dollars in new incentive funding for use throughout the state<sup>2</sup> from funding sources such as the state Greenhouse Gas Reduction Fund, the VW Settlement, and modifications to the smog check program. While this new funding is rapidly being put to use to reduce emissions, much work is still needed to increase and sustain the funding levels needed to achieve air quality standards.

### **Public Process**

The 2016 AQMP described a year-long process for staff to evaluate potential emission reduction strategies for the FBMSMs and to report back to the Board on the most promising approaches. Following this process, staff has met many times with stakeholders, including 17 working group meetings and has presented updates to the Mobile Source Committee three times. For most of the past year the working groups have discussed potential voluntary strategies to reduce emissions, such as through Memoranda of Understanding (MOUs), and the potential methods for obtaining SIP credit for these measures. Preliminary discussions about potential regulatory strategies for each facility sector were also initiated. Any strategies that staff would be directed to pursue by the Board would include additional public outreach, including the public participation processes mandated for any SCAQMD rulemaking activity.

### **Proposal**

Staff is recommending a comprehensive approach to implementing the FBMSMs that includes a combination of new voluntary programs supplemented with regulations where voluntary programs are not sufficient to meet the air quality goals of the 2016 AQMP. A summary of the recommended voluntary and regulatory emission reduction strategies for each facility sector is presented below, with additional details included in the attached Staff Update and Recommendations report, and a detailed summary included in the attached slides from staff's presentation to the Mobile Source Committee. Any rulemaking that staff would be directed to pursue would include socioeconomic and feasibility analyses, California Environmental Quality Act (CEQA) review and the Board would consider this information to determine the level of control in any proposed Indirect Source Rule (ISR). All regulatory proposals would also seek to allow vehicle owners the ability to use any incentive funds that may be available.

---

<sup>2</sup> <https://www.arb.ca.gov/msprog/aqip/fundplan/fundplan.htm>



## **New Development and Redevelopment Projects**

### ***Voluntary Emission Reduction Strategies***

Staff proposes to further explore the following voluntary emission reduction strategies:

- Development of a new SCAQMD-administered CEQA air quality mitigation fund that projects could contribute to as a means of mitigating regional air quality impacts. Projects would pay a fee into the fund, and SCAQMD would use these funds for emission reduction projects.
- Development of new SCAQMD CEQA guidance that provides specific strategies projects could use to include lower emission technologies (e.g., vehicles, lawn and garden equipment, construction equipment, net-zero development, etc.). This guidance will be developed in cooperation with CARB's proposed efforts to develop a freight handbook that identifies best practices guidance for siting, design, construction, and operation of freight facilities.
- Continued collaboration with local utilities, local governments, and the state Energy and Public Utility Commissions to encourage more rapid growth of alternative fuel and/or electric vehicle charging infrastructure.

### ***Regulatory Emission Reduction Strategies***

Construction equipment is the most significant source of NO<sub>x</sub> emissions that a measure on New Development and Redevelopment Projects could affect. Although voluntary emission reduction strategies for this facility sector outlined above could provide important air quality benefits, they are unlikely to substantially reduce NO<sub>x</sub> emissions from construction equipment. As a result, voluntary emission reduction strategies alone are not sufficient to meet the needs of the 2016 AQMP. Therefore, in addition to pursuing voluntary emission reduction strategies staff is recommending the development of an ISR focused on reducing construction emissions. The ISR would be brought to the Board for its consideration by 2020 with a full phase-in of the ISR requirements by 2023 if adopted. The ISR would likely focus on projects with the largest NO<sub>x</sub> emissions, would include several compliance options, and could include exemptions for certain types of projects (e.g., affordable housing). One option could include a voluntary fleet certification program for construction fleet owners to certify that their fleet is cleaner than required by CARB regulations – coupled with a requirement for new/redevelopment projects to use fleets that on average are cleaner than required by CARB regulations. The facility requirement for this and any other options would be set during rulemaking, and would be substantiated with evaluations of cost-effectiveness, the level of incentive funding, feasibility, air quality need, etc.

## **Marine Ports**

### ***Voluntary Emission Reduction Strategies for Commercial Marine Ports***

SCAQMD staff is proposing to build off of the significant work that went into the development of the recent Clean Air Action Plan (CAAP) Update that was adopted in November 2017. Staff is recommending the development of MOUs on specific CAAP measures, such as the Clean Truck Program. These MOUs would be brought to the Board



and the Los Angeles and Long Beach Boards of Harbor Commissioners for consideration in the 2019 timeframe to coincide with significant milestones already established in the CAAP. In addition, staff is recommending to continue exploring new incentive strategies to address emissions from ocean-going vessels which make up about 64% of marine port-related NOx emissions.

#### ***Regulatory Emission Reduction Strategies for Commercial Marine Ports***

Staff is not recommending a regulatory approach for marine ports at this time. If voluntary strategies for marine ports are not successful, staff is recommending to return to the Board in the 2019-2020 timeframe to seek direction regarding the pursuit of a regulatory approach that could potentially apply to port terminal operators.

### **Rail Yards**

#### ***Voluntary Emission Reduction Strategies***

No substantive voluntary emission reduction strategies have been identified for rail yards through the working group process, however previous voluntary agreements between the railroads and CARB have resulted in meaningful air quality benefits (e.g., the 1998 Tier 2 Agreement). Absent any additional voluntary approach, staff is recommending a regulatory approach to reduce emissions from this facility sector.

#### ***Regulatory Emission Reduction Strategies***

Staff recommends initiating rulemaking for an ISR for rail yards that would include multiple compliance options to allow the most flexibility. An initial discussion on regulatory concepts with the working group explored a clean air action plan approach due to the limited number of facilities and railroads the rule would apply to. While locomotives are the most significant source of NOx emissions that could be affected by a facility-based rail yard measure, a plan-based approach would allow the railroads to craft the emission reduction strategies considering all emissions sources in a way that makes the most sense for each rail yard's unique operations. Any indirect source rule that the Board may approve in the future would also likely require harmonization at the federal level with the Interstate Commerce Commission Termination Act.

### **Warehouses and Distribution Centers**

#### ***Voluntary Emission Reduction Strategies***

Staff proposes to further explore the following voluntary emission reduction strategies:

- Similar to the potential voluntary measures described for the new development/redevelopment facility sector, new measures could include development of a SCAQMD-administered CEQA air quality mitigation fund for warehouse projects to opt into, development of updated guidance for warehouse siting and operations, and continued work with utilities and regulatory agencies on developing the necessary fueling/charging infrastructure
- Working with e-commerce providers to develop "Green Delivery Options". This proposal could involve a small, voluntary opt-in surcharge for consumers when



purchasing goods online and funds generated would be used towards reducing truck fleet emissions.

With the limited emission reductions that would be expected from the recommended voluntary measures, staff is recommending supplementing this voluntary approach with a regulatory approach.

### ***Regulatory Emission Reduction Strategies***

Similar to the approach described for new/redevelopment projects, the warehouse ISR would provide several compliance options that facilities could follow, except that the focus would be on reducing trucking emissions which make up a majority of emissions from this sector. One option could include a voluntary fleet certification program for truck fleet owners to certify that their fleet is cleaner than required by CARB regulations – coupled with a requirement for warehouses to ensure that fleets that serve their facility on average are cleaner than required by CARB regulations. The facility requirement for this and any other options would be set during rulemaking, and would be substantiated with evaluations of cost-effectiveness, the level of incentive funding, feasibility, air quality need, etc. As each of these factors change through time, the Board could modify the facility requirements. Examples of other options include a mitigation fee, crediting options for other activities like installation of charging/fueling infrastructure for cleaner trucks and transportation refrigeration units, conversion of cargo handling equipment to ZE technology, or other options developed during rulemaking.

## **Commercial Airports**

### ***Voluntary Emission Reduction Strategies***

In an amendment to the 2016 AQMP adopted by the Board, staff was directed to return to the Board by February 2019 with an ISR covering non-aircraft emission sources at airports. During the Board discussion of this item, further direction was provided to ensure that the rulemaking process would not inhibit the ability of airports to develop their own airport-specific Clean Air Action Plans (AirCAAPs). Commercial airports are estimated to only emit about 8 tons per day of NO<sub>x</sub> (absent aircraft emissions) that is primarily from trucks, a lower value in comparison to the other facility sectors. Airports have also generally expressed a willingness to voluntarily develop their own clean air action plans in lieu of a regulation. Taking all of this into consideration, staff is recommending a voluntary approach with airports, where the District would enter into separate MOUs with each airport after they develop their AirCAAPs. With the cooperation of the airports, this approach is expected to provide the quickest and most certain emission reductions.

### ***Regulatory Emission Reduction Strategies***

For the reasons stated above, SCAQMD staff is not recommending initially pursuing an ISR for airports at this time. Staff is recommending coming back to the Board no later than summer 2018 to report on the airports commitment to develop an AirCAAP. In the event that not all commercial airports agree to the AirCAAP and MOU approach,



SCAQMD staff could develop for the Board's consideration an airport ISR by February 1, 2019. One potential ISR concept could include a requirement for airports to develop an AirCAAP.

### **Summary of Staff Recommendation**

Proposed voluntary and regulatory emission reduction strategies for each FBMSM adopted in the 2016 AQMP, and discussed above and in the attachment, are summarized in the table below.

<b>FBMSM Sector</b>	<b>Pursue <u>Voluntary</u> Measures Now?</b>	<b>Also Pursue <u>Regulatory</u> Measures Now?</b>
<b>Ports</b>	Yes	No
<b>Airports</b>	Yes	No
<b>Warehouses</b>	Yes	Yes
<b>New/Redevelopment</b>	Yes	Yes
<b>Rail Yards</b>	Yes	Yes

The presentation to the February 16, 2018 Mobile Source Committee meeting provides a comprehensive summary about the FBMSM strategies discussed above and can be accessed at this link: <http://www.aqmd.gov/docs/default-source/Agendas/Mobile-Source/msc-agenda-feb2018.pdf?sfvrsn=12>.

### **Attachments**

- A. Staff Update and Recommendations – Facility-Based Mobile Source Measures
- B. Board Meeting Presentation



## **ATTACHMENT A**

# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

---

## **Staff Update and Recommendations Facility-Based Mobile Source Measures**

**March 2018**

### **Deputy Executive Officer**

Planning, Rule Development, and Area Sources  
Philip M. Fine, Ph.D.

### **Assistant Deputy Executive Officer**

Planning, Rule Development, and Area Sources  
Sarah Rees, Ph.D.

---

#### **Authors:**

Dan Garcia – Program Supervisor  
Maryam Hajbabaei, Ph.D. – AQ Specialist  
Michael Laybourn – AQ Specialist

#### **Contributors:**

Zorik Pirveysian – Planning and Rules Manager

#### **Reviewed by:**

Ian MacMillan – Planning and Rules Manager  
Megan Lorenz – Principal Deputy District Counsel  
Veera Tyagi – Principal Deputy District Counsel  
William Wong – Principal Deputy District Counsel  
Barbara Baird – Chief Deputy Counsel



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
GOVERNING BOARD**

Chairman: DR. WILLIAM A. BURKE  
Speaker of the Assembly Appointee

Vice Chairman: DR. CLARK E. PARKER, SR.  
Senate Rules Committee Appointee

**MEMBERS:**

MARION ASHLEY  
Supervisor, Fifth District  
County of Riverside

BEN BENOIT  
Mayor, Wildomar  
Cities of Riverside County

JOE BUSCAINO  
Councilmember, 15<sup>th</sup> District  
City of Los Angeles Representative

MICHAEL A. CACCIOTTI  
Councilmember, South Pasadena  
Cities of Los Angeles County/Eastern Region

JOSEPH K. LYOU, Ph. D.  
Governor's Appointee

LARRY McCALLON  
Mayor, Highland  
Cities of San Bernardino County

JUDITH MITCHELL  
Mayor Pro Tem, Rolling Hills Estates  
Cities of Los Angeles County/Western Region

SHAWN NELSON  
Supervisor, Fourth District  
County of Orange

DWIGHT ROBINSON  
Councilmember, Lake Forest  
Cities of Orange County

JANICE RUTHERFORD  
Supervisor, Second District  
County of San Bernardino

HILDA L. SOLIS  
Supervisor, First District  
County of Los Angeles

**EXECUTIVE OFFICER:**

WAYNE NASTRI



## **TABLE OF CONTENTS**

### **CHAPTER 1: INTRODUCTION**

BACKGROUND	1-1
STAFF ACTIVITIES	1-3
LOCAL AND REGIONAL ACTIVITIES	1-3
CALIFORNIA AIR RESOURCES BOARD ACTIVITIES	1-5

### **CHAPTER 2: WORKING GROUP PROCESS**

FBMSM FRAMEWORK	2-1
-----------------	-----

### **CHAPTER 3: STAFF RECOMMEDATION**

OVERVIEW OF PROPOSED EMISSION REDUCTION STRATEGIES	3-1
NEW DEVELOPMENT AND REDEVELOPMENT	3-1
COMMERCIAL MARINE PORTS	3-3
RAILYARD AND INTERMODAL FACILITIES	3-5
WAREHOUSE DISTRIBUTION CENTERS	3-6
COMMERCIAL AIRPORTS	3-8
SUMMARY OF STAFF RECOMMENDATION	3-11
POTENTIAL SCHEDULE	3-11

<b>REFERENCES</b>	<b>R-1</b>
-------------------	------------



## **TABLES AND FIGURES**

**Table 1-1: CARB Mobile Source Emission Reduction Activities**

**Table 3-1: Summary of FBMSM Voluntary and Regulatory Emission Reduction Strategies**

**Figure 1-1: NO<sub>x</sub> Emission Reductions Needed to Achieve Federal 8-Hour Ozone NAAQS**

**Figure 1-2: NO<sub>x</sub> Control Strategy in 2016 AQMP**

**Figure 2-1: FBMSM Development Framework**

**Figure 2-2: 2023 NO<sub>x</sub> Baseline Inventory Estimate by Facility Sector**

**Figure 2-3: U.S. EPA SIP Integrity Elements**

**Figure 2-4: Potential MOU Pathway**

**Figure 3-1: ISR Option Concept – Coupled Voluntary Fleet Certification**

**Figure 3-2: Port-Related Mobile Source NO<sub>x</sub> Emissions (tons per day)**

**Figure 3-3: Landing Take-Off (LTO) Activity by Aircraft Type**

**Figure 3-4: Potential Schedule to Implement the Proposed FBMSM Strategies**



## **CHAPTER 1: INTRODUCTION**

---

**BACKGROUND**

**RECENT STAFF ACTIVITIES**

**LOCAL AND REGIONAL ACTIVITIES**

**CALIFORNIA AIR RESOURCES BOARD ACTIVITIES**

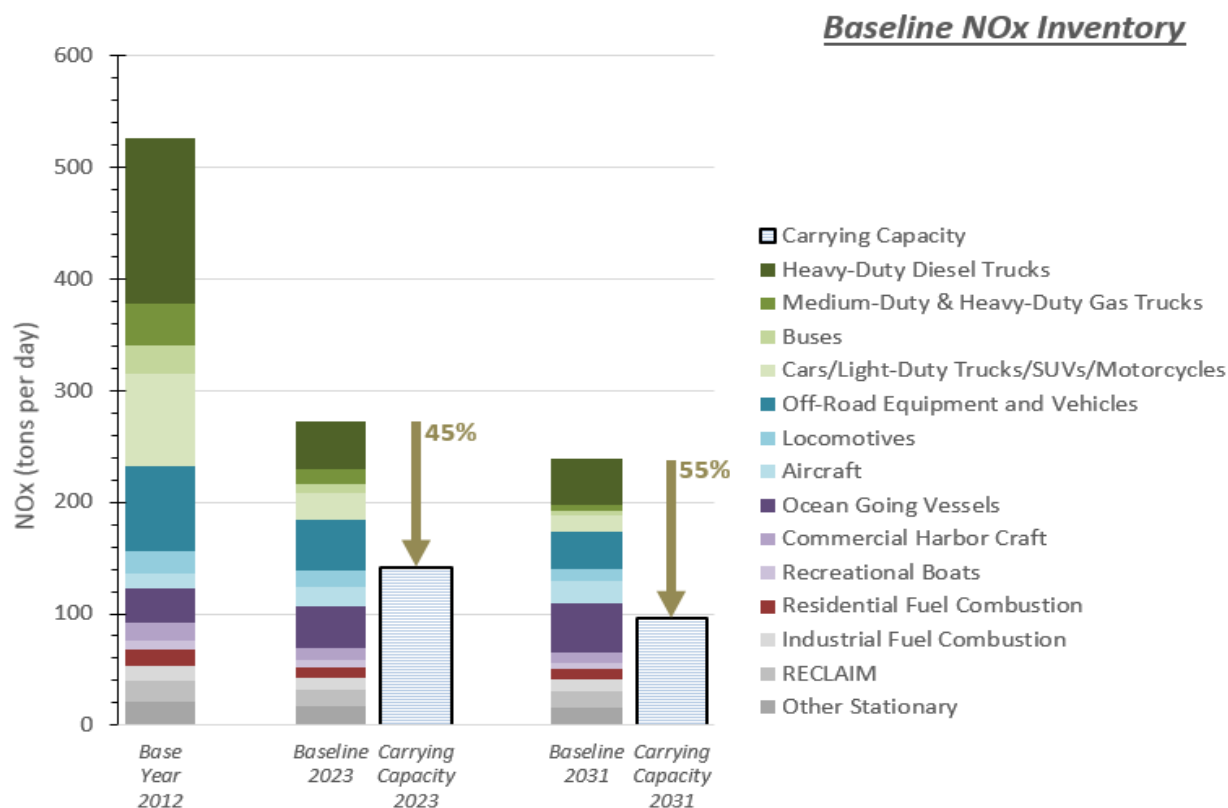


## BACKGROUND

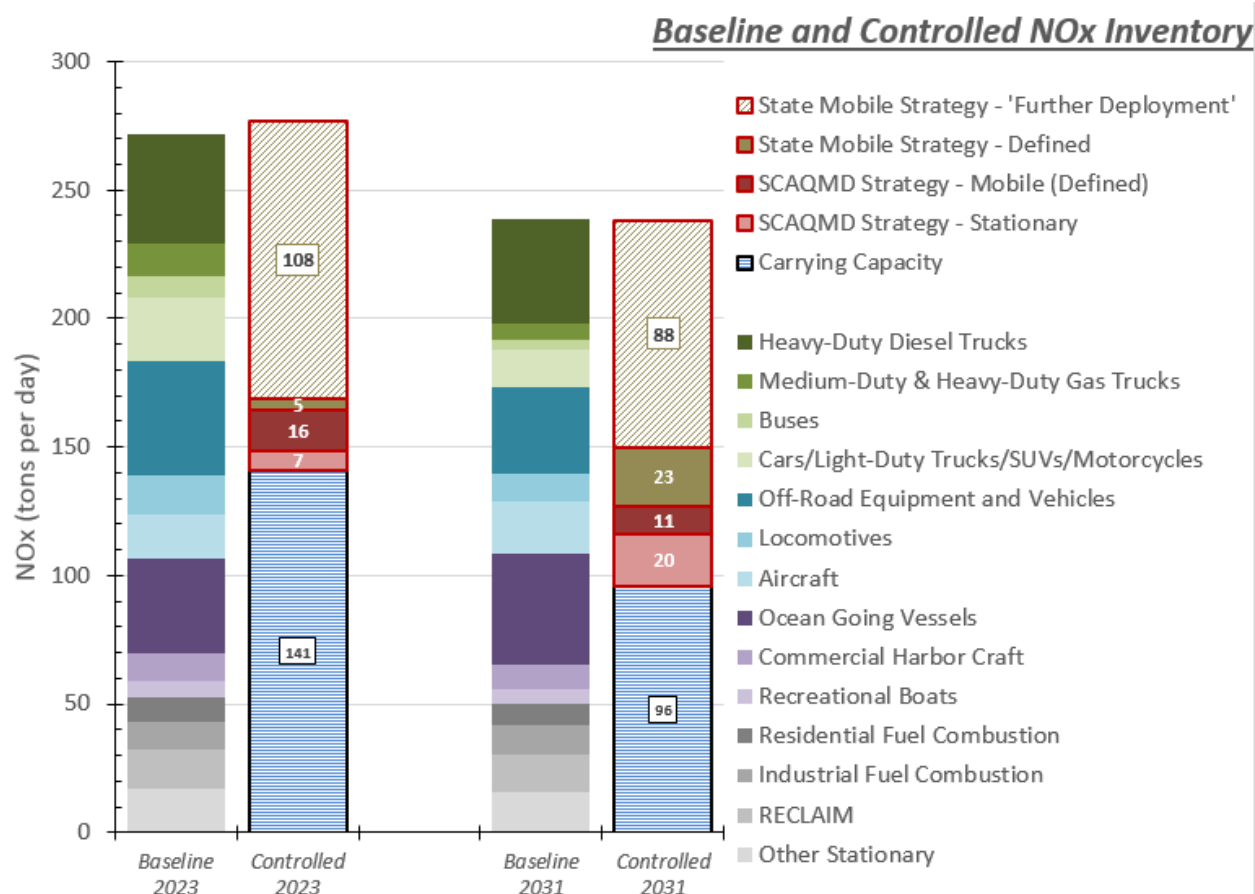
The Final 2016 Air Quality Management Plan (AQMP) was adopted by the South Coast Air Quality Management District (SCAQMD) Board on March 3, 2017. The 2016 AQMP is a regional blueprint for achieving federal and state air quality standards and healthful air in the South Coast Air Basin (Basin). The Basin still exceeds federal and state public health standards for both ozone and particulate matter (PM) and experiences some of the worst air pollution in the nation. In particular, the Basin is designated as an extreme non-attainment area for the 1-hour and 8-hour federal ozone National Ambient Air Quality Standards (NAAQS), serious non-attainment for the 24-hour PM<sub>2.5</sub> NAAQS, and non-attainment for the state AAQS for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>.

The key strategy to meet this air quality challenge is to reduce nitrogen oxide (NO<sub>x</sub>) emissions sufficiently to meet the 8-hour ozone NAAQS deadlines (80 ppb in 2023 and 75 ppb in 2031). If these standards are met then all other federal ozone and PM standards should be achieved. Based on analysis in the 2016 AQMP, in order to meet the ozone NAAQS deadline, the total Basin emissions of NO<sub>x</sub> must be reduced to approximately 141 tons per day in 2023 and 96 tons per day in 2031 to attain the 8-hour ozone standards. This represents an additional 45% reduction in NO<sub>x</sub> beyond baseline 2023 levels, and an additional 55% NO<sub>x</sub> reduction beyond baseline 2031 levels. As seen in Figure 1-1, approximately 80% of NO<sub>x</sub> emissions in 2023 and 2031 will be from mobile sources.

**Figure 1-1: NO<sub>x</sub> Emission Reductions Needed to Achieve Federal 8-Hour Ozone NAAQS**





**Figure 1-2: NOx Control Strategy in the 2016 AQMP**

The control strategy in the 2016 AQMP includes many stationary and mobile source measures that will be carried out by the District and the California Air Resources Board (CARB) (Figure 1-2). In particular, CARB is committed to achieving emission reductions with its state Mobile Source Strategy in the State Implementation Plan (SIP). The majority of these emission reductions come from measures titled as “Further Deployment of Cleaner Technologies” (Further Deployment Measures). The Further Deployment Measures are expected to reduce 108 tons per day of NOx emissions beyond 2023 baseline by 2023 and 88 tons per day beyond 2031 baseline by 2031. Implementation of the Further Deployment Measures is based on a combination of incentive funding, development of regulations, and quantification of emission reduction benefits from increased operational efficiencies, such as deployment of autonomous and/or connected vehicles, operational improvements, etc. The 2016 AQMP may need to rely on flexibility provided in section 182(e)(5) of the federal Clean Air Act to demonstrate that the plan will attain air quality standards because these Further Deployment Measures are not yet defined or implemented. However, this same section requires the state to submit “enforceable commitments to develop and adopt contingency measures... no later than 3 years before proposed implementation of the plan provisions”. For instance in the case of the 2023 attainment date for the 8-hour ozone standard, any 182 (e)(5) flexibility relied on for Further Deployment Measures must be replaced with contingency measures in 2020.



In the 2016 AQMP, the SCAQMD committed to assist CARB and U.S. EPA in developing the Further Deployment Measures, including through development of local Facility-Based Mobile Source Measures (FBMSMs). Five FBMSMs were included in the Final 2016 AQMP as part of the mobile source strategy to help attain the 8-Hour Ozone NAAQS. The FBMSMs address indirect sources including new development and redevelopment projects (EGM-01), commercial marine ports (MOB-01), railyards and intermodal facilities (MOB-02), warehouse distribution centers (MOB-03) and commercial airports (MOB-04). Recognizing the importance of reducing emissions from facilities that attract mobile emissions sources, federal law allows states to adopt indirect source regulations. California law explicitly provides Indirect Source Rule (ISR) authority to local air districts [Health & Safety Code § 40716 (a)(1)]. An indirect source is defined under the federal Clean Air Act as any facility, building, structure, or installation, or combination thereof, which generates or attracts mobile source activity that results in emissions of any pollutant (or precursor) for which there is an air quality standard. See 42 U.S.C. § 7410(a)(5)(C).

## **STAFF ACTIVITIES**

The 2016 AQMP described a year-long process for staff to evaluate potential emissions reduction strategies for the FBMSMs and report back to the Board on the most promising approaches. Following this process, SCAQMD staff convened five FBMSM Working Groups, each focused on one facility sector (e.g., warehouses, airports, etc.), that have primarily focused on potential voluntary approaches to achieve emission reductions to help implement the Further Deployment Measures. Over the past year, SCAQMD staff have conducted 17 Working Group Meetings, and many additional individual stakeholder meetings and site visits. Some of the key topics discussed during the Working Group meetings included: 1) a framework for developing FBMSMs, 2) potential methods for obtaining SIP credit for voluntary measures, and 3) potential voluntary and regulatory emission reduction strategies for each facility sector. To assist in identifying potential areas of opportunity for emission reductions, SCAQMD staff developed emission inventories for each facility sector that provided a rough estimate of the NO<sub>x</sub> baseline emissions in 2023 that could be affected by FBMSMs.

Consistent with the 2016 AQMP, SCAQMD staff provided progress reports to the SCAQMD Mobile Source Committee in May and October of 2017, and is planning to return to the Governing Board in March 2018 to present recommendations on specific FBMSM approaches. This staff update provides a discussion by facility sector and the specific FBMSM approaches recommended by staff.

## **LOCAL AND REGIONAL ACTIVITIES**

A number of local and regional jurisdictions have pursued policies that could benefit air quality. Two examples of these policies include the Ports Clean Air Action Plan Update and the LAX Alternative Fuel Policy Update discussed below.

### **Ports' Clean Air Action Plan Update**

On November 2, 2017 the governing boards of the Port of Los Angeles and Port of Long Beach (Ports) approved the 2017 CAAP Update that provides high-level guidance for reducing emissions from the Port facilities. Key CAAP strategies include:

- An update to the Clean Truck Program that will include initiating a new differential rate structure to encourage the introduction of Near Zero Emissions (NZE) and Zero Emissions



(ZE) trucks into the drayage fleet. The rate structure would begin in 2020 and exempt NZE/ZE trucks. Starting in 2023, or whenever CARB implements its new NZE truck engine standard, new trucks entering the Ports' drayage registry must be NZE or ZE. Starting in 2035, only ZE trucks would be exempt from the rate structure.

- Developing a universal truck reservation system, staging yards, intelligent transportation systems and other efficiency programs to reduce emissions while improving the flow of cargo;
- Beginning in 2019, requiring terminal operators to develop Cargo Handling Equipment (CHE) procurement plans and to deploy zero-emission equipment, if feasible, or the cleanest available when procuring new CHE, with the goal of transitioning all terminal equipment to zero emissions by 2030;
- Providing new incentives to cleaner ships, such as by updating the existing Vessel Speed Reduction (VSR) Program to increase its effectiveness, and implementing a variable rate to promote cleaner ships by 2025;
- Developing infrastructure plans to support terminal equipment electrification, alternative fuels and other energy resource goals; and
- Expanding the use of on-dock rail, with the long-term goal of moving 50% of all cargo leaving the Ports by rail.

The 2017 CAAP Update established new emission reduction targets for reducing greenhouse gases (GHGs) from Port-related sources – 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. The 2017 CAAP Update maintains the emission reduction goals of the 2010 CAAP. These goals include reducing diesel particulate matter (DPM) by 77%, sulfur oxides (SOx) by 93%, and NOx by 59% below 2005 levels by the year 2023.

SCAQMD staff has worked extensively with Port staff in the development and early implementation of the 2017 CAAP Update. The recommended strategy in Chapter Three of this staff update aims to build off of this collaborative work to implement, supplement, and accelerate the measures in the CAAP.

#### **LAX Alternative Fuel Policy Update**

In October 2017 LAX approved an update to its Alternative Fuel Policy that applies to vehicles greater than 8,500 pounds gross vehicle weight rating (e.g., buses, trucks, passenger vans, etc.) that are used in operations related to LAX. The previous policy from 2007 had been approved as part of a Community Benefits Agreement, however recent compliance with this policy was less than 50%. Throughout the year, SCAQMD staff worked collaboratively with LAX staff to modernize the policy to reflect current vehicle technologies, to bring the applicable vehicles covered by the policy into compliance as quickly as feasible, and to encourage the introduction of zero emission vehicles. The recommended strategy in Chapter Three of this staff update aims to build off of this collaborative work to incorporate this policy, and others, into a comprehensive plan for LAX.



## CALIFORNIA AIR RESOURCES BOARD ACTIVITIES

Throughout the FBMSM Working Group Process, the SCAQMD staff has coordinated extensively with CARB staff as they develop their regulatory program to implement the SIP. The state strategy approved by CARB as part of the SIP approval includes several specific mobile source measures (Table 1-1) in addition to the previously described ‘Further Deployment Measures’. Over the past year and a half, CARB has continued to advance these measures, including adopting two measures, and initiating public workshops with proposed draft approaches for six other measures. While each of these measures will unquestionably have air quality benefits, including reducing emissions of pollutants other than NO<sub>x</sub>, cumulatively these eight measures are projected to reduce less than 1 ton per day of NO<sub>x</sub> by 2023. In total, about 96% of CARB’s strategy for reducing an additional 108 tons per day of NO<sub>x</sub> by 2023 relies on ‘Further Deployment Measures’.

In addition to these specific strategies, as part of its approval of the SIP in March 2017, the CARB Board directed its staff to return in one year with an update on the implementation of the SIP, as well as *“concepts for an Indirect Source Rule to control pollution from large freight facilities including ports, railyards, warehouses and distribution centers, as well as any identified alternatives capable of achieving similar levels of emission reductions.”*

Subsequent to the approval of the 2016 AQMP and the SIP by CARB, the state legislature passed AB 617<sup>1</sup> which is designed to focus air quality regulatory efforts towards reducing exposure in communities most impacted by air pollution. Consistent with the intent of AB 617 and its Board direction on ISR, CARB staff held workshops throughout the state to discuss the air quality impacts on communities from large freight facilities and how to address them. Recently released materials for upcoming workshops<sup>2</sup> provide CARB staff’s proposed approach to address impacts from large freight facilities (see ‘Potential Additional Strategies’ in Table 1-1). The proposed approach includes focusing on measures that would reduce community impacts of large freight facilities, consistent with the requirements of AB 617. Each of these measures would also apply towards CARB’s ‘Further Deployment’ commitment; however the potential level of NO<sub>x</sub> reductions has not yet been determined.

---

<sup>1</sup> Available here: [http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201720180AB617](http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB617)

<sup>2</sup> Available here: <https://www.arb.ca.gov/gmp/sfti/FreightFacility.htm>



Table 1-1: CARB Mobile Source Emission Reduction Activities

	Measure	Proposed Action Date in CARB Mobile Strategy	Proposed Implementation Date	Proposed Approach	SIP Reductions NOx (tpd)	
					2023	2031
On-Road Light Duty	Advanced Clean Cars 2	2020 - 2021	2026		0	0.6
	Lower In-Use Emission Performance Assessment	Ongoing			NYQ	NYQ
	<b>Further Deployment of Cleaner Technologies</b>	<b>Ongoing</b>			<b>7</b>	<b>5</b>
On-Road Heavy Duty	Lower In-Use Emission Performance Level	2017 - 2020	2018+	-Longer warranty periods (<0.1 tpd 2023, <0.9 tpd 2031) -Revised periodic smoke inspections, On Board Diagnostics requirements, In-Use Compliance program, Durability/Useful Life requirements -New HD Inspection & Maintenance	NYQ	NYQ
	Low-NOx Engine Standard – California Action	2019	2023		0	5
	Low-NOx Engine Standard – Federal Action	2019	2024		0	7
	Medium and Heavy-Duty GHG Phase 2	2017 - 2019	2018+		0	0
	Innovative Clean Transit	2017	2018	2020 - 100% NZE (purchase - all fleets) 2020 - 2029 Phase in ZE purchases (25%-100%)	<0.1	0.1
	Last Mile Delivery/Advanced Clean Trucks	2018	2020	2023 - 2030 Phase in OEM Class 2B-7 ZE sales (2.5%-15%)	<0.1	0.4
	Innovative Technology Certification Flexibility	2016	2017	Provides certification flexibility to OEMs for cleaner engines	0	0
	ZE Airport Shuttle Buses	2018	2023	2023 - 2031 Phase in ZE shuttles (up to 100%)	NYQ	NYQ
	Incentive Funding	Ongoing			3	3
	<b>Further Deployment of Cleaner Technologies</b>	<b>Ongoing</b>			<b>34</b>	<b>11</b>
Ships, Locomotives, & Aircraft	More Stringent National Locomotive Emission Standards	2016	2023		<0.1	2
	Tier 4 Vessel Standards	2016 - 2018	2025		0	NYQ
	Incentivize Low Emission Efficient Ship Visits	2018 - 2020	2018+		NYQ	NYQ
	At-Berth Regulation Amendments	2018	2023	-Phase in controls starting 2022, with 100% by 2031	0.3	1
	<b>Further Deployment of Cleaner Technologies</b>	<b>Ongoing</b>			<b>46</b>	<b>54</b>
Off-Road	ZE Off-Road Forklift Regulation Phase 1	2020	2023		NYQ	NYQ
	ZE Off-Road Emission Reduction Assessment	2025+	--		NYQ	NYQ
	ZE Off-Road Worksite Emission Reduction Assessment	TBD	--		NYQ	NYQ
	ZE Airport Ground Support Equipment	2018	2023		<0.1	<0.1
	Small Off-Road Engines	2020	2022		0.7	2
	Transport Refrigeration Units	2018 - 2019	2020+	2023 - 2029 Phase in time limits for stationary operation 2025 - 2050 Phase in for ZE operation	NYQ	NYQ
	Low-Emission Diesel Requirement	2020	2023		0.3	1
	<b>Further Deployment of Cleaner Technologies</b>	<b>Ongoing</b>			<b>21</b>	<b>18</b>
Potential Additional Strategies	ZE Drayage Trucks	2022	2023 - 2028	Potential additional freight-related strategies	NYQ	NYQ
	Cargo Handling Equipment Amendments	2019	2022		NYQ	NYQ
	Harbor Craft Amendments	2021	2025		NYQ	NYQ
	Reduce stationary locomotive emissions (e.g., idling)	2020	2023		NYQ	NYQ
	Reduce emissions from non-pre-empted locomotives	2022	2025		NYQ	NYQ
	Freight Handbook	2019 - 2020	--		NYQ	NYQ
	Enhanced Freight Hub Enforcement	--	2018		NYQ	NYQ
	Public workshops underway			Percentage of committed NOx emission reductions from Further Deployment Measures	96%	79%
	Measure adopted					



## **CHAPTER 2: WORKING GROUP PROCESS**

---

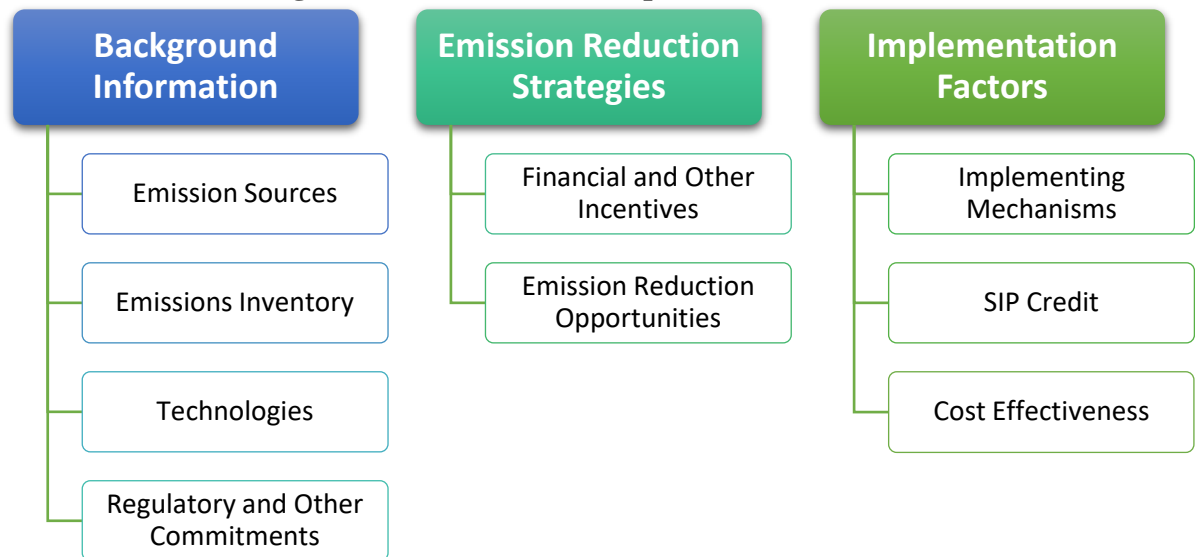
### **FBMSM FRAMEWORK**



## FBMSM DEVELOPMENT FRAMEWORK

Through the FBMSM Working Group process SCAQMD staff collaborated with stakeholders to establish a development framework (Figure 2-1) intended to ultimately identify strategies that could reduce emissions from sources associated with FBMSMs. The development framework was comprised of three major categories including Background Information, Implementation Factors, and Emissions Reduction Strategies. The information gathered for each of these categories through the FBMSM Working Group process was used to inform SCAQMD staff's proposed emission reduction strategies for the FBMSMs presented in Chapter Three of this staff update.

**Figure 2-1: FBMSM Development Framework**



### **Background Information**

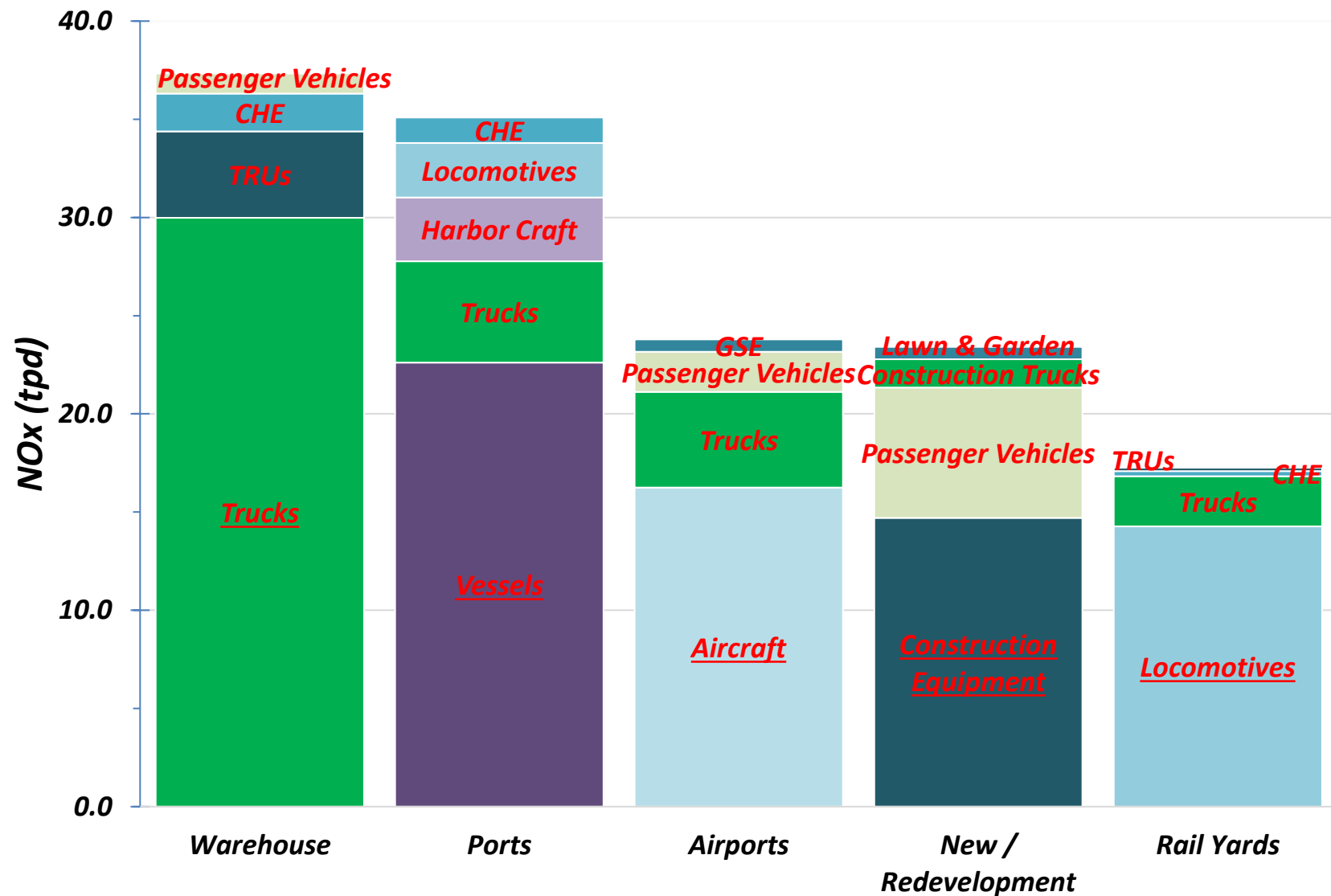
#### **Emission Sources and Emissions Inventory**

SCAQMD staff provided an estimate of the baseline NO<sub>x</sub> emissions in 2023 that could be affected by each FBMSM (Figure 2-2). The estimated baseline NO<sub>x</sub> emissions are not intended to be final values used for the SIP or for regulatory purposes. Instead, they are intended as a point of reference to guide future strategies, policies and/or rules aimed at reducing emissions from sectors affected by FBMSM. More detailed emissions inventories will be developed in future public processes to address any specific measure that will be used to obtain SIP credit (such as a regulation, MOU, etc.) and for future AQMPs.

Three key relationships are found from these estimates. First, for each facility sector a single vehicle type dominates the emissions profile. Second, emissions can overlap between facility sectors. For example, the same trucks that visit the Ports can visit warehouses and rail yards, and the inventories are not designed to be mutually exclusive. Third, while these inventories are rough estimates, they reflect the reality that these facility sectors make up a substantial fraction of the Basin's NO<sub>x</sub> emissions, and significant emission reductions must be found for each sector if our region is to meet air quality standards. Strategies developed in Chapter Three take into account these relationships.



## 2023 NOx Baseline Inventory





### Technologies

New technologies were regularly discussed at FBMSM Working Group Meetings convened over the last year. For example, an 11.9 liter natural gas engine was recently certified to meet or exceed CARB's lowest optional low NOx standard, which is at least 90% cleaner than trucks meeting EPA's 2010 standard. Further, with the rapid decline in Li-ion battery prices, several new initiatives have been announced by commercial truck manufacturers in the past year for commercialization of zero emission trucks (battery, plug-in hybrid, hydrogen) of a variety of sizes. The business case for fleet owners to introduce zero-emission trucks into their operations has become more favorable than in previous years because of the rapid decrease in costs for some of these technologies. However cost remains an important factor, and widespread adoption is not expected by 2023 without additional developments (e.g., incentives, market development of advanced cleaner technologies, regulations). Similar scenarios can be described for commercially available technologies for other vehicle types, such as tier 3 vessels, tier 4 final off-road equipment, cleaner harbor craft, etc.

While many commercially available technologies exist that provide substantial NOx reductions, some vehicle types would benefit from additional technology demonstrations, including ZE cargo handling equipment, retrofitted vessels that would be cleaner than tier 2, further development of ZE trucks, etc. Strategies outlined in Chapter Three take into account the incentives needed to bring existing technologies into market, as well as the areas where new technology development is needed.

### Regulatory and Other Commitments

In order to provide a single reference for the many regulations that currently exist to reduce emissions from mobile sources, staff compiled a website<sup>1</sup> of all of the key federal and state regulations that target mobile source criteria pollutant emissions. Additional discussion of upcoming CARB regulations is included in Chapter One of this staff update.

While the focus of FBMSMs is local and state actions, many mobile sources are regulated at the federal level. To this end, staff submitted a petition to US EPA to update its truck engine regulations to include a new lower NOx standard, and CARB petitioned US EPA to update its locomotive engine standard to include a new Tier 5 standard, and new repowering requirements. US EPA has committed to revisiting the truck standards, but has not yet taken action on either petition. US EPA also recently proposed an action allowing truck glider kits to use older engines that do not meet current standards. Such an action, if finalized, could increase NOx in the Basin. In the past year, SCAQMD and CARB staff have written comment letters opposing this rollback in regulation.

---

<sup>1</sup><http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/facility-based-mobile-source-measures/regs-commitments>



## **Implementation**

### **SIP Credit**

One of the primary objectives of the FBMSM Working Group meetings was to develop a list of potential emissions reduction strategies for each facility sector in addition to the strategies that CARB is currently pursuing under ‘Further Deployment Measures’ of the state mobile source strategy. To achieve this goal, staff worked closely with stakeholders through the FBMSM Working Group process to establish collaborative, voluntary approaches. One consideration for evaluating proposed voluntary measures is whether subsequent emission reductions could be used towards obtaining prospective (i.e. future) SIP credit against control measure commitments. Any emission reductions resulting from voluntary measures used to demonstrate attainment must be submitted to US EPA for approval before SIP credit is given. Similarly, emission reductions can be demonstrated through Rate-of-Progress evaluations, and ultimately could count for SIP creditable reductions. US EPA evaluates the following criteria when considering whether to approve voluntary measures for potential prospective SIP credit (see the References at the end for a list of relevant guidance documents):

1. Demonstration that US EPA “integrity elements” have been satisfied (Figure 2-3).
2. SCAQMD commitment to monitor, assess, and regularly report to US EPA on emission reductions achieved.
3. Development of provisions to ensure US EPA and the public have access to emissions data and for evaluating procedures to determine the overall effectiveness of the program.
4. Demonstration that adequate funding, personnel, and implementation authority are available for the proposed measure.
5. SCAQMD commitment to remedy any emission reduction shortfall.

### **Figure 2-3 US EPA SIP Integrity Elements**

**Permanent:** Emissions reductions must continue through the term that the credit is granted (e.g., the attainment date).

**Enforceable:** Several criteria must be met to demonstrate enforceability:

- Emissions reductions occurring under the program must be independently verifiable for each source.
- The program should define compliance options and violations.
- The public must have access to emissions-related information and the ability to file a lawsuit against responsible entities if violations occur.
- EPA should have the ability to apply penalties and secure corrective actions.

**Quantifiable:** The emissions reductions should be calculated by a reliable and replicable methodology and all analyses must be substantiated and documented.

**Surplus:** Emissions reductions are surplus if they are not required or assumed in another SIP program or any other adopted state air quality program or federal rule.



### Implementing Mechanisms

The potential mechanisms that are available to reduce future emissions can be grouped into five broad categories, including incentives, facilitating measures, inventory adjustments, Memoranda of Understanding (MOUs) or other agreements, and regulations.

- *Incentives:* Incentive programs promote projects that implement cleaner/advanced technologies. Familiar programs include the Carl Moyer or Prop 1B funding programs to offset the increased cost of purchasing cleaner technology. Additional non-monetary incentives are also potentially available, such as preferential access to a facility for cleaner vehicles (e.g., HOV stickers for ZE cars). Incentive programs are potentially SIP creditable if they meet the criteria outlined above, including US EPA’s “integrity elements”.
- *Facilitating Measures:* Deployment of newer vehicle technologies typically require the installation of fueling/charging transportation infrastructure. These infrastructure projects are critical to ensuring the viability and penetration of cleaner technologies, however they are typically not SIP creditable on their own.
- *Inventory adjustments:* As a normal part of air quality management planning, emission inventories are regularly reviewed and updated to incorporate new information as it becomes available. For example, if a demonstrated history of activity is shown, adjustments to future emission inventories can be made. An example is the Ports’ Vessel Speed Reduction (VSR) Program, where records show that the program achieves 80-90% compliance, resulting in significant emission reductions. The demonstrated history of activity, and the continuation of the program, future emission inventories reflect the lower emissions expected from vessels. Additional adjustments for other activities could also potentially be made as part of Reasonable Further Progress demonstrations.
- *Agreements or MOUs:* Formal agreements or MOUs can be established between CARB or SCAQMD and a facility (e.g., Port, airport, terminal operator, etc.) or business(es) (e.g., railroads) to partner in implementing emissions reduction measures (Figure 2-4). An example includes the 1998 railroad agreement between CARB and UP and BNSF that requires the railroads to operate a locomotive fleet in the South Coast Air Basin that meets the Tier 2 locomotive standard on average<sup>1</sup>. An MOU is a mutually binding agreement and requires both parties to agree on terms and conditions, and individually crafted actions that achieve emissions reductions by certain dates. An MOU would be structured to meet SIP integrity elements. The commitments made in an MOU would be enforceable by US EPA against the District. Just as the District would have to make up any shortfall from a traditional regulatory measure, so too the District would have to make up any shortfall from an MOU. The enforceability described in Figure 2-3 against the District would be much the same as existing enforceability for other control measures or rules adopted by the District.
- *Regulations:* SIP creditable emission reductions have most commonly been achieved through the application of traditional regulations from US EPA, CARB, or SCAQMD. Key feedback from stakeholders during the past year have pointed to the need to ensure that any regulations do not preclude the application of incentive funding. Typical incentive funding

---

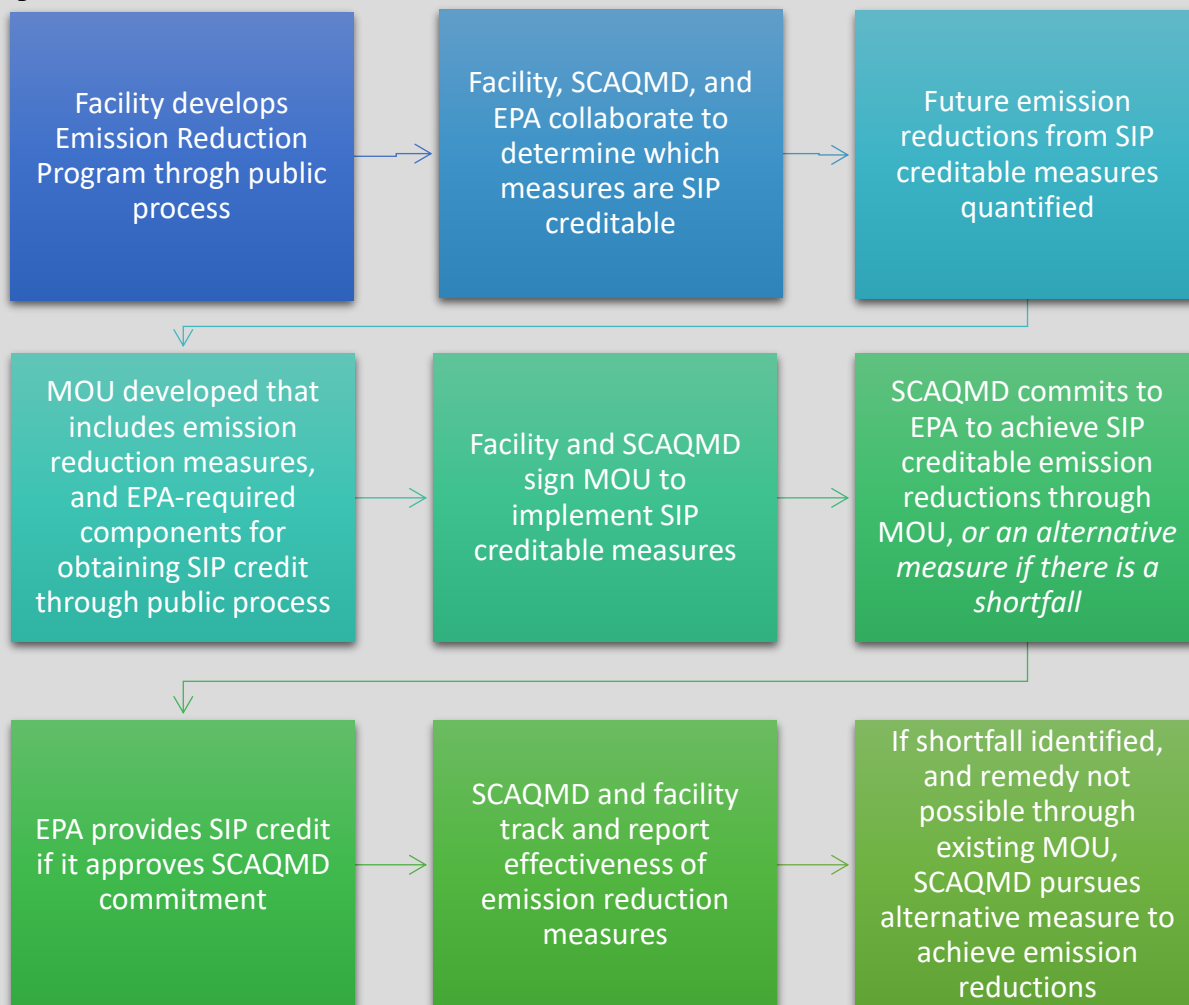
<sup>1</sup> <https://www.arb.ca.gov/railyard/1998agree/1998agree.htm>



programs do not allow funds to be used to comply with an existing regulation, although there are exceptions.

**Figure 2-4 Potential MOU Pathway**

Over the past year, several stakeholders have expressed interest in a potential Memorandum of Understanding (MOU) approach instead of a regulation. One potential pathway for an MOU approach is outlined below, though other approaches are also possible.





## **Emission Reduction Strategies**

### **Financial Incentives**

During all working group meetings, members highlighted the importance of financial incentives to achieve emission reductions. Efforts outside of the FBMSM working group have been organized to discuss incentive funding<sup>1</sup>. Recent increases in incentive funding have been identified and are being spent as rapidly as possible on cleaner vehicles. However, without significant new funding, additional measures must be pursued to meet the needs of the 2016 AQMP. Importantly, any measures that would be developed should not interfere with mobile fleet owners' ability to receive and use incentive funds. The proposed FBMSMs in Chapter Three are designed to allow fleet owners to pursue incentive funding, while also exploring additional approaches to reduce emissions.

### **Emission Reduction Opportunities**

SCAQMD staff solicited and incorporated emission reduction opportunity concepts from FBMSM working group stakeholders throughout the past year in both public and one-on-one stakeholder meetings. Voluntary measures were exclusively evaluated for most of the year, and initial discussions on potential regulatory strategies have been discussed only where voluntary measures were determined to not provide meaningful emission reductions on their own towards attainment needs.

Staff's recommendation for FBMSM in Chapter Three is based on the following factors:

- All of the feedback received from FBMSM Working Group stakeholders,
- An evaluation of the potential NO<sub>x</sub> reductions by 2023 that could be achieved from currently proposed CARB and US EPA activities, and
- The level of currently identified incentive funding in comparison to the need.

Staff is recommending a mix of voluntary and regulatory strategies designed to accelerate the introduction of cleaner vehicles and equipment into the market based on the factors above and the significant air quality challenge the region faces. The market pull from these voluntary and



regulatory programs can provide a clear signal to ZE/NZE technology manufacturers that mass production is justified (thus lowering the costs to consumers). As these markets continue to develop over the next decade, the voluntary and regulatory programs would be designed to take advantage of these lower costs. The proposed system is also designed such that the voluntary and regulatory measures can complement each other and CARB's strategies, while also still providing the opportunity for fleet owners to take advantage of the financial incentive programs that are underway and growing.

<sup>1</sup> <http://www.aqmd.gov/nav/about/groups-committees/aqmp-advisory-group/2016-aqmp-funding-wg>



## **CHAPTER 3: PROPOSED EMISSION REDUCTION STRATEGIES**

---

**OVERVIEW OF PROPOSED EMISSION REDUCTION STRATEGIES**

**NEW DEVELOPMENT AND REDEVELOPMENT (EGM-01)**

**COMMERCIAL MARINE PORTS (MOB-01)**

**RAILYARDS AND INTERMODAL FACILITIES (MOB-02)**

**WAREHOUSE DISTRIBUTION CENTERS (MOB-03)**

**COMMERCIAL AIRPORTS (MOB-04)**

**SUMMARY OF STAFF RECOMMENDATION**

**POTENTIAL SCHEDULE**



## OVERVIEW OF PROPOSED EMISSION REDUCTION STRATEGIES

Staff has developed a set of proposed voluntary and regulatory emission reduction strategies for each FBMSM adopted in the 2016 AQMP. Staff's proposed approach to implementing the FBMSMs prioritizes voluntary emission reduction strategies but incorporates the need for regulatory activity, where in staff's assessment, and through the FBMSM Working Group process that voluntary emission reduction strategies are not sufficient to meet the air quality goals of the 2016 AQMP. The proposed voluntary and regulatory emission reduction strategies for each FBMSM are presented below.

## NEW DEVELOPMENT AND REDEVELOPMENT PROJECTS (EGM-01)

### Background Discussion

The Basin population is projected to increase 12% by 2031, resulting in new residential, commercial, and industrial development activity, according to the Southern California Association of Governments (SCAG). A variety of existing and future programs, such as California's 2016 and 2019 Building Energy Efficiency Standards (i.e., Title 24) will contribute to emission reductions when compared to existing development activity. However, additional vehicle trips, and landscape maintenance equipment and construction emissions from new developments will contribute to regional air pollution. EGM-01 seeks to reduce emissions primarily from project construction by enabling greater deployment of zero and near-zero emission technologies. Total Basin-wide emissions from new development and redevelopment projects, including passenger vehicles and lawn and garden equipment, result in approximately 22 tons per day of NO<sub>x</sub> (Figure 2-2).

In recent years project developers and local jurisdictions have actively explored and implemented innovative policies that reduce emissions. One recent example includes the Net Zero Newhall Ranch development project located in the Santa Clarita Valley of Los Angeles County. The project is committed to reducing or mitigating the project's greenhouse gas emissions to zero. While net-zero greenhouse gas emission projects do not necessarily target NO<sub>x</sub> emission reductions they may provide quantifiable co-benefits of NO<sub>x</sub> and other criteria pollutant emissions. Another example includes Clean Construction policies used by LA Metro, LAX, and the Ports. These policies generally provide a step-down approach, where project developers must use Tier 4 final equipment, but are allowed to use lower tiered equipment if certain criteria are met (such as an inability to identify any manufacturers of a particular type of Tier 4 final equipment). While these policies reduce emissions for these specific projects, it is unclear if these are SIP creditable due to the complexity of determining if they are surplus emission reductions. Finally, as part of the California Environmental Quality Act (CEQA) process, some projects have chosen to contribute money to an air quality mitigation fund that would be used to incentivize the purchase and use of cleaner equipment elsewhere.

Several air districts throughout the state have adopted ISRs to address emissions from new and redevelopment projects.<sup>1</sup> Common approaches in these rules include an emissions threshold test to determine the applicability of the rule, and mitigation fees and/or demonstrations that feasible mitigation measures have been implemented. Under state law, Districts must meet state air quality

---

<sup>1</sup> Air districts with ISR programs include: Colusa APCD, Great Basin Unified APCD, Imperial APCD, Mendocino APCD, and San Joaquin Valley APCD.



standards at the “earliest practicable date” using “every feasible measure” Health & Safety Code § 40913 and 40914]. SCAQMD is not required to adopt an ISR simply because another air district found it feasible. However, a demonstration of infeasibility may be required for this FBMSM in light of the actions taken by other air districts if SCAQMD does not pursue an ISR for this facility sector.

### **Voluntary Emission Reduction Strategies**

Based on the FBMSM Working Group process, SCAQMD staff proposes to further explore voluntary emission reduction strategies for new and redevelopment projects through a variety of new mechanisms, including a SCAQMD-administered CEQA air quality mitigation fund program and the development of new guidance that encourages the use zero-emission technologies in development projects. Under a CEQA air quality mitigation fund administered by SCAQMD, projects could voluntarily contribute funds that SCAQMD would use to fund emission reduction projects. The funds would be directed to cost-effective projects and could potentially be directed back to the community near the project or other priorities designated by the Board. Additionally, SCAQMD staff is proposing to continue collaborating with local utilities, local governments, and the state Energy and Public Utility Commissions to encourage more rapid growth of alternative fuel and/or electric vehicle charging infrastructure. This could also include policies that encourage zero-emission landscaping equipment. Finally, SCAQMD staff will update its CEQA handbook to encourage net-zero developments, installation of charging/fueling infrastructure, use of ZE lawn and garden equipment, and implementation of Clean Construction policies.

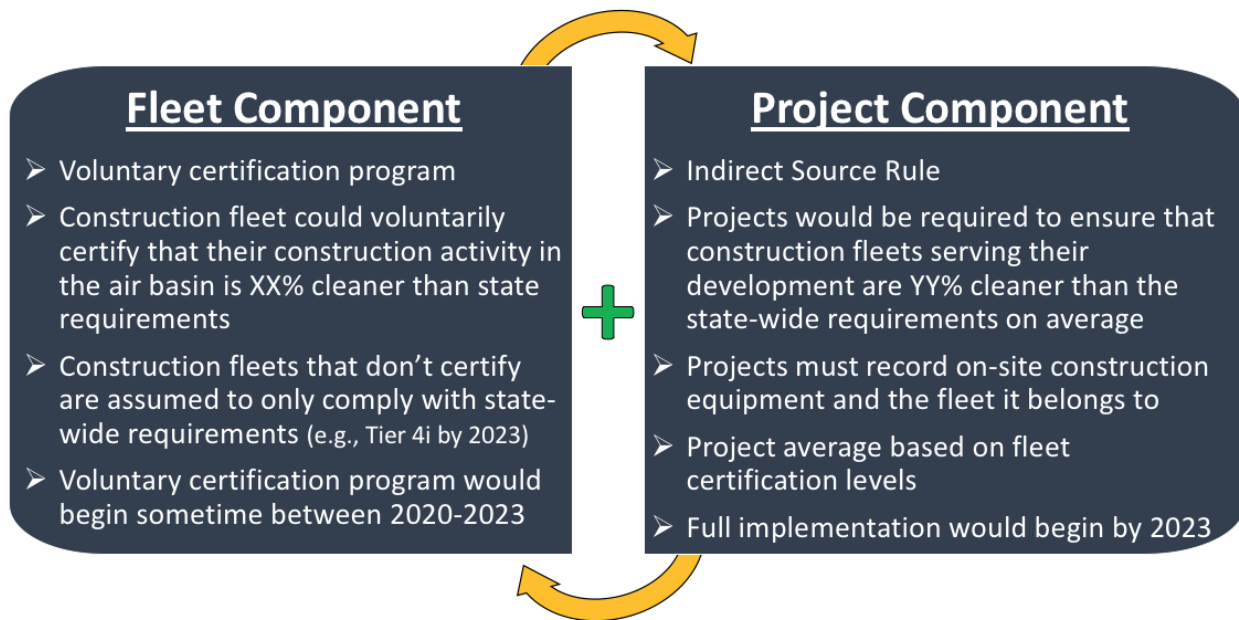
### **Regulatory Emission Reduction Strategies**

The voluntary emission reduction strategies for EGM-01 outlined above could provide important air quality benefits, however they are unlikely to provide substantial NO<sub>x</sub> emission reductions. Therefore, in addition to pursuing voluntary emission reduction strategies SCAQMD staff is proposing to develop an ISR focused on reducing construction emissions (i.e. the most significant source of emissions related to EGM-01). The ISR would be adopted by 2020 with a full phase-in of the ISR requirements by 2023. The ISR would likely focus on projects over a certain size or activity threshold, and would include several compliance options. Potential options could include a new voluntary fleet certification program coupled with a facility/project requirement to utilize at least some certified clean fleets (Figure 3-1), a mitigation fee option, crediting options for activities like installation of charging/fueling infrastructure, or other emission reduction measures.

The voluntary fleet certification program would be developed for construction equipment fleet operators, whereby fleet owners could voluntarily certify that their equipment has lower emissions than current regulatory requirements (e.g., more Tier 4 final equipment than required by CARB). Fleet operators electing not to participate would be classified as meeting existing CARB requirements. Based on feedback received from a construction industry representative, the voluntary fleet certification program could potentially include more flexibility by providing a ‘bubble’ over all of a fleet owner’s equipment such as trucks (subject to CARB’s Truck and Bus rule), construction equipment (subject to CARB’s In-Use Off-Road rule), and portable equipment (subject to CARB’s Portable Equipment Registration Program).



Figure 3-1: ISR Option Concept – Coupled Voluntary Fleet Certification + Facility/Project Requirement



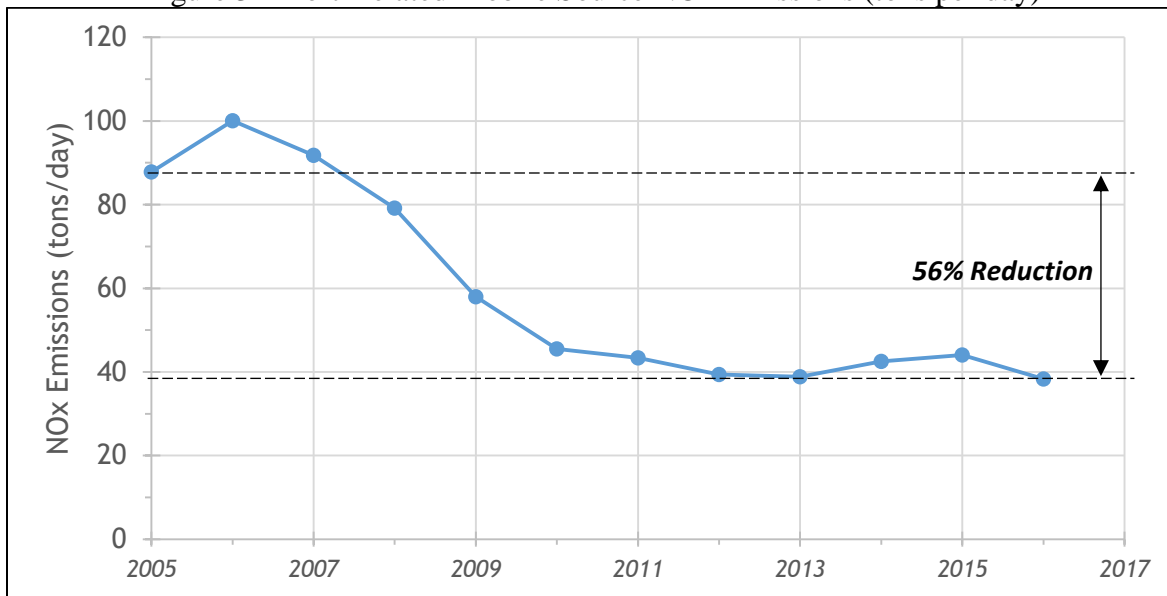
This concept would provide project proponents flexibility and avoid site specific requirements that could restrict a project's ability to use certain types of equipment that may not be readily available. Also, given that the certification program would be voluntary, construction fleets would remain eligible for incentive funding. Additionally, project proponents would not be required to track construction emission level compliance, instead they would be responsible for ensuring that a certified construction fleet(s) is used for the project that exceeds the statewide requirements by a specified level on average. For example, a construction fleet assigned to a project could vary in emission levels (i.e., any % above or below project ISR requirement) as long as the average of all fleets serving the project meet the ISR requirements. The ISR requirements could be supported by substantiating studies (e.g., cost-effectiveness, availability of incentives, feasibility, air quality needs, etc.), and could be modified as conditions change. The voluntary fleet certification program would also be available for other programs (e.g., CEQA mitigation, and other FBMSMs).

## COMMERCIAL MARINE PORTS (MOB-01)

### Background Discussion

The Ports are a significant source of emissions in the Basin and Port-related mobile sources are estimated to generate approximately 35 tpd of NO<sub>x</sub> emissions in 2023 (Figure 2-2). Port-related mobile source emissions have been reduced substantially since 2005 (Figure 3-2), largely due to measures adopted in the 2006 and 2010 Port Clean Air Action Plans (CAAP). The 2010 CAAP Update included a target of a 59% reduction in NO<sub>x</sub> between 2005 and 2023, a level that has nearly been reached today. In the most recent 2017 CAAP Update, the Ports kept this same target for NO<sub>x</sub>, however new targets were included for GHG reductions, including a 40% reduction by 2030 and an 80% reduction by 2050. Measures designed to achieve these new GHG targets should have a co-benefit of reducing NO<sub>x</sub> and other criteria pollutants.



Figure 3-2 Port-Related Mobile Source NO<sub>x</sub> Emissions (tons per day)

Through the FBMSM Working Group process SCAQMD staff worked closely with the Ports' staff to identify potential voluntary measures that could be pursued through SIP creditable mechanisms for existing Port commitments identified in the 2017 CAAP Update. In order to allow time for the 2017 CAAP Update to be implemented and because of the extensive work that has already gone into the development of the most recent 2017 CAAP Update the SCAQMD staff is proposing to, at this time, pursue the voluntary approach outlined below. If this voluntary approach is unsuccessful, a potential regulatory approach is described. Staff proposes to revisit the potential need for a regulatory approach in the 2019-2020 timeframe.

#### **Voluntary Emission Reduction Strategies for Commercial Marine Ports**

SCAQMD staff is proposing to continue to seek incentive-based emission reduction opportunities that could introduce cleaner ships at the Ports before 2023 and seek new technology development for ship engine retrofits. Additionally, staff recommends pursuing MOUs with the Ports for specific measures in the 2017 CAAP Update, including the updated Clean Truck Program and the CHE Procurement Planning. The purpose of these MOUs would be to ensure SIP creditable emission reductions. The MOUs could follow the pathway outlined in Figure 2-4, or another process that results in SIP creditable emission reductions.

#### **Regulatory Emission Reduction Strategies for Commercial Marine Ports**

Given the work that the Ports are conducting to implement the 2017 CAAP, the SCAQMD staff is not recommending developing an ISR to cover Port activities at this time. Instead staff is proposing to re-evaluate the proposed approach for Ports from 2019 to 2020 since the Clean Truck Program and CHE Procurement Planning measures in the CAAP have substantial implementation milestones during this timeframe.. Staff will continue to work with the Ports to successfully implement the elements of the 2017 CAAP.

In the event that the above recommended voluntary emission reduction strategies do not sufficiently advance the objectives of the 2016 AQMP commitments for control measure MOB-



01, SCAQMD staff would return to the Board to seek direction regarding the pursuit of a potential ISR for Ports. One potential concept that was explored with the Ports FBMSM Working Group included a rule that would apply to Port terminal operators. For this concept, terminal operators would be required to submit a detailed existing emissions inventory from all sources, submit a plan to reduce emissions from mobile sources associated with their facility and/or reduce emissions based on best management practices (e.g., either a measure-based or target-based approach). Also, facilities already achieving best-in-practice emission reduction strategies could have fewer or no new emission reduction requirements. If needed, the likely implementation milestones for a Port ISR would be in years 2023 and 2031 to coincide with key attainment dates. SCAQMD staff would explore the benefits/drawbacks of different regulatory approaches during future rulemaking if directed by the Board.

## **RAIL YARDS AND INTERMODAL FACILITIES (MOB-02)**

### **Background Discussion**

There are nine major freight rail yards and intermodal facilities located outside of the Ports and within the jurisdiction of the SCAQMD. In addition, the South California Regional Rail Authority (Metrolink) and Amtrak provide commuter rail transportation in the SCAQMD. Metrolink maintains their passenger locomotives at two locations in the Basin. A variety of emission sources are related to rail yard operations including locomotives, on-road heavy-duty trucks, cargo-handling equipment, transportation refrigeration units (TRUs), and maintenance shops, and each particular rail yard has a unique operational and emissions profile. While most of the emissions associated with rail yards in the inventory estimate shown in Figure 2-2 are from locomotives, the vast majority of these emissions do not occur in a rail yard itself, and are distributed throughout the rail network in the Basin as locomotives travel to their destinations.

The only significant requirements affecting freight locomotive emissions are US EPA requirements for locomotive engine manufacturers to produce Tier 4 engines starting in 2015, and for the two Class I railroad operators (UP and BNSF) to comply with the 1998 agreement with CARB to ensure that their average South Coast Air Basin locomotive fleet average emission rate is equivalent to or better than US EPA's Tier 2 standards. Without a regulatory requirement, significant turnover of the freight locomotive fleet to Tier 4 is not expected in the near future based on information from railroad representatives and recent media reports. Recent reporting from the railroads as part of the 1998 MOU shows that about 3% of locomotives are Tier 4 today. As a result, the assumption in CARB's locomotive inventory in the 2016 AQMP that ~40-50% of locomotives in the Basin will be Tier 4 by 2023 may need to be revisited, and emissions may be higher in the future than currently projected.

The District's regulatory authority pertaining to rail yards is different than for other facility types as it is subject to the Interstate Commerce Commission Termination Act (ICCTA)<sup>2</sup>. If an apparent conflict arises between ICCTA and another federal law (such as a rule in an US EPA-approved SIP), then the two laws must first be harmonized before the air quality rule can be enforced. State laws that are not in the SIP are also subject to ICCTA unless they are of general applicability and they do not unreasonably burden railroad activity.

---

<sup>2</sup> *Association of American Railroads v. SCAQMD*, 622 F. 3d 1094 (9<sup>th</sup> Cir. 2010)



### **Voluntary Emission Reduction Strategies**

Evaluating efficiency improvements such as facility reconfigurations or installation of emission control technologies like hood-type exhaust-capture devices at rail yards has been discussed in the FBMSM Rail Yards Working Group, however no specific commitment to pursuing these kinds of controls has been put forward by the railroad companies. Additionally, industry representatives noted possible fuel efficiency benefits from locomotive aerodynamic devices (yielding about a 1% reduction in fuel use during long haul operations). These voluntary strategies will continue to be pursued where feasible based on stakeholder input. SCAQMD staff is also open to exploring opportunities for a new agreement with rail companies to reduce emissions, such as accelerating the use of Tier 4 locomotives throughout the Basin, however the railroads have not expressed an interest in this approach thus far.

### **Regulatory Emission Reduction Strategies**

Staff recommends initiating rulemaking for an ISR for rail yards due to a limited potential for significant emission reductions from the above proposed strategies, and due to the historically poor air quality in communities near rail yards. One possible ISR approach could be a two-phased SCAQMD regulation which would first require rail yard-specific emissions inventories that cover all emission sources at a rail yard. The second phase could then require a percentage reduction in rail yard NO<sub>x</sub> emissions for future years, with key milestones likely in 2023 and 2031. As an alternative, the ISR could establish railroad-wide emission reduction targets provided measures were in place to reduce localized impacts. Many potential emission reduction alternatives are commercially available, and rail yards would develop programs tailored to their unique operating parameters. Based on working group discussions, compliance alternatives could include preferential routing of cleaner locomotives, use of cleaner switcher locomotives, installation of hood technologies to capture some locomotive exhaust emissions, ZE/NZE cargo handling equipment (CHE) and increased use of ZE transportation refrigeration units (TRU). Other compliance options could include establishment of a mitigation fees or use of truck fleet and construction equipment certification programs that are similar to those described under the warehouse distribution center and new development/redevelopment FBMSM categories. SCAQMD rail yard ISR efforts would also be coordinated with regulations proposed or developed by CARB. Depending on the rail yard ISR structure, any conflicts with other federal laws would require resolution before the rule could be enforced. Examples could include harmonization with the ICCTA, an EPA waiver (e.g., for an in-use engine standards), etc. Additionally, information gained through the ISR emissions reporting process would be used to refine the existing rail emissions inventory and may result in inventory adjustments if supporting information can be identified.

## **WAREHOUSE DISTRIBUTION CENTERS (MOB-03)**

### **Background Discussion**

Distribution centers and/or warehouses are facilities that serve as a distribution point for the transfer of goods. Depending on the size and type, a warehouse/distribution center may have hundreds of diesel trucks a day that deliver, load, and/or unload goods, often operating seven days a week. To the extent that these trucks are transporting perishable goods, they are commonly equipped with diesel-powered transport refrigeration units (TRUs). In addition, cargo handling equipment such as forklifts and yard tractors are used to move goods at warehouses. Warehouse employee commute trips also contribute to the overall emissions, however the estimate in Figure



2-2 shows that the majority of NO<sub>x</sub> emissions originate from heavy-duty diesel trucks<sup>3</sup>. Over the past decade, warehouse and distribution centers have been increasing rapidly in size and number throughout the region, and that rate of growth is projected to continue in the future. The greatest growth in warehouses/distribution centers has been in the Inland Empire, with reports of about 15 million square feet per year being added to the regional building stock.

### **Voluntary Emission Reduction Strategies**

Similar to the potential voluntary measures described for the new development/redevelopment FBMSM category, establishment of a SCAQMD-administered CEQA air quality mitigation fund would allow warehouse development projects to opt-in to paying into a mitigation fund to reduce construction or operational emissions. Under the program, collected mitigation fees would be used to reduce NO<sub>x</sub> emissions, such as through financial incentives for fleet owners to purchase cleaner trucks. Another voluntary measure discussed involved working with the California Energy Commission (CEC), the Public Utilities Commission (PUC), and utilities to expand alternative fueling/electric vehicle charging infrastructure for heavy duty vehicles, especially targeting warehousing areas with high levels of truck activity. Establishment of a “Green Delivery Option” was also discussed as a potential voluntary measure to reduce warehouse distribution center NO<sub>x</sub> emissions. This proposal would involve a small, voluntary opt-in surcharge for consumers when purchasing goods online and funds generated would be used to reduce truck fleet emissions. Efforts to reduce truck fleet emissions must include a continued focus on costs, and on ways to potentially reduce costs and ensure equitable access to cleaner technologies. Other potential strategies such as additional funding programs, alternative financing mechanisms, and truck exchange programs with areas outside the Basin will also continue to be explored by staff.

While the strategies described above may result in air quality benefits and should be pursued, they are unlikely to produce significant SIP creditable emission reductions. In addition, due to the large number of warehouses in the Basin, a voluntary plan-based approach (e.g., CAAPs) for warehouses is infeasible. For these reasons, and to ensure a level playing field for all warehouses, staff is recommending a regulatory approach for this sector in addition to the voluntary strategies above.

### **Regulatory Emission Reduction Strategies**

Similar to the approach described for new/redevelopment projects, the warehouse distribution center ISR would provide several compliance options that facilities could choose to follow. One approach could include a voluntary fleet certification option for truck fleet owners coupled with a requirement ensuring fleets that serve their facility on average are cleaner than required by CARB regulations. The facility level would be set during rulemaking, and would be substantiated with evaluations of cost-effectiveness, the level of incentive funding, feasibility, air quality need, etc. As each of these factors change through time, the facility requirement could also change. These requirements would not preclude individual trucks or truck fleets that do not participate in the proposed voluntary fleet certification program from serving warehouse distribution centers since the proposed concept is seeking emissions reductions based on overall indirect source emissions generated by the warehouse distribution center. Other options could include a mitigation fee, crediting options for other activities like installation of charging/fueling infrastructure for cleaner trucks and TRUs, conversion of CHE to ZE technology, or other options developed during

---

<sup>3</sup> The estimate in Figure 2-2 for warehouses likely presents an upper end, conservative estimate of trucking emissions due to limited data availability and uncertainties for calculating a bottom-up inventory for this facility sector.



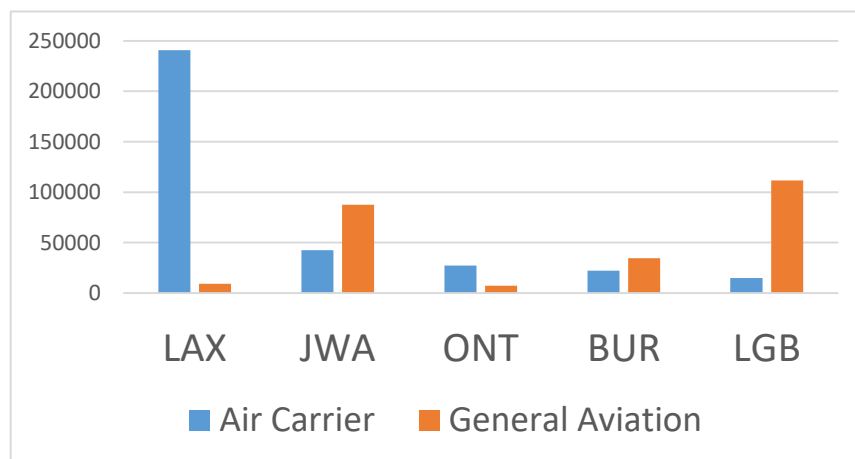
rulemaking. If an ISR is pursued, additional work would be needed to ensure that the options provided in the rule would be feasible with minimal if any modifications to the business practices used by warehouses (for example, many warehouses operators don't own their building or the truck fleets that serve them).

## COMMERCIAL AIRPORTS (MOB-04)

### Background Discussion

FBMSM MOB-04 focuses on the Basin's five commercial airports, including Los Angeles International Airport (LAX), John Wayne Airport (JWA), Ontario California International Airport (ONT), Hollywood Burbank Airport (BUR) and Long Beach Airport (LGB). While aircraft are not the only source of emissions at airports, however, landing/take-off (LTO) data provides a considerable level of information about airport facilities' emissions (Integra, 2016). For example, LTO data can be a surrogate for the number of visitors thereby vehicle traffic volumes associated with an airport or the GSE needs of an airport. Figure 3-3 below, shows 2012 LTO data by aircraft type (air carrier [airline] and general aviation [non-airline]). As shown in the Figure, LAX has by far the largest number of air carrier LTOs while JWA and LGB have the greatest number of general aviation flights. Basin-wide emissions from commercial airport facilities result in approximately 24 tons per day of NO<sub>x</sub> (Figure 2-2), with aircraft producing about two-thirds of the emissions.

Figure 3-3. Landing Take-Off (LTO) Activity by Aircraft Type



Many policies that reduce emissions have been pursued by commercial airports have been implemented in recent years. For example, LAX has implemented alternative fuel policy for vehicles >8,500 pounds GVWR, a ground support equipment emission standard, an electric vehicle purchasing policy, a clean construction policy, gate electrification projects, and a new Landside Access Modernization Program to reduce emissions from passenger vehicles. JWA and Burbank have adopted mitigation measures under the California Environmental Quality Act (CEQA) such as policies for GSE electrification, gate electrification, and installation of electric vehicle chargers and support for alternatively fueled taxis and shuttles. LGB has also pursued similar measures through its LGB Green Airport program, including consolidated parking (which reduced the need for shuttles), GSE electrification, and installation of solar panels.



While aircraft make up a substantial portion of airport-related emissions it has become evident through the working group process that this source of emissions presents a particularly unique challenge given the existing regulatory landscape for aircraft and the nature of aircraft activity (e.g., interstate and international origins and destinations). The remaining (i.e., minus aircrafts) emissions from this facility sector are about 8 tons per day, with about 5 of those tons coming from trucks serving the cargo operations at LAX and ONT.

When the 2016 AQMP was adopted, the Board approved a motion to amend MOB-04 and directed staff to *“Undertake a stakeholder process and draft for our consideration an indirect source rule for commercial airports within the South Coast Basin by February 1, 2019 to control emissions of NOx, PM2.5, lead and diesel particulate matter from non-aircraft sources”*. Some of the Board discussion accompanying this amendment provided further direction, including a desire to let the airports prepare their own airport-specific Clean Air Action Plans (AirCAAPs). During the Airport FBMSM Working Groups, many stakeholders also expressed a concern that if airports are required to implement a measure (e.g., through a rule), they would be prohibited from seeking incentive funding, such as Voluntary Emission Low Emission Program or VALE or ZEV grants available from the Federal Aviation Administration.

At the request of many stakeholders, staff facilitated a discussion of how a potential MOU process could work in the most recent Airport Working Group. Key topics included preliminary key principles of an MOU process, potential elements of an MOU, and how the MOU process could work (see Figure 2-4 for an example). Key feedback received from stakeholders included: a strong desire by airports to pursue a measure-based approach instead of an emissions target-based approach, ensuring that the District commits to the emission reduction to the US EPA (e.g., through the MOU, or an alternate process if the MOU does not achieve the desired outcome) instead of the airports, avoiding additional processes where a citizen suit could be brought against airports, leaving aircraft emissions out of any AirCAAP and MOU, and not restricting airports ability to carry out projects, particularly in relation to general conformity.

### **Voluntary Emission Reduction Strategies**

Staff is recommending to pursue a voluntary MOU approach at this time because of the limited emissions reductions that may be available from the non-aircraft sources in this sector, the complications with regulating airports due to overlapping federal jurisdiction, the existence of many existing emission reduction programs, and the potential willingness of airports to enter into cooperative agreements.. SCAQMD staff is proposing that commercial airport operators in the Basin each develop their own AirCAAP. Given the unique challenges with reducing emissions from airports an AirCAAP would provide airport operators with a level of flexibility that is desirable to develop suitable emissions reduction strategies that avoid interference with the regulatory landscape of aircraft related activity and the day-to-day operations of commercial airports affected by national and global commerce. Key elements of the AirCAAP(s) would include a detailed emissions inventory of all sources both under direct and indirect airport control, emission reduction measures (e.g., incentives, fleet policies, etc.) and measurable goals. Airports would determine the appropriate public process and necessary approvals for their AirCAAPs.

As a potential component of each airports AirCAAP, or perhaps as a separate effort, the airports have expressed a desire to continue to pursue VALE/ZEV funding from FAA. This nationwide program provides competitive grants to airports in non-attainment areas for voluntary projects that



improve air quality. In the past ten years, total nationwide annual funding for this program has varied from about \$6 million to about \$37 million. In this time, only a single VALE grant has been provided to one of the five commercial airports in the Basin, a \$4 million grant to LAX to provide off-terminal gate electrification. Similar to the marine ports CAAP measure that requires terminal operators to submit a procurement plan for cargo handling equipment, one concept that has been explored is for all of the airports to put forward their proposed projects that may be eligible for VALE/ZEV funding. Collectively, the group of airports and the District could advocate to FAA to increase funding here, especially since this program is restricted to non-attainment areas, and our region faces unique air quality challenges compared to the rest of the nation.

In order to ensure that all five of the airports will agree to this approach, staff recommends reporting back to the Board no later than summer 2018. All five airports will be asked to provide written confirmation that they will pursue an AirCAAP, with a goal of approving the AirCAAP no later than January 2020. By mid-2020, the District and the airports would approve an MOU covering SIP creditable components of each airport's AirCAAP.

**Regulatory Emission Reduction Strategies**

For the reasons stated above, SCAQMD staff is not recommending pursuing development of an ISR for airports at this time. We believe that development of the AirCAAPs, combined with MOUs will provide a faster route to achieving emission reductions. However, in the event that the commercial airport CAAP and MOU approach does not appear workable, SCAQMD staff would recommend consideration of an airport ISR by February 1, 2019. One potential ISR concept could include a rule that mirrors the AirCAAP process outlined above. Commercial airports that would have previously identified emission reduction strategies through their own AirCAAP process and participated in an MOU would instead be required to prepare an airport-specific plan subject to a District rule to reduce emissions from all non-aircraft sources.



## SUMMARY OF STAFF RECOMMENDATION

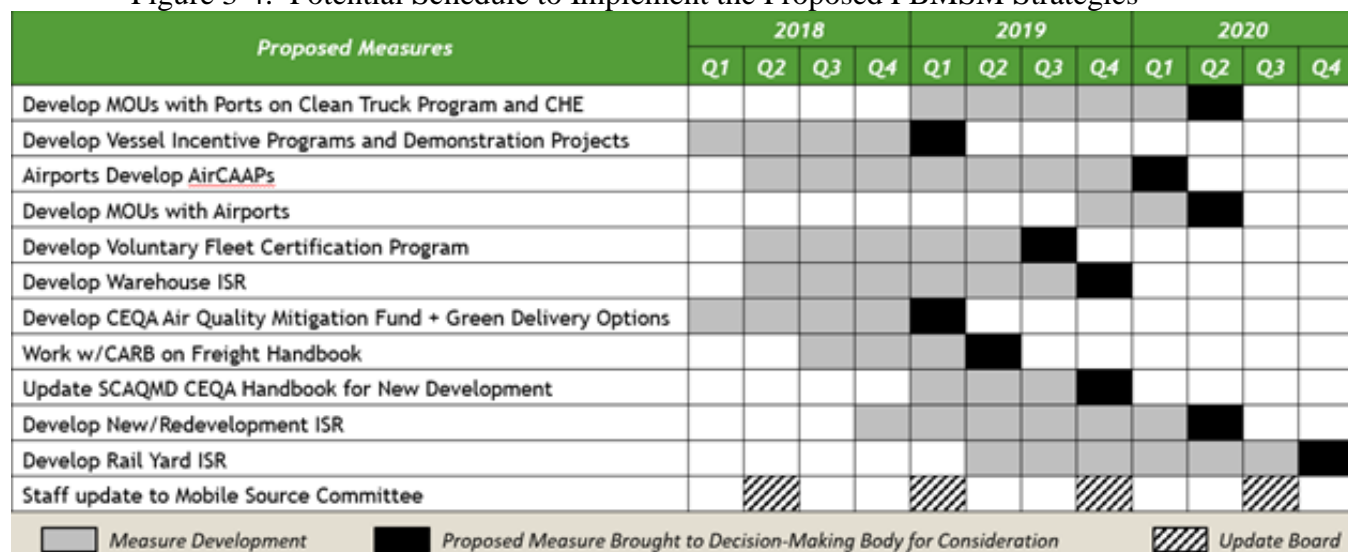
SCAQMD staff's proposed voluntary and regulatory emissions reduction strategies for each FBMSM adopted in the 2016 AQMP and discussed above are summarized in Table 3-1: Summary of FBMSM Voluntary and Regulatory Emission Reduction Strategies, below.

Table 3-1: Summary of FBMSM Voluntary and Regulatory Emission Reduction Strategies

FBMSM Facility Sector	Pursue <u>Voluntary</u> Measures Now?	Also Pursue <u>Regulatory</u> Measures Now?
<b>Ports</b>	<b>Yes</b>	<b>No</b>
<b>Airports</b>	<b>Yes</b>	<b>No</b>
<b>Warehouses</b>	<b>Yes</b>	<b>Yes</b>
<b>New / Redevelopment</b>	<b>Yes</b>	<b>Yes</b>
<b>Rail Yards</b>	<b>Yes</b>	<b>Yes</b>

**POTENTIAL SCHEDULE** SCAQMD staff proposes the schedule presented in Figure 3-4: to implement the proposed voluntary and regulatory emission reduction strategies discussed above.

Figure 3-4: Potential Schedule to Implement the Proposed FBMSM Strategies





## REFERENCES

---

Integra Environmental Consulting, Inc., 2016. Technical Assistance Related to Emission Inventories, Goods Movement and Off-Road Sources, Updated Aircraft Emission Inventory; August 2016

SCAQMD Final 2016 Air Quality Management Plan, Approved March 3, 2017.  
<http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp>

SCAQMD Facility-Based Measures website:  
<http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/facility-based-mobile-source-measures>

US EPA Guidance Documents Related to Obtaining SIP Credit from Voluntary Emission Reduction Programs:

-Diesel Retrofit SIP Programs (2014)

<http://nepis.epa.gov/Exe/ZyPDF.cgi/P100HP2S.PDF?Dockey=P100HP2S.PD>

-Energy Efficiency and Renewable Energy SIP Measures (2004)

[www.epa.gov/sites/production/files/2016-05/documents/ereseerem\\_gd.pdf](http://www.epa.gov/sites/production/files/2016-05/documents/ereseerem_gd.pdf)

-Improving Air Quality with Economic Incentive Programs (2001)

[www.epa.gov/sites/production/files/2015-07/documents/eipfin.pdf](http://www.epa.gov/sites/production/files/2015-07/documents/eipfin.pdf)

-Incorporating Bundled Measures in a SIP (2005)

[www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/20050816\\_page\\_incorporating\\_bundled\\_measure\\_sip.pdf](http://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/20050816_page_incorporating_bundled_measure_sip.pdf)

-Incorporating Energy Efficiency/Renewable Energy Policies and Programs into SIPs (2012)

[www.epa.gov/sites/production/files/2016-05/documents/eeremanual\\_0.pdf](http://www.epa.gov/sites/production/files/2016-05/documents/eeremanual_0.pdf)

-Voluntary Mobile Source SIP Programs (1997)

[www.epa.gov/sites/production/files/2016-05/documents/vmep-gud.pdf](http://www.epa.gov/sites/production/files/2016-05/documents/vmep-gud.pdf)

-Voluntary and Emerging SIP Measures (2004)

[www.epa.gov/sites/production/files/2016-05/documents/voluntarycontrolmeasurespolicyepa.pdf](http://www.epa.gov/sites/production/files/2016-05/documents/voluntarycontrolmeasurespolicyepa.pdf)



# 2016 AQMP Facility-Based Mobile Source Measures Draft Staff Recommendations

**Warehouse  
Distribution  
Centers**



**Commercial  
Airports**



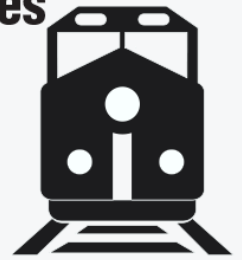
**New or  
Redevelopment  
Projects**



**Commercial  
Marine Ports**



**Railyard &  
Intermodal  
Facilities**



Governing Board Meeting  
March 2, 2018



# Background



- 5 Facility-Based Mobile Source Measures (FBMSM) included in 2016 AQMP
  - Airports, New/Redevelopment, Ports, Railyards, Warehouses
- Primary goal of FBMSM is to reduce NOx emissions
  - Assists in implementing CARB's Mobile Source Strategy "Further Deployment" control measures
    - Measures need to be defined and in place, or contingency measures need to be in place 3 years before attainment deadline
  - Federal Clean Air Act requires the District to meet the NAAQS "as expeditiously as practicable"
  - State law requires meeting the CAAQS at the "earliest practicable date" using "every feasible measure"



# CARB Mobile Source Activities

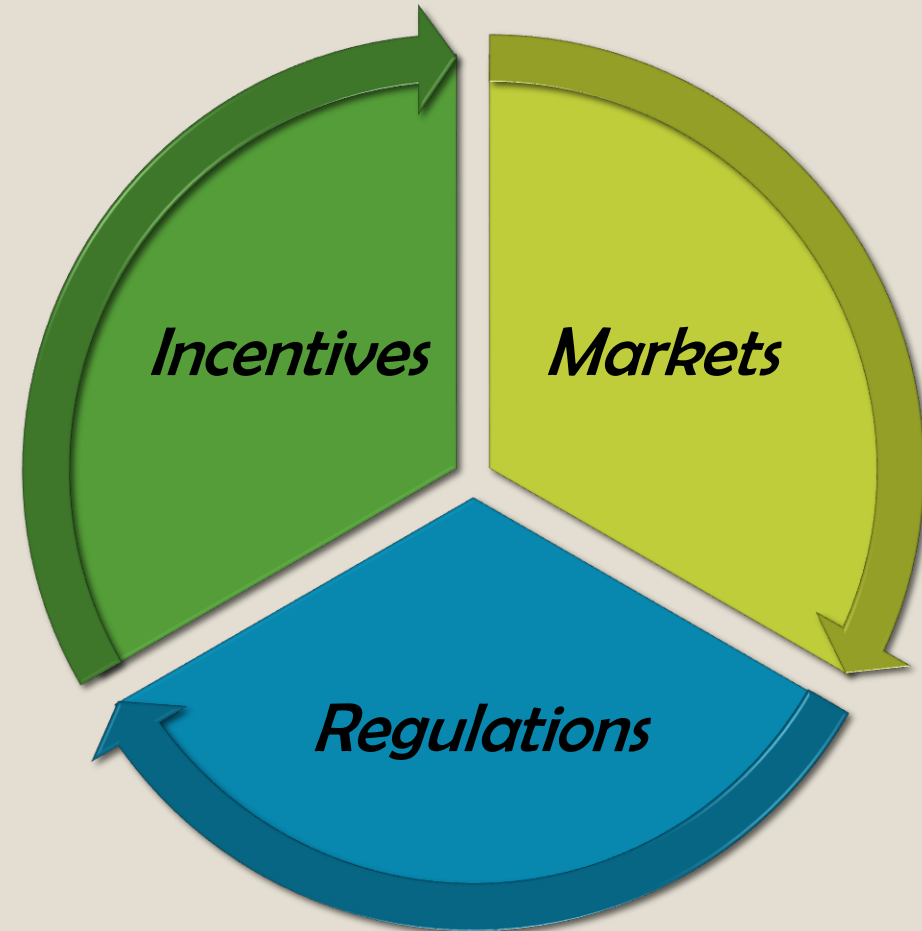
---

- Continued development of state mobile source strategy
- CARB staff will report to CARB Board on Indirect Source Rule concepts and alternatives on March 22
  - New measures proposed for large freight facilities
    - Regulatory approach focused on CARB's traditional mobile source and toxics ATCM authority
    - Measures will reduce NOx and other pollutants, but potential amount is not yet quantified
- CARB staff's proposed measures also take into account AB 617
  - Community focused approach



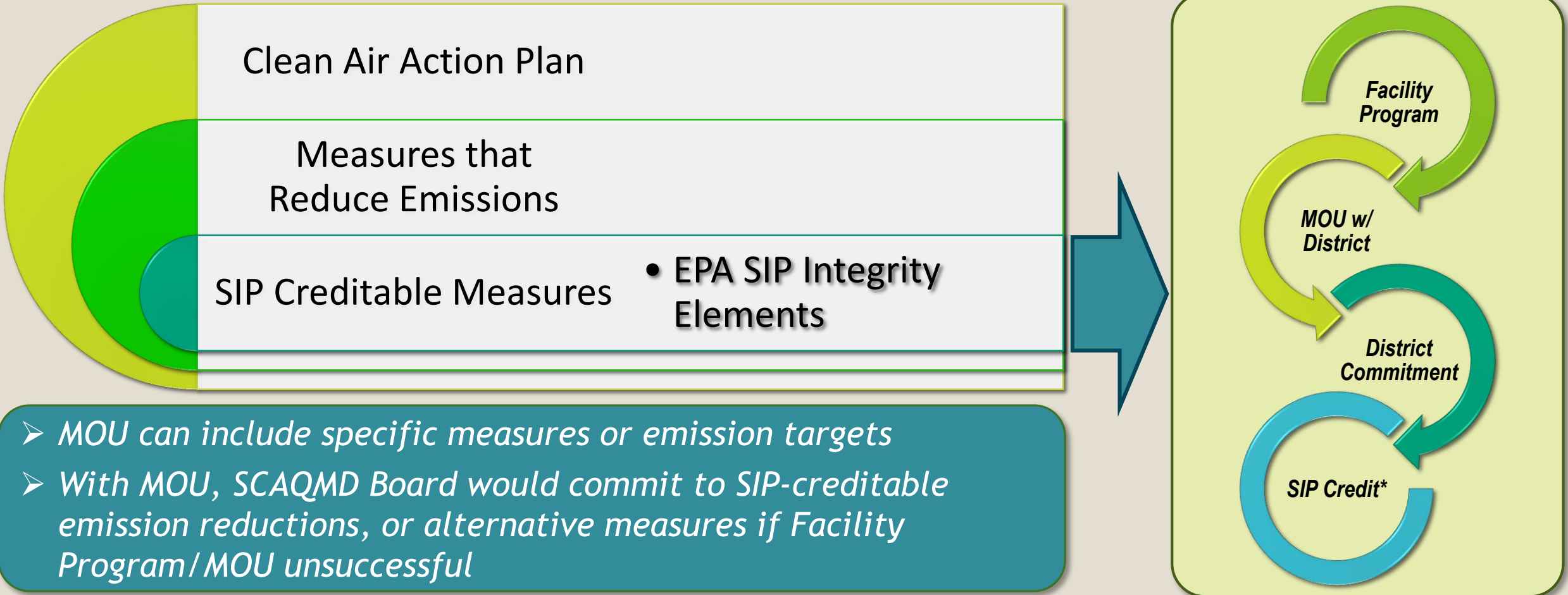
# Significant Emission Reductions Require Comprehensive Approach

- Strategies explored since adoption of 2016 AQMP are not sufficient to meet air quality standards:
  - Proposed CARB & EPA measures
  - Currently identified incentive funding
  - Proposed voluntary facility-based measures
- All strategies need to be pursued, including new voluntary measures and available regulatory authority where needed





# Potential MOU Approach for Clean Air Action Plans



*\*Subject to EPA Approval*



# Potential Regulatory Approach

## Multiple Compliance Options\*

Fleet Certification + ISR

Facility-  
Specific  
Credits

Mitigation  
Fee

Others?

Voluntary Fleet  
Certification

Facility ISR  
Requirement

Examples:  
-Infrastructure  
-Demonstration of  
equivalent measures

Funds used to  
incentivize  
reductions  
elsewhere



# Summary of Recommended Ports Approach

## Potential Voluntary Measures

- Pursue individual MOUs on specific CAAP measures
- Pursue introduction of cleaner vessels
  - Demonstrations, incentives, etc.

Continue to Pursue

## Key Factors in Evaluating Voluntary Approach

- Significant public process already conducted to develop CAAP Update
- CAAP Update needs opportunity to succeed

## Potential Regulatory Measures

- Do not pursue ISR now
- In 2019-2020, evaluate potential need for ISR if MOUs unsuccessful

Re-evaluate in 2019-2020



# Board Direction for Airports

---

- Board amendment to adoption of 2016 AQMP
  - *“Undertake a stakeholder process and draft for our consideration an indirect source rule for commercial airports within the South Coast Basin by February 1, 2019 to control emissions of NOx, PM2.5, lead and diesel particulate matter from non-aircraft sources”*
  - Board discussion on the amendment included allowing an opportunity for airports to develop their own Clean Air Action Plans



# Summary of Recommended Airports Approach

## Potential Voluntary Measures

- Pursue individual MOUs with each airport
  - Airport-specific Clean Air Action Plans (AirCAAP)
- Include explicit process for pursuing FAA VALE/ZEV funding

Continue to Pursue

## Key Factors in Evaluating Voluntary Approach

- Many emission reduction programs already in place at airports
- Opportunity for large emission reductions beyond existing programs limited

## Potential Regulatory Measures

- Do not pursue ISR now
- If not all airports agree to develop an AirCAAP and MOU, staff could develop ISR requiring AirCAAP
  - Report back to Board by summer 2018

Re-evaluate in 2018-2019



# Summary of Recommended Warehouses Approach

## Potential Voluntary Measures

- New CEQA Air Quality Mitigation Fund
- Warehouse Guidance Document
- Green Delivery options (e.g., opt-in fee to fund cleaner fleet)

Continue to Pursue

## Key Factors in Evaluating Voluntary Approach

- Limited emission reductions from proposed measures
- Large number of warehouses in basin

## Potential Regulatory Measures

- Indirect Source Rule with multiple compliance options
  - Level of control determined by Board based on:
    - Cost-effectiveness, air quality need, feasibility, etc.
- Focus on trucks & CHE

Continue to Pursue



# Summary of Recommended New/Redevelopment Approach

## Potential Voluntary Measures

- New CEQA Air Quality Mitigation Fund
- Update SCAQMD CEQA Handbook
- Continue to work with CEC, PUC, and utilities to expand charging/alt-fueling infrastructure

Continue to Pursue

## Key Factors in Evaluating Voluntary Approach

- Proposed voluntary measures would not substantially reduce NOx emissions
- Large number of development projects in basin

## Potential Regulatory Measures

- Indirect Source Rule with multiple compliance options
  - Level of control determined by Board based on:
    - Cost-effectiveness, air quality need, feasibility, etc.
- Focus on large construction projects

Continue to Pursue



# Summary of Recommended Rail Yards Approach

## Potential Voluntary Measures

- Staff open to new agreements/MOUs beyond existing 1998 & 2005 agreements

Continue to Pursue

## Key Factors in Evaluating Voluntary Approach

- No new voluntary measures proposed by stakeholders that would substantially reduce NOx emissions

## Potential Regulatory Measures

- Indirect Source Rule with multiple compliance options
  - Level of control determined by Board based on:
    - Cost-effectiveness, air quality need, feasibility, etc.
- Harmonization at federal level with ICCTA likely required

Continue to Pursue



# Summary of Staff Recommendation for FBMSM

---

FBMSM Facility Sector	Pursue <u>Voluntary</u> Measures Now?	Also Pursue <u>Regulatory</u> Measures Now?
<i>Ports</i>	Yes	No
<i>Airports</i>	Yes	No
<i>Warehouses</i>	Yes	Yes
<i>New / Redevelopment</i>	Yes	Yes
<i>Rail Yards</i>	Yes	Yes



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 33

**PROPOSAL:** Certify Final Subsequent Environmental Assessment and Amend Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces; and Recognize Revenue

**SYNOPSIS:** In 2009, Rule 1111 was amended to lower the NOx emission limit for natural-gas-fired fan-type residential furnaces. In 2014, Rule 1111 was amended to provide manufacturers additional time to develop and commercialize compliant units by allowing a mitigation fee option. Although three manufacturers have certified furnaces, only one has a commercialized product available for sale. Additional time is needed to commercialize a range of compliant units for the various categories. Proposed Amended Rule 1111 will increase and extend the mitigation fee alternative compliance option and will also prevent the installation of propane furnaces in the SCAQMD capable of being fired on natural gas without proper certification. A companion to the proposed rule amendments is a rebate program to encourage manufacturers to commercialize compliant furnaces and incentivize consumers to purchase them.

**COMMITTEE:** Stationary Source, November 17, 2017, January 19 and February 16, 2018; Reviewed

**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, Fan-Type Central Furnaces;
2. Amending Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces; and
3. Recognizing into the Air Quality Investment Fund (27), upon receipt of the increased amounts beyond the current mitigation fees paid by the furnace manufacturers, as potential funding for the Rule 1111 consumer rebate program.

Wayne Nastri  
Executive Officer



## **Background**

Rule 1111 - Reduction of NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces was adopted in December 1978 to reduce emissions of nitrogen oxides (NO<sub>x</sub>) from residential and commercial gas-fired fan-type space heating furnaces with a rated heat input capacity of less than 175,000 BTU per hour and applies to manufacturers, distributors, sellers, and installers of such furnaces. Rule 1111 was amended in 2009 to lower the NO<sub>x</sub> emission limit from 40 to 14 ng/Joule (ng/J), and was again amended in 2014 to include a mitigation fee option where manufacturers can pay a per-unit fee in lieu of meeting the 14 ng/J compliant limit. The mitigation fee is currently \$200 per unit for condensing furnaces and \$150 per unit for other types of furnaces. Under Rule 1111, the mitigation fee option will end between March 31, 2018 and September 30, 2018, depending on the unit type.

Currently, all manufacturers are paying the mitigation fee in lieu of meeting the 14 ng/J NO<sub>x</sub> emission limit for at least some of their products. However, three manufacturers have developed and certified furnaces meeting the 14 ng/J NO<sub>x</sub> limit and one of the three manufacturers, Lennox, commercialized their compliant non-condensing units in the size of 60,000, 80,000, and 100,000 btu/hr. Although there has been progress, additional time is needed to allow manufacturers to develop, test, and commercialize compliant units to ensure adequate choices for the consumer.

## **Public Process**

Prior to the rule development process for Proposed Amended Rule (PAR) 1111, staff held Task Force meetings which included all stakeholders on April 27, 2017 and May 25, 2017. When rule development formally commenced, staff held PAR 1111 working group meetings on July 27, 2017, September 21, 2017, November 15, 2017, and January 9, 2018. Staff held over 40 individual meetings with manufacturers prior to and during the rulemaking process to maintain confidentiality regarding technology development status. A Public Workshop was conducted on October 19, 2017.

## **Proposed Amendments**

Based on considerations of technology development, implementation status, stakeholder input, and the need to encourage development and sale of compliant products, PAR 1111 will maintain the 14 ng/J NO<sub>x</sub> limit with modifications to the mitigation fee.

Changes to the mitigation fee are as follows:

- Extending the mitigation fee alternative compliance option by 1.5 years for condensing furnaces, and one year for non-condensing and weatherized furnaces;
- Increasing the mitigation fee in two phases to a range of \$350 to \$450 for condensing furnaces and \$300 to \$400 for non-condensing and weatherized furnaces, depending on the furnace heat input capacity, of which the increased amount will potentially be utilized for additional funding of the companion consumer rebate program for compliant products; and



- Providing an exemption from the mitigation fee increase for units already committed in a contractual agreement.

PAR 1111 also includes an exemption for natural gas furnaces to be installed with a propane conversion kit for propane firing only that meets specific labeling and reporting requirements, and removes the 120-day lead time requirement for certification application submittal. Separate from the rule development, but related to implementation of Rule 1111, staff is developing a consumer rebate program for the purchase and installation of compliant furnaces in the SCAQMD to encourage consumers to purchase and manufacturers to commercialize compliant furnaces.

### **Key Issues**

Staff has worked with stakeholders throughout the rulemaking process to resolve a majority of their concerns. The following are the remaining key issues:

#### *Sell-through*

Some stakeholders requested a sell-through period beyond the end of the extended mitigation fee period. Staff believes that the mitigation fee functions in a similar manner as a sell-through provision. At the February 16, 2018 Stationary Source Committee meeting, the committee members recommended that staff report back to the Stationary Source Committee in 12 months and, if needed, staff can incorporate a 90-day sell-through provision in Rule 1111. The Resolution includes a commitment consistent with those recommendations.

#### *Tiered and phased mitigation fee approach*

Some stakeholders have commented that the mitigation fee approach is too complex while others have commented that the tiered and phase approach is manageable. The phased portion of the mitigation fee is to encourage manufacturers to develop compliant units before the second phase of the mitigation fee is implemented. The tiered portion of the mitigation fee reflects comments to lower fees for smaller units and mobile home units (lower income consumers) and increase fees for condensing units.

#### *Commercialization of Compliant Units*

One of the manufacturers has commented that the purpose of the mitigation fee and rebate should be to provide an incentive to commercialize and encourage purchase of compliant units. This manufacturer stated that the proposed mitigation fee in combination with the proposed rebate does not provide adequate support to manufacturers that are selling compliant units, especially non-condensing units. Staff believes that the mitigation fee increase which is \$150 to \$450, depending on the furnace type and heat input capacity combined with a consumer rebate of \$500 for the first 6,000 compliant units and thereafter providing a \$300 rebate for the remaining condensing furnaces and a \$200 rebate for the remaining non-condensing, weatherized, and mobile home furnaces is a substantial incentive to manufacturers. The proposed



rebate program will make compliant products more competitive in the market. Staff will closely monitor compliant unit sales, and return to the Board to recommend any necessary adjustments to the rebate program to help increase sales of compliant units, and increase the amount of money for the rebate program, if needed.

### **California Environmental Quality Act (CEQA)**

The proposed amendments to Rule 1111 are considered to be modifications to a previously approved project (the amendments to Rule 1111 in September 2014) and are considered to be a “project” as defined by the CEQA. Therefore, a Subsequent Environmental Assessment (SEA) is the appropriate CEQA document. The previous CEQA document to the SEA is publically available upon request and can be reviewed by calling the SCAQMD Public Information Center at (909) 396-2001 or by visiting SCAQMD’s website at [www.aqmd.gov](http://www.aqmd.gov). The direct link to this document is also referenced in the Final SEA. Based on staff’s review of PAR 1111, the proposed project has the potential to generate significant adverse operational air quality impacts but it would not generate significant adverse environmental impacts to any other environmental topic areas.

The Draft SEA was released for a 45-day public review and comment period from December 26, 2017, to February 9, 2018. Three comment letters were received and responses have been prepared. The comment letters and responses are included in an appendix to the Final SEA (Appendix D). Since the release of the Draft SEA, minor modifications were made to PAR 1111, and some revisions were made in response to verbal and written comments on the project’s effects. SCAQMD staff has reviewed the modifications to PAR 1111 and concluded that none of the modifications constitute significant new information or a substantial increase in the severity of an environmental impact, nor provide new information of substantial importance relative to the Draft SEA. In addition, revisions to PAR 1111 in response to verbal or written comments would not create new, significant effects. As a result, these revisions do not require recirculation of the CEQA document pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Thus, the Draft SEA has been revised to reflect the aforementioned modifications and to include the comment letters and responses to comments such that it is now a Final SEA and is included as an attachment to the Board package (Attachment H).

Prior to making a decision on the adoption of PAR 1111, the Board must review and certify the Final SEA as providing adequate information on the potential adverse environmental impacts that may occur as a result of adopting PAR 1111.



### **Socioeconomic Impact Assessment**

PAR 1111 would potentially affect the manufacturers of gas-fired fan-type furnaces, classified under the industry group 333 in the North American Industry Classification System (NAICS). However, none of these manufactures are located within the SCAQMD's four-county region. There are, however, many downstream businesses located within this region, including wholesalers and retailers of these furnaces (NAICS 423 and 444) and contractors that install or repair them (NAICS 238 and 811). Based on industry-wide data, a majority of the affected businesses in these downstream industries would be likely classified as a small business according to SCAQMD's Rule 102 definition. PAR 1111 is expected to be more economically advantageous to original equipment manufacturers (OEMs) selling non-compliant furnaces than the current rule, as it extends the alternative compliance period, during which non-compliant furnaces can still be sold within SCAQMD's jurisdiction, if an increased mitigation fee is paid. At the same time, those OEMs selling compliant furnaces are expected to benefit from the rebate program, which would lower the effective price and potentially increase the demand for their products. PAR 1111 is therefore found not to have adverse socioeconomic impacts additional to those that have been analyzed for the current rule.

### **Resource Impacts**

Existing staff resources are adequate to implement the proposed rule amendments. The companion rebate program will be implemented by a third-party contractor selected for RFP #P2018-05 with minimal staff resources required.

### **Attachments**

- A. Summary of Proposal
- B. Key Issues and Responses
- C. Rule Development Process
- D. Key Contacts List
- E. Resolution and Attachment 1 to the Resolution
- F. Proposed Amended Rule 1111
- G. Final Staff Report
- H. Final Subsequent Environmental Assessment
- I. Board Meeting Presentation



**ATTACHMENT A**  
**SUMMARY OF PROPOSAL**

**Proposed Amended Rule 1111 – Reduction of NO<sub>x</sub> Emissions From Natural-Gas-Fired,  
Fan-Type Central Furnaces**

Summary of Proposed Amendments

- Extend mitigation fee option by the schedule below:
  - Condensing (High Efficiency): 1.5 years (to October 2019)
  - Non-condensing (Standard): 1 year (to October 2019)
  - Weatherized: 1 year (to October 2020)
  - Mobile Home: No change (remains October 2021)
- Increase mitigation fee for non-compliant products based on size, and phase in over time as described in the PAR 1111 Table 2, summarized below:
  - Fee increase varies by size in three tiers ( $\leq 60$  kbtu/hr;  $> 60$  kbtu/hr and  $\leq 90$  kbtu/hr;  $> 90$  kbtu/hr)
  - Phase one (50% of total fee increase) effective on May 1, 2018, for condensing units and October 1, 2018, for others; Phase two (full fee increase ) effective on October 1, 2018, for condensing units and April 1, 2019, for others
  - No fee increase for mobile home units
  - Phase one payment is in addition to current payment schedule
- Exempt mitigation fee increase for units in a contractual agreement by OEMs or distributors for future or planned construction that was signed prior to January 1, 2018
- Exempt rule applicability for natural gas furnace to be installed with a propane conversion kit for propane firing only, with the defined labeling and reporting requirements
- Remove 120-day lead time requirement for certification application submittal



**ATTACHMENT B**  
**KEY ISSUES AND RESPONSES**

**Proposed Amended Rule 1111 – Reduction of NO<sub>x</sub> Emissions From Natural-Gas-Fired, Fan-Type Central Furnaces**

**Issue – Sell-through:** Some stakeholders requested a sell-through period beyond the end of the extended mitigation fee period.

**Response:** *Staff believes that the mitigation fee functions in a similar manner as a sell-through provision. At the February 16, 2018 Stationary Source Committee meeting, the committee members recommended that staff report back to the Stationary Source Committee in 12 months and, if needed, a 90-day sell-through provision could be added to Rule 1111. The Resolution includes a commitment consistent with recommendations.*

**Issue – Tiered and phased mitigation fee approach:** Some stakeholders have commented that the mitigation fee approach is too complex while others have commented that the tiered and phase approach is manageable.

**Response:** *The phased portion of the mitigation fee is to encourage manufacturers to develop compliant units before the second phase of the mitigation fee is implemented. The tiered portion of the mitigation fee reflects comments to lower fees for smaller units and mobile home units (lower income consumers) and increase fees for condensing units.*

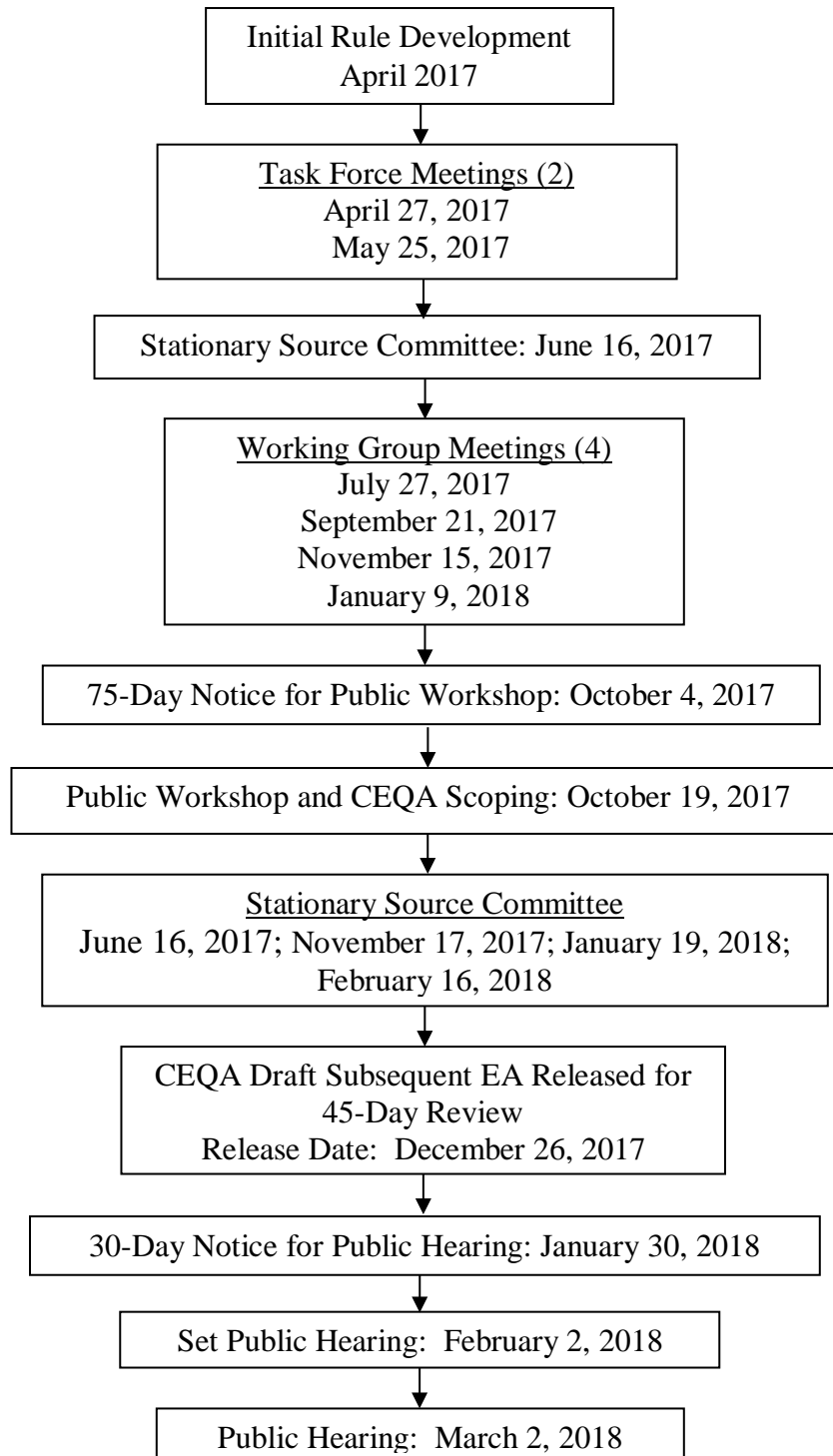
**Issue – Commercialization of compliant units:** One of the manufacturers has commented that the purpose of the mitigation fee and rebate should be to provide an incentive to commercialize and encourage purchase of compliant units. This manufacturer claims that the proposed mitigation fee in combination with the proposed rebate does not provide adequate support to manufacturers that are selling of compliant units, especially non-condensing units.

**Response:** *Staff believes that the mitigation fee increase which is \$150 to \$450, depending on the furnace type and heat input capacity combined with a consumer rebate of \$500 for the first 6,000 compliant units and thereafter providing a \$300 rebate for the remaining condensing furnaces and a \$200 rebate for the remaining non-condensing, weatherized, and mobile home furnaces is a substantial incentive to manufacturers. The proposed rebate program will make compliant products more competitive in the market. Staff will closely monitor compliant unit sells, making any necessary adjustments to the rebate program to help increase sales of compliant units, and increase the amount of money for the rebate program, if needed.*



**ATTACHMENT C**  
**RULE DEVELOPMENT PROCESS**

**Proposed Amended Rule 1111 – Reduction of NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces**



**Eleven (11) months spent in rule development**

**One (1) Public Workshop**

**Two (2) Task Force Meeting**

**Four (4) Working Group Meetings**

**Over 40 individual meetings with stakeholders**



**ATTACHMENT D**  
**KEY CONTACTS LIST**

Rheem Manufacturing

Goodman Manufacturing Company

Johnson Controls

Ingersoll Rand (Trane)

Lennox International Inc. (+Allied)

Nortek Global HVAC

Carrier Corporation

Bard Manufacturing

Beckett Gas, Inc.

Bekaert Combustion Technology

Lantec Products, Inc.

The Air Conditioning, Heating, and Refrigeration Institute (AHRI)

Gas Technology Institute (GTI)

Heating, Air-conditioning & Refrigeration Distributors International (HARDI)

Air-Tro

Howard Industries



## **ATTACHMENT E**

### **RESOLUTION NO.18\_\_\_\_\_**

**A Resolution of the SCAQMD Governing Board certifying the Final Subsequent Environmental Assessment (SEA) for Proposed Amended Rule 1111 - Reduction of NO<sub>x</sub> Emissions From Natural-Gas-Fired, Fan-Type Central Furnaces.**

**A Resolution of the South Coast Air Quality Management District (SCAQMD) Governing Board amending Rule 1111 - Reduction of NO<sub>x</sub> Emissions From Natural-Gas-Fired, Fan-Type Central Furnaces.**

**WHEREAS**, the SCAQMD Governing Board finds and determines with certainty that Proposed Amended Rule 1111 is considered a modification to a previously approved project (the amendments to Rule 1111 on September 5, 2014) and is considered to be a “project” as defined by the California Environmental Quality Act (CEQA); and

**WHEREAS**, the SCAQMD 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 Proposed Amended Rule 1111 pursuant to such program (SCAQMD Rule 110); and

**WHEREAS**, the SCAQMD Governing Board has determined that the requirements for a Subsequent Environmental Impact Report have been triggered pursuant to CEQA Guidelines Section 15162, and that a Subsequent Environmental Assessment (SEA), a substitute document allowed pursuant to CEQA Guidelines Section 15252 and SCAQMD’s certified regulatory program, is appropriate; and

**WHEREAS**, the SCAQMD staff has prepared a Draft SEA pursuant to its certified regulatory program and CEQA Guidelines Sections 15251, 15252, and 15162, setting forth the potential environmental consequences of Proposed Amended Rule 1111 and determined that the proposed project would have the potential to generate significant adverse environmental impacts; and

**WHEREAS**, the Draft SEA was circulated for a 45-day public review and comment period, from December 26, 2017 to February 9, 2018; and



**WHEREAS**, three comment letters were received relative to the analysis presented in the Draft SEA and responses were prepared for each individual comment in the letters. None of the comments in these comment letters identify an existing significant impact that is made substantially more severe or new potentially significant adverse impacts from the proposed project, and the Draft SEA has been revised to include the comments received on the Draft SEA and the responses, so that it is now a Final SEA; and

**WHEREAS**, it is necessary that the SCAQMD 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 adopting Proposed Amended Rule 1111, including the response to comments received relative to the Draft SEA; and

**WHEREAS**, it is necessary that the SCAQMD prepare Findings and a Statement of Overriding Considerations pursuant to CEQA Guidelines Sections 15091 and 15093, respectively, regarding potentially significant adverse environmental impacts that cannot be mitigated to insignificance; and

**WHEREAS**, Findings and a Statement of Overriding Considerations have been prepared and are included in Attachment 1 to this Resolution, which is attached and incorporated herein by reference; and

**WHEREAS**, no feasible mitigation measures were identified to reduce or eliminate the significant adverse operational air quality impacts to less than significant and, as such, a Mitigation Monitoring Plan pursuant to Public Resources Code Section 21081.6 is not required and was not prepared; and

**WHEREAS**, the SCAQMD Governing Board voting to adopt Proposed Amended Rule 1111 has reviewed and considered the information contained in the Final SEA, including responses to comments, the Findings, and the Statement of Overriding Considerations, and all other supporting documentation, prior to its certification, and has determined that the Final SEA document, including the response to comments received, has been completed in compliance with CEQA; and

**WHEREAS**, Proposed Amended Rule 1111 and supporting documentation, including but not limited to, the Final SEA and the Final Staff Report, were presented to the SCAQMD Governing Board and the SCAQMD Governing Board has reviewed and considered the entirety of this information, and has taken and considered staff testimony and public comment prior to approving the project; and



**WHEREAS**, the Board package includes the Final SEA and other supporting documentation, and this information was presented to the SCAQMD Governing Board and that the Board has reviewed and considered the entirety of this information before approving the staff recommendations; and

**WHEREAS**, the Final SEA reflects the independent judgment of the SCAQMD; and

**WHEREAS**, the SCAQMD 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 Section 15073.5 or 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**, the SCAQMD 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) of the Administrative Code), that the modifications which have been made to Proposed Amended Rule 1111 since notice of public hearing was published are not so substantial as to significantly affect the meaning of the proposed amended rule within the meaning of Health and Safety Code Section 40726 because: (a) the changes do not worsen the estimated NOx emission reductions foregone, (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 effects of Proposed Amended Rule 1111 do not exceed the effect of the range of alternatives analyzed in the CEQA document; and

**WHEREAS**, Proposed Amended Rule 1111 and supporting documentation, including but not limited to, the Final SEA, the Socioeconomic Impact Assessment, the Final Staff Report, and this March 2, 2018 Board letter were presented to the SCAQMD Governing Board and the SCAQMD Governing Board has reviewed and considered the entirety of this information, as well as has taken and considered staff testimony and public comment prior to approving the project; and

**WHEREAS**, the SCAQMD Governing Board has determined that there is a problem of limited product availability that Proposed Amended Rule 1111 will help alleviate by extending the alternate compliance option with accompanying mitigation fee increases, and providing limited exemptions for units encumbered in contractual agreements and for units to be converted and installed for propane firing only; and



**WHEREAS**, California Health and Safety Code Section 40727 requires that prior to adopting, amending, or repealing a rule or regulation, the SCAQMD 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 SCAQMD Governing Board has determined that a need exists to amend Rule 1111 to extend the alternate compliance option with accompanying mitigation fee increases, and providing limited exemptions for units encumbered in contractual agreement and for units to be converted and installed for propane firing only; and

**WHEREAS**, the SCAQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from Sections 39002, 40000, 40001, 40440, 40441, 40702, 40725 through 40728, 41508, and 41700 of the California Health and Safety Code; and

**WHEREAS**, the SCAQMD Governing Board has determined that Proposed Amended Rule 1111 is written or displayed so that its meaning can be easily understood by the persons directly affected by it; and

**WHEREAS**, the SCAQMD Governing Board has determined that Proposed Amended Rule 1111 is in harmony with, and not in conflict with or contradictory to, existing federal or state statutes, court decisions, or regulations; and

**WHEREAS**, the SCAQMD Governing Board has determined that Proposed Amended Rule 1111 does not impose the same requirements as any existing state or federal regulation and the proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the District; and

**WHEREAS**, the SCAQMD Governing Board has determined that Proposed Amended Rule 1111 references the following statutes which the SCAQMD hereby implements, interprets or makes specific: Health and Safety Code Sections 40001(a) (rules to meet air quality standards); 40440(a) (rules to carry out the plan); and 40702 (adoption of rules and regulations); and

**WHEREAS**, the SCAQMD Governing Board has determined that Proposed Amended Rule 1111 does not make an existing emission limit or standard more stringent, and therefore the requirements of Health and Safety Code Section 40727.2 are satisfied; and



**WHEREAS**, the SCAQMD Governing Board has determined that the Socioeconomic Impact Assessment, as contained in the Final Staff Report, of Proposed Amended Rule 1111 is consistent with the March 17, 1989, Governing Board Socioeconomic Resolution for rule adoption; and

**WHEREAS**, the SCAQMD Governing Board has determined that Proposed Amended Rule 1111 will not result in increased costs to the affected industries, as analyzed in the Socioeconomic Impact Assessment, as contained in the Final Staff Report; and

**WHEREAS**, the SCAQMD Governing Board has determined that the Socioeconomic Impact Assessment, as contained in the Final Staff Report, is consistent with the provisions of Health and Safety Code Sections 40440.8, 40728.5, and 40920.6; and

**WHEREAS**, the SCAQMD Governing Board has actively considered the Socioeconomic Impact Assessment, as contained in the Final Staff Report, and has made a good faith effort to minimize such impacts; and

**WHEREAS**, a public hearing has been properly noticed in accordance with the provisions of Health and Safety Code Section 40725; and

**WHEREAS**, the SCAQMD Governing Board has held a public hearing in accordance with all provisions of law; and

**WHEREAS**, the SCAQMD Governing Board specifies the Manager of Proposed Amended Rule 1111 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

**WHEREAS**, the SCAQMD Governing Board has determined that Proposed Amended Rule 1111 should be adopted for the reasons contained in the Final Staff Report; and

**NOW, THEREFORE, BE IT RESOLVED**, that the SCAQMD Governing Board does hereby certify that the Final SEA for Proposed Amended Rule 1111, including responses to comments and other supporting documentation, was completed in compliance with CEQA and Rule 110 provisions; and finds that the Final SEA was presented to the Governing Board, whose members reviewed, considered, and approved the information therein prior to acting on Proposed Amended Rule 1111 and finds that the Final SEA reflects the SCAQMD's independent judgment and analysis; and



**BE IT FURTHER RESOLVED**, that the SCAQMD Governing Board adopts the Findings and Statement of Overriding Considerations pursuant to CEQA Guidelines Sections 15091 and 15093, respectively, as required by CEQA and which are included in Attachment 1 to this Resolution and incorporated herein by reference; and

**BE IT FURTHER RESOLVED**, since no feasible mitigation measures were identified to reduce or eliminate the significant adverse operational air quality impacts to less than significant, a Mitigation Monitoring Plan pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097 is not required and was not prepared; and

**BE IT FURTHER RESOLVED**, that the South Coast Air Quality Management District Board directs the Executive Officer to fund NOx emission reduction projects or series of projects that will offset and mitigate the excess emissions from sale of non-compliant heating furnaces under the Rule 1111 mitigation fee alternate compliance plans using Fund 27 – Air Quality Investment Fund; and

**BE IT FURTHER RESOLVED**, that the South Coast Air Quality Management District Board directs the Executive Officer to recognize into Fund 27 (Air Quality Investment Fund) upon receipt \$200 of the mitigation fee from the sale of each non-compliant condensing unit and \$150 of the mitigation fee from the sale of each other non-compliant unit paid by heating furnace manufacturers and designate those funds for projects to mitigate excess emissions from the sale of non-compliant furnaces pursuant to Proposed Amended Rule 1111(c)(5); and

**BE IT FURTHER RESOLVED**, that the South Coast Air Quality Management District Board directs the Executive Officer to recognize into Fund 27 upon receipt the incremental amount beyond the \$200 mitigation fee for each condensing unit and the \$150 mitigation fee for each other unit paid by the furnace manufacturers as funding for the Rule 1111 rebate program; and

**BE IT FURTHER RESOLVED**, that the South Coast Air Quality Management District Board directs staff to report on the status of compliant furnaces and the effectiveness of the exemption for propane-fired units to the Stationary Source Committee no later than February 15, 2019. This report shall include, but not be limited to, an assessment of the quantity and range of available compliant furnace models within the SCAQMD. If necessary, this report will include recommendations to further enhance the sale of compliant furnaces within the SCAQMD; and



**BE IT FURTHER RESOLVED**, that the South Coast Air Quality Management District Board directs staff to report to the Stationary Source Committee no later than February 15, 2019 regarding the potential need for a proposed rule amendment for a 90-day sell-through period for non-compliant products beyond the end of the mitigation fee; and

**BE IT FURTHER RESOLVED**, that the South Coast Air Quality Management District Board requests that Proposed Amended Rule 1111 be submitted into 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 1111 to the California Air Resources Board for approval and subsequent submittal to the U.S. Environmental Protection Agency for inclusion into the State Implementation Plan; and

**BE IT FURTHER RESOLVED**, that the SCAQMD Governing Board does hereby adopt, pursuant to the authority granted by law, Proposed Amended Rule 1111, as set forth in the Attachment F and incorporated herein by reference.

Dated: \_\_\_\_\_

\_\_\_\_\_  
Clerk of the Boards



<b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>
--

**Attachment 1 to the Governing Board Resolution for:  
Final Subsequent Environmental Assessment to the September 2014 Final Environmental  
Assessment for Proposed Rule 1111 – Reduction of NOx Emissions from Natural Gas-  
Fired, Fan-Type Central Furnaces**

**Findings and Statement of Overriding Considerations**

**SCAQMD No. 140722JI/12012017RB  
State Clearinghouse No: 2017121067**

**February 2018**

**Executive Officer**  
Wayne Nastri

**Deputy Executive Officer**  
**Planning, Rule Development and Area Sources**  
Philip Fine, Ph.D.

**Assistant Deputy Executive Officer**  
**Planning, Rule Development and Area Sources**  
Susan Nakamura

---

**Author:** Ryan Bañuelos Air Quality Specialist, CEQA

**Reviewed**  
**By:** Michael Krause Planning and Rules Manager, CEQA  
Barbara Radlein Program Supervisor, CEQA  
Tracy A. Goss, P.E. Planning and Rules Manager, Rule Development  
Gary Quinn, P.E. Program Supervisor, Rule Development  
Yanrong Zhu Air Quality Specialist, Rule Development  
Mary Reichert Senior Deputy District Counsel



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
GOVERNING BOARD**

**CHAIRMAN:** DR. WILLIAM A. BURKE  
Speaker of the Assembly Appointee

**VICE CHAIRMAN:** DR. CLARK E. PARKER, SR.  
Senate Rules Committee Appointee

**MEMBERS:**

MARION ASHLEY  
Supervisor, Fifth District  
County of Riverside

BEN BENOIT  
Mayor, Wildomar  
Cities of Riverside County

JOE BUSCAINO  
Councilmember, 15<sup>th</sup> District  
City of Los Angeles Representative

MICHAEL A. CACCIOTTI  
Councilmember, South Pasadena  
Cities of Los Angeles County/Eastern Region

JOSEPH K. LYOU, Ph. D.  
Governor's Appointee

LARRY MCCALLON  
Mayor, Highland  
Cities of San Bernardino County

JUDITH MITCHELL  
Mayor Pro Tem, Rolling Hills Estates  
Cities of Los Angeles County/Western Region

SHAWN NELSON  
Supervisor, Fourth District  
County of Orange

DWIGHT ROBINSON  
Councilmember, Lake Forest  
Cities of Orange County

JANICE RUTHERFORD  
Supervisor, Second District  
County of San Bernardino

HILDA L. SOLIS  
Supervisor, First District  
County of Los Angeles

**EXECUTIVE OFFICER:**  
WAYNE NASTRI



## TABLE OF CONTENTS

INTRODUCTION.....	1
SUMMARY OF THE PROPOSED PROJECT .....	2
SIGNIFICANT ADVERSE IMPACTS WHICH CAN BE REDUCED BELOW A SIGNIFICANT LEVEL OR WERE CONCLUDED TO BE INSIGIFICANT .....	3
POTENTIAL SIGNIFICANT ADVERSE IMPACTS THAT CANNOT BE REDUCED BELOW A SIGNIFICANT LEVEL .....	4
FINDINGS .....	5
STATEMENT OF OVERRIDING CONSIDERATIONS .....	6
MITIGATION MONITORING PLAN.....	7
CONCLUSION .....	7



## **INTRODUCTION**

The proposed amendments to Rule 1111 - NO<sub>x</sub> Reductions From Miscellaneous Sources, are considered a “project” as defined by the California Environmental Quality Act (CEQA) (California Public Resources Code Sections 21000 et seq.). The SCAQMD, as Lead Agency for the proposed project, prepared a Subsequent Environmental Assessment (SEA) in lieu of an Environmental Assessment (EA), which analyzed new potentially significant adverse effects of operational air quality that may result from implementation of PAR 1111. Since PAR 1111 may have statewide, regional, or areawide significance, a CEQA scoping meeting is required (pursuant to Public Resources Code Section 21083.9(a)(2)) and was held at the SCAQMD’s headquarters in conjunction with the Public Workshop on October 19, 2017. No comments related to CEQA were made at the CEQA scoping meeting.

The Draft SEA was released for a 45-day public review and comment period from Tuesday, December 26, 2017, to Friday, February 9, 2018, at 5:00 p.m. During the public comment period, the SCAQMD received three comment letters relative to the Draft SEA. Comments received relative to the CEQA analysis in the Draft SEA have been responded to and are included in Appendix D of the Final SEA.

PAR 1111 contains amendments that revise existing requirements included in Rule 1111, as amended in September 2014, based on considerations of technology development and implementation status, stakeholders’ input, and the need to encourage development and sale of compliant products. In particular, PAR 1111 would increase the mitigation fee from \$200 for each non-compliant condensing furnace and \$150 each for all other non-compliant furnaces regulated under this rule to a two-phased mitigation fee increase that ranges between \$300 and \$450 based on the furnace type and heat input capacity for non-compliant condensing, non-condensing, and weatherized units. PAR 1111 would also extend the dates during which the mitigation fee may be paid in lieu of complying with the NO<sub>x</sub> limit for the following equipment categories: 1) condensing furnaces from April 1, 2018, to October 1, 2019; 2) non-condensing furnaces from October 1, 2018, to October 1, 2019; and 3) weatherized furnaces from October 1, 2019, to October 1, 2020. For mobile home units, there will be no increase in the mitigation fee or change in the mitigation fee option end date.

If the mitigation fee end dates are extended, PAR 1111 is expected to result in foregone NO<sub>x</sub> emissions reductions of 0.07 to 0.09 tons per day in 2018, 0.26 to 0.32 tons per day in 2023, and 0.26 to 0.32 tons per day in 2031, all of which exceed the SCAQMD’s regional air quality CEQA significance threshold for NO<sub>x</sub> during operation. Analysis of PAR 1111 indicates that the estimated NO<sub>x</sub> emission reductions that were originally projected to be achieved as part of the September 2014 amendments to Rule 1111 will be delayed. As such, SCAQMD staff has determined that PAR 1111 contains new information of substantial importance which was not known and could not have been known at the time the Final Environmental Assessment (EA) was certified for the September 2014 amendments to Rule 1111 (referred to herein as the September 2014 Final EA). However, aside from the topic of air quality, PAR 1111 is not expected to create new significant effects for any other environmental topic areas. Thus, analysis of the proposed project indicates that the type of CEQA document appropriate for the proposed project is a Subsequent Environmental Assessment (SEA), in lieu of an EA. The SEA is a substitute CEQA document, prepared in lieu of a Subsequent Environmental Impact Report (EIR) with significant impacts (CEQA Guidelines Section 15162(b)), pursuant to the SCAQMD’s Certified Regulatory Program (CEQA Guidelines Section 15251(l); codified in SCAQMD 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.

Further, pursuant to CEQA Guidelines Section 15252, since significant adverse impacts were identified, an alternatives analysis and mitigation measures are required. However, since PAR 1111 contains adjustments to mitigation fee end dates for certain types of residential and commercial gas-fired fan-type space heating furnaces and alternatives to the project that are either the ‘no project’ alternative, or different adjustments to the mitigation fee end date, NOx limit, or mitigation fee than what is proposed in PAR 1111 (see Chapter 5 of the Final SEA), the analysis in the Final SEA concluded that there are no feasible mitigation measures that would eliminate or reduce the significant adverse operational air quality impacts for NOx emissions to less than significant levels.

Subsequent to release of the Draft SEA, modifications were made to PAR 1111. Some of the revisions were made in response to verbal and written comments on the project’s effects. At the time the Draft SEA was released for public review and comment, the estimate of total NOx emission reductions foregone of 0.07 to 0.09 tons per day in 2018, 0.26 to 0.33 tons per day in 2023, and 0.26 to 0.33 tons per day in 2031 included an extension of the alternative compliance option for mobile home furnaces. However, subsequent to the release of the Draft SEA, the proposed project was modified to: 1) increase the mitigation fee in two phases to a range of \$300 to \$450, depending on the furnace type and heat input capacity; 2) extend the mitigation fee alternative compliance option by 1.5 years for condensing furnaces, and one year for non-condensing furnaces and weatherized furnaces; 3) provide an exemption from the mitigation fee increase for units encumbered in a contractual agreement by OEMs and distributors for new construction, if contracts were signed prior to January 1, 2018; 4) provide an exemption of rule applicability for natural gas furnaces installed with a propane conversion kit for propane firing only, with a defined labeling requirement; and 5) remove the 120 day lead time requirement for certification application submittal. The modifications to the mitigation fee alternative compliance option are expected to result in a minor reduction in the amount of foregone NOx emissions reductions from 0.33 tons per day in 2023 and 2031 to 0.32 tons per day in 2023 and 2031. The modifications to PAR 1111 since the release of the Draft SEA would result in less foregone NOx emissions; however the foregone NOx emissions would remain above the NOx significance threshold of 55 pounds per day. Staff has reviewed the modifications to PAR 1111 and concluded that none of the modifications constitute significant new information or a substantial increase in the severity of an environmental impact, nor provide new information of substantial importance relative to the draft document. In addition, revisions to PAR 1111 in response to verbal or written comments 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.

## **SUMMARY OF THE PROPOSED PROJECT**

SCAQMD staff is proposing to amend Rule 1111 to reflect recommendations made by stakeholders throughout the rule development process and to resolve technology development and implementation issues that have been raised by stakeholders. If adopted, PAR 1111 would further extend the end dates for the mitigation fee compliance option established in Rule 1111 for the following equipment categories: 1) condensing furnaces from April 1, 2018, to October 1, 2019; 2) non-condensing Furnaces from October 1, 2018, to October 1, 2019; and 3) weatherized



furnaces from October 1, 2019, to October 1, 2020. For mobile home units, there will be no increase in the mitigation fee or change in the mitigation fee compliance option end date. If the mitigation fee end dates are extended, PAR 1111 is expected to result in foregone NOx emissions reductions of 0.07 to 0.09 tons per day in 2018, 0.26 to 0.32 tons per day in 2023, and 0.26 to 0.32 tons per day in 2031, all of which exceed the SCAQMD's regional air quality CEQA significance threshold. As such, analysis of PAR 1111 in the Draft SEA identified potentially significant adverse environmental impacts in the topic of air quality, specifically operational air quality, as an area that may be adversely affected by the proposed project. However, the emissions reductions will eventually be achieved because existing furnaces will be eventually replaced and upgraded over time. In addition, the following changes that are proposed in PAR 1111 would:

- Increase the mitigation fee to a two-phased mitigation fee increase that ranges between \$300 and \$450 based on the furnace type and heat input capacity for non-compliant condensing, non-condensing, and weatherized units [see paragraph (c)(5) and Table 2 – Alternative Compliance Plan with the Phase One and Phase Two Mitigation Fee Schedule].
- Provide an exemption of rule applicability for natural gas furnaces installed with propane conversion kits for propane firing only, with a defined labeling requirement.
- Extend the mitigation fee alternative compliance option by 1.5 years for condensing furnaces, and one year for non-condensing furnaces and weatherized furnaces.
- Provide an exemption from the mitigation fee increase for units encumbered in a contractual agreement by OEMs and distributors for new construction, if contracts were signed prior to January 1, 2018.
- Remove the 120 day lead time requirement for certification application submittal.

In addition, a rebate program is separately proposed to incentivize the purchase of the lower emitting compliant furnaces on a more cost-competitive level. Other minor changes are also proposed for clarity and consistency throughout the rule.

#### **SIGNIFICANT ADVERSE IMPACTS WHICH CAN BE REDUCED BELOW A SIGNIFICANT LEVEL OR WERE CONCLUDED TO BE INSIGNIFICANT**

The September 2014 amendments to Rule 1111 provided manufacturers additional time to produce residential furnaces that meet the NOx emission limit of 14 nanograms per Joule (ng/J). Because the September 2014 amendments to Rule 1111 would not have had any significant adverse effects on the environment, SCAQMD staff prepared an environmental assessment with no significant impacts (e.g., the September 2014 Final EA). The September 2014 Final EA evaluated 17 environmental topic areas and only the topic of air quality and greenhouse gas emissions was identified as having the potential to be adversely affected if the September 2014 amendments to Rule 1111 were implemented. After an assessment of air quality and greenhouse gas emissions impacts was conducted, the September 2014 amendments to Rule 1111 were estimated to result in a delay of NOx emission reductions from October 1, 2014, until April 1, 2015, of up to 46 pounds per day, which is below the SCAQMD Mass Daily Air Quality Significance Threshold for operational NOx emissions (55 pounds per day). Thus, the September 2014 Final EA concluded that the impacts to air quality would be less than significant. All of the remaining 16 environmental topic areas were also concluded to have no significant or less than significant direct or indirect adverse effects.



The effects of implementing PAR 1111 would result in foregone NOx emissions reductions of 0.07 to 0.09 tons per day in 2018, 0.26 to 0.32 tons per day in 2023, and 0.26 to 0.32 tons per day in 2031, all of which exceed the SCAQMD Mass Daily Air Quality Significance Threshold for operational NOx emissions (55 pounds per day). As with the September 2014 Final EA for Rule 1111, the operational air quality impacts from implementing PAR 1111 are the only environmental topic area identified as having the potential to cause significant adverse environmental impacts. As such, no other environmental topic areas were required to be evaluated in the Final SEA. Thus, the PAR 1111 Final SEA is consistent with the conclusions reached in the previously certified document (e.g., the September 2014 Final EA) that aside from the topic of operational air quality, there would be no other environmental topic areas with significant adverse effects from implementing PAR 1111. Thus, PAR 1111 would have no significant or less than significant direct or indirect adverse effects on the following environmental topic areas.

- aesthetics
- air quality during construction and greenhouse gas emissions during construction and operation
- agriculture and forestry resources
- biological resources
- cultural resources
- energy
- 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 traffic

#### **POTENTIAL SIGNIFICANT ADVERSE IMPACTS THAT CANNOT BE REDUCED BELOW A SIGNIFICANT LEVEL**

The Final SEA identified the topic of operational air quality as the only area that may be significantly adversely affected by the proposed project.

##### Operational Air Quality Impacts

The air quality analysis for PAR 1111 in the Final SEA indicates that the operational air quality emissions associated with implementing PAR 1111 would exceed the SCAQMD's significant operational threshold for NOx (55 pounds per day). Thus, the operational air quality impacts from implementing PAR 1111 are considered to be significant. However, the NOx emission reductions



will be eventually achieved because existing units will be eventually replaced and upgraded over time. If significant adverse environmental impacts are identified in a CEQA document, the CEQA document shall describe feasible measures that could minimize the impacts of the proposed project. Adjustments to the mitigation fee end date for certain types of equipment are proposed in PAR 1111 because most OEMs do not yet have commercially available Rule 1111-compliant equipment. Consequently, the previously estimated NOx emission reductions in the September 2014 amendments to Rule 1111 have also not occurred. If compliant equipment were widely available on the market, PAR 1111 would not be necessary. By allowing manufacturers more time to develop compliant units as proposed in PAR 1111, the originally projected NOx emission reductions will continue to be delayed. PAR 1111 includes an extension of the mitigation fee compliance option, portions of which will be used to offset forgone emission reductions. A Request for Proposals (RFP) has been issued to solicit bids to utilize these funds for NOx emission reduction projects. Because no proposals in response to the RFP have been received and evaluated to date, the details and extent to which future projects will offset the foregone NOx emission reductions from PAR 1111 are unknown at this time. As such, aside from having compliant equipment available on the market, there are no feasible mitigation measures that would eliminate or reduce the significant adverse operational air quality impacts for NOx emissions to less than significant levels if PAR 1111 is implemented.

It is important to note that PAR 1111 focuses on reducing NOx emissions, and emissions of other criteria pollutants (e.g., CO, VOC, SOx, PM10, and PM2.5) and toxic air contaminants are not expected to change as a result of PAR 1111 compared with the current requirements for the affected sources under Rule 1111. Thus, PAR 1111 will not result in significant adverse operational air quality impacts for CO, VOC, SOx, PM10, PM2.5 and toxic air contaminants.

## **FINDINGS**

Public Resources Code Section 21081 and CEQA Guidelines Section 15091(a) state that no public agency shall approve or carry out a project for which a CEQA document has been completed which identifies one or more significant adverse 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. Additionally, the findings must be supported by substantial evidence in the record (CEQA Guidelines Section 15091(b)). As identified in the Final SEA and summarized above, the proposed project has the potential to create significant adverse operational air quality impacts. The SCAQMD 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 SCAQMD Governing Board are based on the following significant adverse impact identified in the Final SEA.

### **Potential NOx emission reductions foregone exceed the SCAQMD's applicable significance air quality thresholds and cannot be mitigated to insignificance.**

#### Finding and Explanation:

As explained earlier, except for NOx emissions, no other criteria pollutant or toxic air contaminant emissions exceed the SCAQMD's applicable significance thresholds during operation. Thus, PAR 1111 is concluded to result in adverse significant operational NOx air quality impacts.



The Governing Board finds that there are no feasible mitigation measures that would eliminate or reduce the significant adverse operational air quality impacts for NO<sub>x</sub> emissions to less than significant levels. 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 finds further that the Final SEA considered alternatives pursuant to CEQA Guidelines Section 15126.6, but, aside from the No Project Alternative, there are no other alternatives that would reduce to insignificant levels the significant air quality impacts identified for the proposed project and still achieve the objectives of the proposed project.

### Conclusion

The Governing Board finds that the findings required by CEQA Guidelines Section 15091(a) are supported by substantial evidence in the record. The administrative record for the CEQA document and adoption of the rule amendments is maintained by the Office of Planning, Rule Development and Area Sources. The record of approval for this project may be found in the SCAQMD's Clerk of the Board's Office located at SCAQMD headquarters in Diamond Bar, California.

### **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 significant 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, including region-wide or statewide environmental 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, including region-wide or statewide environmental 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 the potentially significant adverse operational NO<sub>x</sub> air quality impacts resulting 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 Decision for the proposed project.

Despite the inability to incorporate changes into the proposed project to mitigate potentially significant adverse operational air quality impacts to a level of insignificance, the SCAQMD's 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 NO<sub>x</sub> emission reductions delayed from the proposed project.



2. The potential significant adverse impacts from implementing PAR 1111 consist of a delay in achieving anticipated NOx emission reductions, and do not involve any emission increases of NOx or any other pollutant.
3. In consideration of the total net accumulated NOx emission reductions projected overall, the delay in NOx emission reductions would not interfere with the air quality progress and attainment demonstration projected in the AQMP. At the time of the September 2014 amendments to Rule 1111, the 2012 AQMP allocated one ton per day of NOx emissions in the state implementation plan (SIP) set aside account for every year starting in year 2013 to year 2030 in the event that NOx emission reductions were not achieved via rule adoptions or amendments. This NOx set aside account was re-evaluated and revised in the Final 2016 AQMP based on expected growth and the number of projects expected to take place in near future years to 2.0 tons per day for every year starting in year 2017 to year 2025 and 1.0 ton per day for every year starting in year 2026 to year 2031. As a result, even though PAR 1111 would delay NOx emission reductions, implementation of other control measures in the 2016 AQMP will provide human health benefits by reducing population exposures to existing NOx emissions. The cumulative air quality impacts from the proposed project and all other AQMP control measures, when considered together, are not expected to be significant because ongoing implementation of the control measures in both the 2012 AQMP and the 2016 AQMP is expected to result in net NOx emission reductions and overall air quality improvement.
4. The proposed project will help relieve certain affected industries of the compliance challenges currently being experienced with the existing Rule 1111 and will ensure that equipment manufacturers are not unnecessarily burdened with compliance costs.

The SCAQMD's Governing Board finds that the aforementioned considerations outweigh the unavoidable significant effects to the environment as a result of the proposed project.

#### **MITIGATION MONITORING PLAN**

When making findings as required by Public Resources Code Section 21081 and CEQA Guidelines Section 15091, the lead agency must adopt a reporting or monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment [Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097(a)]. However, SCAQMD found there are no feasible mitigation measures that would eliminate or reduce the significant adverse operational air quality impacts for NOx emissions to less than significant levels. Therefore, no mitigation monitoring plan has been developed for PAR 1111 at this time.

#### **CONCLUSION**

Based on a "worst-case" analysis, the potential adverse operational air quality impacts from the adoption and implementation of PAR 1111 are considered significant and unavoidable. No feasible mitigation measures have been identified that would reduce the significant adverse operational air quality impacts associated with implementing the PAR 1111 from the entire project to less than significant levels. Further, no project alternatives have been identified that would reduce these impacts to insignificance.



## ATTACHMENT F

(Adopted December 1, 1978)(Amended July 8, 1983)(Amended November 6, 2009)  
(Amended September 5, 2014)(PAR 1111 March 2, 2018)

### **PROPOSED AMENDED RULE 1111. REDUCTION OF NO<sub>x</sub> EMISSIONS FROM NATURAL-GAS-FIRED, FAN- TYPE CENTRAL FURNACES**

(a) Purpose and Applicability

The purpose of this rule is to reduce NO<sub>x</sub> emissions from ~~natural gas-fired, fan-~~type central furnaces, 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) 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) CONDENSING FURNACE means a high-efficiency furnace that uses a second heat exchanger to extract the latent heat in the flue gas by cooling the combustion gasses to near ambient temperature so that water vapor condenses in the heat exchanger, is collected and drained.
- (4) FAN--TYPE CENTRAL FURNACE is a self-contained space heater using natural gas, or any fan-type central furnace that is to be installed 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.
- (5) HEAT INPUT means the higher heating value of the fuel to the furnace measured as BTU per hour.



- (6) NO<sub>x</sub> EMISSIONS means the sum of nitrogen oxide and nitrogen dioxide (oxides of nitrogen) in the flue gas, collectively expressed as nitrogen dioxide.
- (7) RATED HEAT INPUT CAPACITY means the gross HEAT INPUT of the combustion device.
- (8) 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.
- (9) 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.
- (10) USEFUL HEAT DELIVERED TO THE HEATED SPACE is the AFUE (expressed as a fraction) multiplied by the heat input.
- (11) 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.
- (12) WEATHERIZED means designed for installation outside of a building, equipped with a protective jacket and integral venting, and labeled for outdoor installation.

(c) Requirements

- (1) A manufacturer shall not, after January 1, 1984, manufacture or supply for sale or use in the South Coast Air Quality Management District ~~natural gas-fired, 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 Air Quality Management District ~~natural gas-fired, fan-type~~ central furnaces unless such furnaces meet the requirements of paragraph (c)(3).
- (3) ~~Natural gas-fired, fan-type~~ central furnaces shall:
  - (A) not emit more than 40 nanograms of oxides of nitrogen (calculated as NO<sub>2</sub>) per joule of useful heat delivered to the heated space; and
  - (B) be certified in accordance with subdivision (d) of this rule.



- (4) On or after October 1, 2012, a person shall not manufacture, supply, sell, offer for sale, or install, for use in the South Coast Air Quality Management District, ~~natural gas-fired,~~ fan-type central furnaces subject to this rule, unless such furnace complies with the applicable emission limit and compliance date set forth in Table 1 and is certified in accordance with subdivision (d) of this rule.

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

\* Nanograms of oxides of nitrogen (calculated as NO<sub>2</sub>) per joule of useful heat delivered to the heated space

- (5) Any manufacturer of fan-type central furnaces regulated by this rule may elect to pay a per unit mitigation fee ~~of \$200 for each condensing, furnace and \$150 for each non-condensing, weatherized, or mobile home furnace distributed or sold into the SCAQMD~~ 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 SCAQMD, 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.- A manufacturer may elect to pay the per unit mitigation fee for a time period of no more than 36 months after the applicable compliance date in Table 1 of paragraph (c)(4).



Table 2 – Alternate Compliance Plan with the Phase One and Phase Two  
Mitigation Fee Schedules

<u>Furnace</u>		<u>Phase One Mitigation Fee</u>		<u>Phase Two Mitigation Fee</u>		<u>Phase Two Mitigation Fee Option End Date</u>
<u>Size Range</u>	<u>Furnace Category</u>	<u>Phase One Mitigation Fee Start Date</u>	<u>Phase One Mitigation Fee (\$/Unit)</u>	<u>Phase Two Mitigation Fee Start Date</u>	<u>Phase Two Mitigation Fee (\$/Unit)</u>	
<u>≤ 60,000 BTU/hr</u>	<u>Condensing</u>	<u><del>April 15</del> May 1, 2018</u>	<u>\$275</u>	<u>October 1, 2018</u>	<u>\$350</u>	<u>September 30, 2019</u>
	<u>Non-condensing</u>	<u>October 1, 2018</u>	<u>\$225</u>	<u>April 1, 2019</u>	<u>\$300</u>	<u>September 30, 2019</u>
	<u>Weatherized</u>	<u>October 1, 2018</u>	<u>\$225</u>	<u>April 1, 2019</u>	<u>\$300</u>	<u>September 30, 2020</u>
	<u>Mobile Home</u>	<u>October 1, 2018</u>	<u>\$150</u>	<u>April 1, 2019</u>	<u>\$150</u>	<u>September 30, 2021</u>
<u>&gt; 60,000 Btu/hr and ≤ 90,000 BTU/hr</u>	<u>Condensing</u>	<u><del>April 15</del> May 1, 2018</u>	<u>\$300</u>	<u>October 1, 2018</u>	<u>\$400</u>	<u>September 30, 2019</u>
	<u>Non-condensing</u>	<u>October 1, 2018</u>	<u>\$250</u>	<u>April 1, 2019</u>	<u>\$350</u>	<u>September 30, 2019</u>
	<u>Weatherized</u>	<u>October 1, 2018</u>	<u>\$250</u>	<u>April 1, 2019</u>	<u>\$350</u>	<u>September 30, 2020</u>
	<u>Mobile Home</u>	<u>October 1, 2018</u>	<u>\$150</u>	<u>April 1, 2019</u>	<u>\$150</u>	<u>September 30, 2021</u>
<u>&gt; 90,000 BTU/hr</u>	<u>Condensing</u>	<u><del>April 15</del> May 1, 2018</u>	<u>\$325</u>	<u>October 1, 2018</u>	<u>\$450</u>	<u>September 30, 2019</u>
	<u>Non-condensing</u>	<u>October 1, 2018</u>	<u>\$275</u>	<u>April 1, 2019</u>	<u>\$400</u>	<u>September 30, 2019</u>
	<u>Weatherized</u>	<u>October 1, 2018</u>	<u>\$275</u>	<u>April 1, 2019</u>	<u>\$400</u>	<u>September 30, 2020</u>
	<u>Mobile Home</u>	<u>October 1, 2018</u>	<u>\$150</u>	<u>April 1, 2019</u>	<u>\$150</u>	<u>September 30, 2021</u>

(C) ~~A manufacturer shall s~~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.

(DA) ~~Any manufacturer electing to comply using this mitigation fee option shall S~~submits to the SCAQMD an alternate compliance plan no later than 60 days prior to the applicable compliance date, ~~or no later than April 1, 2018~~ March 16, 2018 for the condensing furnace



compliance plan starting on April 15, 2018~~April 1, 2018, which~~that 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 SCAQMD during the alternate compliance period, which estimate shall be based on total distribution and sales records or invoices of condensing, non-condensing, weatherized or mobile home fan-type central furnaces that were distributed or sold into the SCAQMD during the 12 month period of July 1 to June 30 prior to the applicable compliance date, along with supporting documentation;
- (iii) a completed SCAQMD 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, section (c)).

~~(E)~~ ~~The manufacturer shall submit~~ 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 SCAQMD 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 SCAQMD during the alternate compliance period. The report and the payment of mitigation fees must be submitted to the SCAQMD 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 6-month 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 SCAQMD 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 SCAQMD and a check for payment of mitigation fees to the SCAQMD no later than October 30, 2019.

(d) Certification

- (1) The manufacturer shall have each appliance model tested in accordance with the following:
- (A) Oxides of nitrogen measurements, test equipment, and other required test procedures shall be in accordance with SCAQMD Method 100.1.
  - (B) Operation of the furnace shall be in accordance with the procedures specified in Section 4.0 of Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N.
- (2) One of the two formulas shown below shall be used to determine the nanograms of oxides of nitrogen per joule of useful heat delivered to the heated space:

$$N = \frac{4.566 \times 10^4 \times P \times U}{H \times C \times E}, \quad N = \frac{3.655 \times 10^{10} \times P}{(20.9 - Y) \times Z \times E}$$

Where:

N = nanograms of emitted oxides of nitrogen per joule of useful heat.



P = concentration (ppm volume) of oxides of nitrogen in flue gas as tested.

U = volume percent CO<sub>2</sub> in water-free flue gas for stoichiometric combustion.

H = gross heating value of fuel, BTU/cu.ft. (60°F, 30-in. Hg).

C = measured volume percent of CO<sub>2</sub> in water-free flue gas, assuming complete combustion and no CO present.

E = AFUE, percent (calculated using Table 2).

Y = volume percent of O<sub>2</sub> in flue gas.

Z = heating value of gas, joules/cu. meter (0.0°C, 1 ATM).

- (3) ~~At least 120 days prior to the date a furnace model is first shipped to a location in the SCAQMD for use in the District, the manufacturer shall submit to the Executive Officer the following~~ obtain Executive Officer's approval for the emission test protocol and emission test results verifying compliance with the applicable NO<sub>x</sub> limit specified in Table 1, submitting the following:

- (A) A statement that the model is in compliance with subdivision (c).  
(The statement shall be signed by a responsible official and dated, and shall attest to the accuracy of all statements.)
- (B) General Information
  - (i) Name and address of manufacturer.
  - (ii) Brand name.
  - (iii) Model number, as it appears on the furnace rating plate.
- (C) A description of the furnace and specifications for each model being certified.
- ~~(D) Executive Officer approved emission test protocol and emission test results verifying compliance with the applicable NO<sub>x</sub> limit specified in Table 1.~~

(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 Air Quality Management District for distribution or sale outside of the District shall have a label on the shipping container identifying the furnace as not certified for use in the District.
- (f) Enforcement
 

The Executive Officer may periodically conduct such tests as are deemed necessary to ensure compliance with subdivision (c), (d), and (e), ~~and (h)~~.
- (g) 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 Air Quality Management District 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 District, 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 ~~an OEM~~ or distributor for future or planned construction, the manufacturer shall be allowed to sell the units within the SCAQMD 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% 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 District;



- PAR 1111 – 9**



(C) The manufacturer of this type of unit which has been installed in the SCAQMD without meeting above requirements shall be in violation of SCAQMD Rule 1111.

~~(h) — Rebate Incentives for Early Compliance~~

~~Any manufacturer of natural gas fired, fan type central furnaces subject to this rule that distributes and sells into the District furnaces that comply with the 14 nanograms/Joule emission limit 90 days prior to the applicable compliance date in Table 1 of paragraph (c)(4) may submit a compliance plan for early compliance to the Executive Officer and to receive on a first come first served basis from the AQMD a rebate payment of \$75 for each 14 nanograms/Joule certified furnace and \$90 for each high efficiency 14 nanograms/Joule certified furnace with AFUE of 90% or greater distributed and sold into the District, provided funds are available on the date documentation on the number of units distributed and sold is submitted to the AQMD. Total rebate payments to all manufacturers shall not exceed \$3,000,000.~~

~~(i) — Technology Assessment~~

~~On or before April 1, 2013, the Executive Officer shall conduct a technology assessment and shall report to the Governing Board on the status of manufacturers' progress towards compliance with the 14 nanograms/Joule emission limit for nitrogen oxides.~~



## ATTACHMENT G

### SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

---

#### **Final Staff Report** **Proposed Amended Rule 1111 – NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces**

**March 2018**

#### **Deputy Executive Officer**

Planning, Rule Development, and Area Sources  
Philip Fine, Ph.D.

#### **Assistant Deputy Executive Officer**

Planning, Rule Development, and Area Sources  
Susan Nakamura

#### **Planning and Rules Manager**

Planning, Rule Development, and Area Sources  
Tracy A. Goss, P.E.

---

Author:	Yanrong Zhu – Air Quality Specialist
Contributors:	Anthony Oliver, Ph.D. – Air Quality Specialist Ryan Banuelos – Air Quality Specialist
Reviewed by:	Gary Quinn, P.E. – Program Supervisor Mary Reichert – Senior Deputy District Counsel



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
GOVERNING BOARD**

Chairman: DR. WILLIAM A. BURKE  
Speaker of the Assembly Appointee

Vice Chairman: DR. CLARK E. PARKER, SR.  
Senate Rules Committee Appointee

**MEMBERS:**

MARION ASHLEY  
Supervisor, Fifth District  
County of Riverside

BEN BENOIT  
Mayor, Wildomar  
Cities of Riverside County

JOE BUSCAINO  
Councilmember, 15<sup>th</sup> District  
City of Los Angeles Representative

MICHAEL A. CACCIOTTI  
Councilmember, South Pasadena  
Cities of Los Angeles County/Eastern Region

JOSEPH K. LYOU, Ph. D.  
Governor's Appointee

LARRY MCCALLON  
Mayor, Highland  
Cities of San Bernardino County

JUDITH MITCHELL  
Mayor Pro Tem, Rolling Hills Estates  
Cities of Los Angeles County/Western Region

SHAWN NELSON  
Supervisor, Fourth District  
County of Orange

DWIGHT ROBINSON  
Councilmember, Lake Forest  
Cities of Orange County

JANICE RUTHERFORD  
Supervisor, Second District  
County of San Bernardino

HILDA L. SOLIS  
Supervisor, First District  
County of Los Angeles

**EXECUTIVE OFFICER:**

WAYNE NASTRI



# TABLE OF CONTENTS

## EXECUTIVE SUMMARY

EXECUTIVE SUMMARY	ES-1
-------------------	------

## CHAPTER 1: BACKGROUND

INTRODUCTION	1-1
REGULATORY HISTORY	1-1
EQUIPMENT AND PROCESS	1-3
REQUIREMENTS AND TESTS FOR NEW TECHNOLOGY	1-3
AFFECTED INDUSTRIES	1-3
IMPLEMENTATION STATUS	1-4
TECHNOLOGY DEVELOPMENT STATUS	1-4
PUBLIC PROCESS	1-5

## CHAPTER 2: SUMMARY OF PROPOSED AMENDED RULE 1111

PROPOSED AMENDMENTS TO RULE REQUIREMENTS	2-1
--	-----

## CHAPTER 3: IMPACT ASSESSMENT

IMPACT ANALYSIS	3-1
COST EFFECTIVENESS	3-1
CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) ANALYSIS	3-2
SOCIOECONOMIC IMPACT ASSESSMENT	3-4
DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727	3-6
INCREMENTAL COST EFFECTIVENESS	3-7
COMPARATIVE ANALYSIS	3-7
CONCLUSION AND RECOMMENDATIONS	3-8

## REFERENCES

RESPONSE TO COMMENTS	i
----------------------	---



## **EXECUTIVE SUMMARY**

---



## EXECUTIVE SUMMARY

Rule 1111 reduces emissions of nitrogen oxides (NO<sub>x</sub>) from residential and commercial gas-fired fan-type ~~residential~~ space heating furnaces 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. The rule applies to manufacturers, distributors, sellers, and installers of such furnaces.

Rule 1111 was adopted by the SCAQMD Governing Board in December 1978 and amended in 1983, 2009, and 2014. The more significant changes included lowering the NO<sub>x</sub> emissions from 40 to 14 nanograms per Joule (ng/J) and providing an alternate compliance option.

As required by the 2009 amendment, the SCAQMD worked with the original equipment manufacturers (OEMs) to develop prototype residential furnaces that meet the new 14 ng/J NO<sub>x</sub> limit in Rule 1111. The technology assessment demonstrated the new lower Rule 1111 NO<sub>x</sub> limit was achievable. However, additional time would be needed to commercialize compliant furnaces. In the 2014 amendment, an alternative compliance option allows the OEMs to pay a per unit mitigation fee of \$200 for each condensing furnace and \$150 for each other type of furnace, in lieu of meeting the new lower NO<sub>x</sub> emission limit, for up to 36 months past the applicable compliance date.

Currently, all of the OEMs are using the alternate compliance option by paying the mitigation fee for at least some of their product line. However, compliant furnaces have been developed by three OEMs and certified by the SCAQMD to meeting 14 ng/J NO<sub>x</sub> limit. Furthermore, on December 4, 2017, one of the OEMs launched commercialization of their compliant products.

Based on considerations of technology development and implementation status, stakeholders' input, and the need to encourage development and sale of compliant products, SCAQMD staff recommends maintaining the 14 ng/J NO<sub>x</sub> limit and has proposed the following amendments for Rule 1111: (1) increasing the mitigation fee in two phases to a range of \$300 to \$450, depending on the furnace type and heat input capacity; (2) extending the mitigation fee alternative compliance option by 1.5 years for condensing furnaces, and one year for non-condensing and weatherized furnaces; (3) providing an exemption from the mitigation fee increase for units encumbered in a contractual agreement by OEMs and distributors for new construction developments, if contracts were signed prior to January 1, 2018; (4) providing an exemption of rule applicability for natural gas furnaces to be installed with propane conversion kits for propane firing only, with a defined labeling requirement; and ~~(4) preventing circumvention of the rule (i.e., propane furnaces)~~ (5) removing the 120 day lead time requirement for certification application submittal.

As a companion of the rule amendment, staff has also proposed to establish a rebate program for consumers who purchase and install compliant furnaces in the SCAQMD to benefit consumers and incentivize the purchase of lower emitting compliant furnaces. The SCAQMD Governing Board authorized issuance of Request for Proposal (RFP) #P2018-05 on December 1, 2017, to solicit proposals to administer the rebate program and will approve the proposal selection on March 2, 2018.



## **CHAPTER 1: BACKGROUND**

---

INTRODUCTION

REGULATORY HISTORY

EQUIPMENT AND PROCESS

REQUIREMENTS AND TESTS FOR NEW TECHNOLOGY

AFFECTED INDUSTRIES

IMPLEMENTATION STATUS

TECHNOLOGY DEVELOPMENT STATUS

PUBLIC PROCESS



## INTRODUCTION

The purpose of Rule 1111 – NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces is to reduce NO<sub>x</sub> emissions from residential and commercial gas-fired fan-type space heating furnaces 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. The rule applies to manufacturers, distributors, sellers, and installers of such furnaces. It requires manufacturers to certify that each furnace model offered for sale in the SCAQMD complies with the emission limit using specific test methods approved by the SCAQMD and U.S. EPA. The current rule provides manufacturers an alternate compliance option of paying a per-unit mitigation fee for up to 36 months past the applicable compliance date. Most single family homes, many multi-unit residences, and some small commercial building in the SCAQMD use this type of space heating equipment.

## REGULATORY HISTORY

Rule 1111 was adopted by the SCAQMD Governing Board in December 1978, addressing all sizes of space heating furnaces. The original rule required all residential and commercial space heating furnaces to meet a NO<sub>x</sub> emission limit of 40 nanograms per Joule (ng/J) of heat output (equivalent to 61 ppm at a reference level of 3% oxygen and 80% Annual Fuel Utilization Efficiency (AFUE)) beginning January 1, 1984. At the December 1978 rule adoption Hearing, a rule requirement that all space heating furnaces meet a 12 ng/J NO<sub>x</sub> emission limit by 1995 was considered by the Governing Board but not adopted.

Rule 1111 was later amended in July 1983 in order to limit applicability based on a unit's size and to exempt larger commercial space heaters. The rule amendment limited applicability to furnaces with a heat input 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. The July 1983 amendment also exempted units manufactured for use in mobile homes (manufactured housing), revised the definition of efficiency, and clarified testing procedures.

In November 2009, Rule 1111 was amended to be consistent with the objectives of the 2007 Air Quality Management Plan (AQMP) Control Measure CMB-03. The 2009 amendment established a new lower NO<sub>x</sub> emission limit of 14 ng/J (equivalent to 22 ppm at a reference level of 3% oxygen and 80% AFUE), and required the three major categories of residential furnace – condensing (high efficiency), non-condensing (standard), and weatherized – 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, had to meet a NO<sub>x</sub> limit of 40 ng/J by October 1, 2012, with a future limit of 14 ng/J on October 1, 2018. The new lower NO<sub>x</sub> emission limit of 14 ng/J reflects a 65% reduction from the then current limit of 40 ng/J. To facilitate the depletion of existing inventories and to ensure smooth transition to the new limits, Rule 1111 also provided a temporary 10-month exemption (a sell-through period) for units manufactured and delivered into the SCAQMD prior to the compliance date.



To encourage and accelerate technology development, the 2009 Rule 1111 amendment provided an incentive for early compliance with the 14 ng/Joule NO<sub>x</sub> emission limit, and a \$3 million fund was approved for this purpose. Manufacturers that delivered 14 ng/J furnaces into the SCAQMD prior to the applicable compliance date were given the opportunity to receive a payment of \$75 for each standard efficiency furnace and \$90 for each high-efficiency unit sold and delivered into the SCAQMD 90 days prior to the applicable compliance date. However, to date, no manufacturer has applied for this incentive.

The 2009 Rule 1111 amendment also required a technology assessment and status report to the Governing Board. This technology assessment evaluated both the feasibility of the new lower NO<sub>x</sub> emission limit and the rule implementation schedule. The SCAQMD Technology Advancement Office (TAO) initiated a Request for Proposals (RFP) to develop prototype residential furnaces that meet the new 14 ng/J NO<sub>x</sub> limit. The technology development projects were initiated in 2010 and completed in 2013. The total cost of the four projects was \$1,447,737 with \$447,737 provided by The Gas Company and \$50,000 provided by the San Joaquin Valley Unified Air Pollution Control District. The prototype furnaces developed through these four projects demonstrated that the new lower Rule 1111 NO<sub>x</sub> limit is achievable in all of the types of forced air residential heating furnaces produced for the United States market. However, additional time may be needed to commercialize 14 ng/J furnaces. This technology assessment was presented to the Governing Board meeting on January 10, 2014.

Rule 1111 was last amended in September 2014 to delay the compliance date for condensing furnaces and provide an alternate compliance option. The alternate compliance option allows manufacturers subject to Rule 1111 to pay a per unit mitigation fee of \$200 for each condensing furnace and \$150 for each other type of furnace distributed or sold into the SCAQMD, in lieu of meeting the new lower NO<sub>x</sub> emission limit. The mitigation fee alternative compliance option can be used for up to 36 months past the applicable compliance date. Depending on furnace type, the mitigation fee option will end, and the NO<sub>x</sub> limit of 14 ng/J will phase in, over the period from April 1, 2018, to October 1, 2021. Industry endorsed the mitigation fee approach. The 2014 amendment was State Implementation Plan (SIP) approved in March 2016, and the mitigation fee will be used to offset foregone emissions reductions.

In April 2016, the Air Conditioning Heating and Refrigeration Institute (AHRI) and OEMs met with SCAQMD staff asserting that safety and reliability concerns had prevented the development of a compliant unit for commercialization. In response, staff conducted a survey with manufacturers from May to July 2016 and have been closely monitoring the technology development status. Furthermore, staff has been meeting with individual stakeholders (eight OEMs, two burner manufacturers, and other interested parties) since March, 2017. Task Force meetings were held on April 27, 2017, and May 25, 2017, in which implementation status and rule recommendations were discussed. As a result of these investigations, it was found that all the OEMs are paying the mitigation fee for at least some of their product line; however, three OEMs have developed products complying with the Rule 1111 NO<sub>x</sub> 14 ng/J limit with field tests underway. Moreover, ~~one manufacturer indicated that they would have a compliant product commercially available prior to the 2017 winter season. On December 4, 2017, this one manufacturer (Lennox) launched production a product line of compliant products (non-~~



condensing units in the size of 60,000, 80,000, and 100,000 btu/hr), which are now commercially available.

## **EQUIPMENT AND PROCESS**

Fan-type gas-fired furnaces heat a building by circulating air from inside the building through the furnace. In a fan-type furnace, air is heated when it passes through a heat exchanger. Combustion gases heat up the inside of the heat exchanger, and building air moving past the outside of the heat exchanger removes heat from the outside surface. A blower (fan) pulls air through one or more intake ducts and pushes the air past the heat exchanger and through another set of ducts, which direct the heated air to different parts of the building. The heated air circulates through the building before it is again pulled into the intake ducts and re-heated. This process continues until a specific temperature is detected by a thermostat in the building, which then shuts off the furnace. When the temperature at the thermostat goes below a set point, the thermostat sends a signal for the furnace to turn on.

## **REQUIREMENTS AND TESTS FOR NEW TECHNOLOGY**

Gas furnaces in the United States must meet the ANSI Z21.47/CSA 2.3 standard referred as CSA certification, mainly to ensure safety. To be sold and installed in the SCAQMD jurisdiction, they must also be certified by the SCAQMD for Rule 1111 NOx emission limit compliance by specific test methods approved by the SCAQMD and U.S. EPA. OEMs also participate in AHRI certification program ~~for verification test of~~ to verify output heating capacity and annual fuel utilization efficiency. As gas furnaces should be installed according to building ~~h~~Heating, ventilation, and air conditioning (HVAC) requirements, manufacturers have training programs for installers. New technology may trigger additional training; however, one OEM that is proposing early commercialization expressed that there is no new field technical training required for their compliant products. For gas furnaces with new technology, OEMs conduct extensive internal lab testing, as well as field testing, to ensure safety and reliability. Staff understands that OEMs generally apply for NOx certification after internal lab testing, but may do it before or during any phase of field testing.

## **AFFECTED INDUSTRIES**

Proposed Amended Rule 1111 affects manufacturers (NAICS 333), distributors and wholesalers (NAICS 423), and retailers and dealers (NAICS 444) of residential and some commercial furnaces. Because heating units regulated by the rule are used in most residential and many commercial settings for heating small buildings, construction and building contractors and installers (NAICS 238 and 811) related to residential furnaces are also affected by PAR 1111. The Air Conditioning Heating and Refrigeration Institute (AHRI), the major manufacturer's trade organization, indicates that there are no manufacturers of fan-type gas-fired residential furnaces in the SCAQMD. However, these companies do maintain regional sales offices and distribution centers in the SCAQMD and there are manufacturers of other types of heating furnaces in the SCAQMD.



## IMPLEMENTATION STATUS

Except ~~for the~~ mobile home units, the compliance dates for all furnace types have expired. The compliance date for mobile home furnaces to meet the 14 ng/J NO<sub>x</sub> limit is October 1, 2018.

All the OEMs are currently using the alternate compliance option and paying the mitigation fee for at least some, if not all, of the condensing, non-condensing, and weatherized units in their product line; this alternative compliance option ends on April 1, 2018, October 1, 2018, and October 1, 2019, respectively. For mobile home units, OEMs have until October 1, 2021, to utilize the alternative compliance option.

## TECHNOLOGY DEVELOPMENT STATUS

On September 20, 2016, Rheem's natural gas fired furnace Model \*801TA070317UUA was determined to meet the 14 ng/J emission limit and thus was issued a Rule 1111 NO<sub>x</sub> certification by the SCAQMD. The evaluation was based on a source test conducted on June 1, 2016 (STE Source Test File Reference #R16314) with results indicating NO<sub>x</sub> emission of 7.0 ng/J. This unit is a non-condensing furnace with a maximum input rate about 70,000 btu/hr.

Since August 2016, Multicalor, a Belgium furnace manufacturer, has commercialized a line of Rule 1111 emission compliant furnaces (Udara furnace) in Belgium and Netherlands with six different capacities, ranging from 34,000 btu/hr to 170,000 btu/hr. Udara furnaces are single heater exchanger condensing furnaces, but can be redesigned into non-condensing compliant furnaces. Multicalor is in the process of introducing Udara furnaces to the United Kingdom market.

On August 15, 2017, Goodman's natural gas fired furnace base Models GMES960403BU\*\*, GMES960603BU\*\*, and GMES960805CU\*\* were issued Rule 1111 NO<sub>x</sub> certifications by the SCAQMD. The emission test conducted on model GMES960805CU (STE Source Test File Reference #17216) indicates NO<sub>x</sub> emissions of 3.8 ng/J. The certified furnace models cover condensing furnaces with maximum input rates of 40,000, 60,000, and 80,000 btu/hr.

On September 19, 2017, Lennox's four base Models SL280UH060NV36A-\*, SL280UH080NV48B-\*, SL280UH080NV60C-\*, and SL280UH100NV60C-\* were issued Rule 1111 NO<sub>x</sub> certifications by the SCAQMD. The emission test conducted on model SL280UH100NV60C-01 (STE Source Test File Reference #17303) indicates NO<sub>x</sub> emissions of 7.0 ng/J. The certified furnace models cover non-condensing furnaces with maximum input rates of 60,000, 80,000, and 100,000 btu/hr.

On December 4, 2017, Lennox launched their line of certified compliant products and made them commercially available for sale.



## PUBLIC PROCESS

The rule development effort for PAR 1111 is part of an ongoing process to evaluate low NOx technologies for combustion equipment. SCAQMD staff has held two Task Force meetings (on April 27, 2017, and May 25, 2017), and four Working Group meetings\* (on July 27, 2017, September 21, 2017, November 15, 2017, and January 9, 2018). The discussions at these meetings included technology development and rule implementation status, recommended changes to the rule, and incentive and public awareness programs. Ongoing individual meetings with stakeholders (eight OEMs, two burner manufacturers, and others) have also been held prior to and during the rulemaking process to maintain confidentiality regarding technology development status.

PAR 1111 has been discussed at the Stationary Source Committee (SSC) meetings on June 16, 2017, November 17, 2017, ~~and January 19, 2018,~~ and February 16, 2018. The Public Workshop was held on October 19, 2017. The Public Hearing for PAR 1111 is scheduled for March 2, 2018.

---

\* The District refers to a meeting with stakeholders prior to the rulemaking process as a Task Force meeting, and a meeting with stakeholders during the rulemaking process as a Working Group meeting.



## **CHAPTER 2: SUMMARY OF PROPOSED AMENDED RULE 1111**

---

### **PROPOSED AMENDMENTS TO RULE REQUIREMENTS**



## **PROPOSED AMENDMENTS TO RULE REQUIREMENTS AND A NEW REBATE PROGRAM**

Staff has some primary considerations with regards to the proposed amendments. First of all, OEMs have their development targeted at 14 ng/J, and all the compliant condensing and non-condensing furnaces are certified below 10 ng/J for NO<sub>x</sub>. It is also important to continue to maintain a competitive market among OEMs with adequate coverage, which will help ensure sufficient customer choices and more reasonably priced units. On the other hand, OEMs who have invested heavily and developed compliant products should be rewarded for the commercialization, not penalized if their compliant furnaces are unable to compete in a market of cheaper, noncompliant furnaces. Staff also considered the need to ensure that the compliant products adequately cover the size ranges. Additional considerations include ensuring safety and reliability with more testing, the fact that smaller furnaces may emit less, and the concern that many mobile home furnace consumers are low income. Lastly, in addition to the emission reductions needed for this area, there should be a clear path for the higher efficiency furnaces, as the application of high efficiency equipment is in line with the 2016 AQMP goal.

Based on these considerations and input from stakeholders, SCAQMD staff recommends maintaining the 14 ng/J NO<sub>x</sub> limit and has proposed the following amendments for Rule 1111.

### **Alternate Compliance Option Extension and Mitigation Fee Increase**

In lieu of meeting the lower NO<sub>x</sub> emission limit in Table 1 of subdivision (c), paragraph (c)(5) currently provides furnace manufacturers that are subject to Rule 1111 an option to pay a per unit mitigation fee for up to 36 months past the compliance date. As the compliance dates have expired for all but mobile home furnaces, all OEMs are utilizing the mitigation fee option for at least some, if not all, of condensing, non-condensing, and weatherized furnaces. This alternate compliance option will end on April 1, 2018, for condensing units; October 1, 2018, for non-condensing units; October 1, 2019, for weatherized units; and on October 1, 2021, for mobile home units.

OEMs have been most focused on the development of non-condensing units, followed by condensing units, weatherized units, and then mobile home units. To date, two OEMs have certified non-condensing units and one OEM has certified condensing units complying with the Rule 1111 NO<sub>x</sub> 14 ng/J limit with field tests at different stages. Furthermore, on December 4, 2017, one of the OEMs launched a line of compliant products (non-condensing units in the size of 60,000, 80,000, and 100,000 btu/hr) and has made them commercially available for sale in their SCAQMD distribution center. -Yet, considering customer choices and some other OEMs' request for additional heating seasons to conduct field testing to ensure safety and liability, staff proposes to extend the alternate compliance mitigation fee option.

The current mitigation fee is \$200 for each condensing furnace and \$150 for each non-condensing, weatherized, and mobile home furnace distributed or sold into the SCAQMD. Staff expected this fee not only to mitigate emission reduction delays but also to encourage commercialization of compliant products. All OEMs have been paying the mitigation fee and



passing the fee along the supply chain to consumers. When there were no compliant products available, the mitigation fee had not acted to motivate compliant product commercialization. With technology development maturing, one OEM has made compliant furnaces commercial available, while other OEMs are now able to project commercialization timelines for their compliant products. Consequently, the mitigation fee may serve a more effective purpose going forward, especially when the fee is increased for non-compliant products concurrent with a rebate program for compliant products.

On this basis, for the alternate compliance option, staff recommends a 1.5-year extension (ending on September 30, 2019) for condensing units, a 1-year extension (ending on September 30, 2019) for non-condensing units, a 1-year extension (ending on September 30, 2020) for weatherized units, and no extension (ending on September 30, 2021) for mobile home units. This extension provides assurance that there will be a variety of compliant products available to the consumer.

Staff also recommends increasing the mitigation fee in two phases for non-compliant condensing, non-condensing, and weatherized furnaces based on furnace heat input capacity (fee analysis included in the next section for rebate), according to the schedule set forth below in Table 2-1. There is no mitigation fee increase for mobile home furnaces. For condensing furnaces, manufacturers will continue to pay the current per unit mitigation fee of \$200 when the next compliance cycle starts on April 1, 2018, but will start the phase one fee on ~~April 15~~ May 1, 2018.



Table 2-1 – Alternate Compliance Plan with the Phase One and Phase Two  
Mitigation Fee Schedules

Furnace		Phase One Mitigation Fee		Phase Two Mitigation Fee		Phase Two Mitigation Fee Option End Date
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)	
≤ 60,000 BTU/hr	Condensing	<del>April 15</del> 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, 2020
	Mobile Home	October 1, 2018	\$150	April 1, 2019	\$150	September 30, 2021
> 60,000 Btu/hr and ≤ 90,000 BTU/hr	Condensing	<del>April 15</del> 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, 2020
	Mobile Home	October 1, 2018	\$150	April 1, 2019	\$150	September 30, 2021
> 90,000 BTU/hr	Condensing	<del>April 15</del> 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, 2020
	Mobile Home	October 1, 2018	\$150	April 1, 2019	\$150	September 30, 2021

❖ Please note that this table is referred to as Table 2 in PAR 1111

The alternate compliance plan cycle remains the same for each 12 month time period after the applicable compliance date in the rule. The OEMs continue to be required to submit an alternate compliance plan no later than 60 days prior to the applicable compliance date (beginning of each compliance plan period), and submit a report and payment for the actual sales of the compliance



plan period within 30 days after the end of the compliance plan period. However, an exception applies for sales of phase one period specified in above Table 2-1. The proposed amendment would require OEMs to pay mitigation fees for the phase one period no later than thirty (30) days after the end the phase one period, with the purpose of replenishing Rule 1111 rebate program fund in a more timely manner. Moreover, the final compliance plan for condensing units ends on September 30, 2019, ~~by in the proposal~~ proposed rule, covering only 6 months instead of the regular 12 months; therefore payment of the applicable mitigation fees would be due to the SCAQMD no later than October 30, 2019.

### **Rebate to End Users**

The mitigation fee by itself has not been effective enough to motivate technology development. In addition, based on information provided by some OEMs, ~~the~~ compliant products will be more expensive than non-compliant products, even if the mitigation fee for non-compliant products is increased as shown above in Table 2-1. In order to alleviate the resulting cost differential for customers between compliant and non-compliant products, and continue to encourage cleaner technologies, a rebate program\* has been supported in meetings by many of the OEMs. Some OEMs suggested that the District provides rebates to end users of up to \$400 or \$500.

Staff collected cost information from OEMs for analysis with regards to the rebate and mitigation fee change. To manufacturing a compliance furnace, the ~~medium~~ median cost increase for an OEM would be \$150 per unit regardless of furnace type. OEMs suggested the price markup through the supply chain to the consumer could be two or three times ~~of the~~ the manufacturing cost increase. Staff also referred to DOE's 2015 technical support document for ~~their~~ its residential furnaces energy efficiency program for overall price mark up. As a result, a price increase of \$500 per compliance furnace for customers was considered representative for subsequent analysis.

To fund a rebate program, staff has identified two sources. The first funding source is the \$3,000,000 authorized by the Board on November 6, 2009 (Agenda #30) from the Fund 27 Rule 1121 mitigation fee program. Since there had not been any compliant furnaces introduced into the market until recently, the fund remains intact. The other is the incremental mitigation fee as a result of the proposed Rule 1111 amendment to be adopted on March 2, 2018.

When compliant product annual sales make up 40% of the total annual sales market of approximately 150,000 in the SCAQMD, a rebate of \$200 to \$300 per compliant unit would require a mitigation fee increase of \$133 to \$300, not taking into consideration any market behavior variables. To support this estimate, staff also developed an economic optimization model characterized by a partial equilibrium of the market for furnaces in the South Coast Air Basin. This type of model can consider a single market with producers, consumers, and policy requirements and estimate the "equilibrium" price and quantity/sales, where producer supply is equal to consumer demand. The model was also developed based on the aforementioned cost and sales market information. In the modeling exercise, a 40-percent market share of compliant

---

\* It should be noted that the rebate program is not part of the proposed rule requirements.



furnaces would correspond to a rebate program that includes a rebate of \$300 per compliant unit and an increase in the mitigation fee by \$200 per non-complaint unit.

Staff proposes establishing a \$500 rebate for the first 6,000 compliant units utilizing the \$3,000,000 fund, and thereafter providing a \$300 rebate for the remaining condensing furnaces and a \$200 rebate for the remaining non-condensing, weatherized, and mobile home furnaces, which will be supported by the increased portion of the mitigation fee. Purchasers of compliant units will be eligible for rebates until the funds run out or six calendar months beyond the mitigation end date. Please note that the current mitigation fee (\$200 for condensing units and \$150 for others) is dedicated to mitigating forgone emission reductions that are delayed by using the alternate compliance plan. Therefore, only the incremental portion of the mitigation fee could be used to fund the rebate program.

The rebate program was suggested by the Working Group to be implemented via a third party contractor. On December 1, 2017, the Board authorized: (1) utilization of the \$3,000,000 fund previously allocated for Rule 1111 rebates, as well as any additional incremental mitigation fee funding from future Rule 1111 amendments (March 2, 2018); and (2) issuance of RFP #P2018-05 to solicit proposals for a third party contractor to administer the rebate program for consumers who purchase and install compliant furnaces in the SCAQMD. Subsequently, three proposals were received by the RFP close date of January 9, 2018. The proposal selection is to be presented to the Governing Board for approval on March 2, 2018. A contract is expected to be executed about one month later. Specifications of the rebate implementation may further be discussed with the Working Group prior to the contract execution.

In general, the OEMs are divided on staff's proposal on the mitigation fee and rebate amount.

### **Other Proposed Rule Changes**

Rule 1111 does not regulate propane fired furnaces (about 4% of residential heating in California). Some manufacturers sell 40 ng/J natural gas furnaces with propane conversion kits. With the conversion kit, natural gas furnaces can be converted to propane firing, and also back to natural gas firing. Some stakeholders have commented that, as the mitigation fee increases, there is a greater possibility for manufacturers to claim the sales of propane furnaces to avoid paying the mitigation fee, while the units are actually installed in the natural gas firing mode. Some other manufacturers have stated that establishing a separate production line for propane furnace would increase the manufacturing cost, eventually placing the burden on propane furnace consumers. On that basis, they have requested to be allowed to continue to sell 40 ng/J natural gas furnaces with propane conversion kits to convert natural gas furnaces to be operated with ~~to propane furnaces~~. To prevent rule circumvention, some stakeholders have suggested working with the supply chain to track and audit the installations with conversion kits, while others suggested labeling the unit for ~~dedication~~ dedicated ~~of~~ propane use only. In order to avoid significant cost increase for propane ~~firing~~ fired units while maintaining adequate rule enforceability, staff proposes to exempt from Rule 1111 requirements ~~for a~~ natural gas furnaces that is ~~are~~ not certified to meet- 14 ng/J of NOx emissions and ~~is~~ are ~~distributed with a propane conversion kit for the unit to be installed with a propane conversion kit for propane firing only,~~ provided that the labeling on the shipping carton ~~and or~~ and 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 SCAQMD Rule 1111. It is not certified to comply with SCAQMD Rule 1111 at natural gas firing mode." In addition, staff proposes that a reporting of the quantity of propane conversion kits distributed or sold into SCAQMD is to be provided along with the compliance plan report for the applicable period.

For furnaces that are subject to a contractual agreement, signed prior to January 1, 2018, by an OEM or distributor for ~~new construction development~~ future or planned construction, the manufacturer may be exempted from the proposed fee increase and only needs to pay the current mitigation fee to satisfy the alternate compliance plan. To qualify for this fee increase exemption, the OEM ~~should~~ must provide, along with the application: the contractual agreement for the units sold or to be sold in the District; quantity, model number, and serial number of the subject units; contract execution date; and names(s) of the contractor(s). The OEM must also demonstrate that the total quantity of furnaces identified in its exemption application(s) does not exceed 15% of the total number of furnaces distributed and sold in the previous compliance plan period.

Rule 1111 paragraph (d)(3) requires at least 120 days prior to the date a furnace model is first shipped to the SCAQMD for certification application submittal. This requirement is no longer feasible at promoting quick commercialization of compliant products. Staff proposes to remove this 120 day lead time requirement. However, manufacturers are still required to obtain approval for the emission test protocol and emission test results verifying compliance with the applicable NOx limit prior to the shipment.



## **CHAPTER 3: IMPACT ASSESSMENT**

---

**IMPACT ANALYSIS**

**COST EFFECTIVENESS**

**CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) ANALYSIS**

**SOCIOECONOMIC ASSESSMENT**

**DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY  
CODE SECTION 40727**

**INCREMENTAL COST-EFFECTIVENESS**

**COMPARATIVE ANALYSIS**

**CONCLUSION AND RECOMMENDATIONS**



## IMPACT ANALYSIS

Based on the District's 2016 AQMP emission inventory for fuel consumption, the annual average NO<sub>x</sub> emissions from residential heating using natural gas were 9.51 tons per day in 2012. Staff estimates that there are about four million residential type heating furnaces in the SCAQMD. Based on a furnace life of 25 years, a typical furnace emits 1.5 to 2.0 pounds of NO<sub>x</sub> per year. The emission rate reduction from 40 ng/J to 14 ng/J results in more than one pound per year of NO<sub>x</sub> emissions reductions for each furnace. Based on a furnace life of 20 to 25 years, the current rule is estimated to reduce annual average emissions of NO<sub>x</sub> by about 0.80 to 1.00 ton per day in 2018 and 2.03 to 2.54 tons per day in 2023 with emissions mitigation included. It is estimated that complete replacement with 14 ng/J furnaces will not occur until 2046. The complete emission reduction benefit of this rule is estimated to be about 6.18 tons per day (annual average) from the 9.51 tons per day baseline emissions.

PAR 1111 would delay the NO<sub>x</sub> emissions reductions from residential furnaces by 0.07 to 0.09 tons per day in 2018, 0.26 to 0.32 tons per day in 2023, and 0.26 to 0.32 tons per day in 2031. However, the proposed amendment does not cause any overall change for future year emissions. A mitigation fee is collected for the period the alternative compliance option is utilized, ~~and~~ which will then be used to fund emission reductions through a variety of projects that have cost effectiveness in the range of \$10,000 to \$16,000 per ton.

According to the Air Conditioning Heating and Refrigeration Institute (AHRI), the manufacturer's trade organization, there are no facilities manufacturing fan-type gas-fired residential furnaces in the SCAQMD. However, the affected companies do maintain regional sales offices and distribution centers in the SCAQMD.

## COST EFFECTIVENESS

Cost effectiveness analysis is not required for PAR 1111. The proposed amendment does not impose additional requirements on manufacturers of compliant residential furnaces meeting the 14 ng/J NO<sub>x</sub> emission limit. While a mitigation fee increase is proposed, it is only for manufacturers selling noncompliant units through the alternate compliance option. On the other hand, manufacturers of compliant furnaces will have their customers incentivized by a rebate funded by the increased portion of mitigation fee.

The cost effectiveness analysis was performed in support of the 2009 amendment when the 14 ng/J NO<sub>x</sub> limit was introduced. Staff used three different approaches to estimate the cost effectiveness for that amendment. The results of that analysis estimated a cost effectiveness of between \$8,600 and \$19,000 per ton with an increased cost to the consumer of between \$108 and \$240 per furnace.

**Table 3-1 – Cost Effectiveness Summary**

<b>Cost Effectiveness Approach</b>	<b>Cost Effectiveness</b>
Previous Rule Amendments	\$10,000 to \$16,000 per ton
Water Heater Price Increases	\$19,000 per ton
Material Cost & Markups	\$8,600 per ton



## CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) ANALYSIS

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 SCAQMD 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 once the secretary of the resources agency has certified the regulatory program. The SCAQMD's regulatory program was certified by the secretary of resources agency on March 1, 1989, and has been adopted as, and is implemented by, SCAQMD Rule 110—Rule Adoption Procedures to Assure Protection and Enhancement of the Environment. Pursuant to Rule 110, the SCAQMD typically prepares an Environmental Assessment (EA) to evaluate the environmental impacts for rule projects proposed for adoption or amendment.

PAR 1111 is considered a “project” as defined by CEQA. 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 SCAQMD 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.

PAR 1111 contains amendments that revise existing requirements included in Rule 1111, as amended in September 2014, in order to resolve compliance issues raised by stakeholders. In the version of PAR 1111 released in October 2017, PAR 1111 would increase the mitigation fee from \$200 for each non-compliant condensing furnace and \$150 each for all other non-compliant furnaces regulated under this Rule to \$400 for all non-compliant units and extend the dates for complying with the NO<sub>x</sub> limit for the following equipment categories: 1) condensing furnaces from April 1, 2018, to October 1, 2019; 2) non-condensing furnaces from October 1, 2018, to October 1, 2019; 3) weatherized furnaces from October 1, 2019, to October 1, 2020; and 4) mobile home furnaces from October 1, 2021, to October 1, 2022. If the compliance dates are extended, PAR 1111 was shown to result in foregone NO<sub>x</sub> emissions reductions of 0.07 to 0.09 tons per day in 2018, 0.26 to 0.33 tons per day in 2023, and 0.26 to 0.33 tons per day in 2031, all of which exceed the SCAQMD's regional air quality CEQA significance threshold for NO<sub>x</sub> during operation. Analysis of PAR 1111 indicates that the estimated amount of NO<sub>x</sub> emission reductions foregone will substantially revise the existing requirements included in Rule 1111 as last amended in September 2014. As such, SCAQMD staff has determined that PAR 1111 contains new information of substantial importance which was not known and could not have been known at the time the Final Environmental Assessment (EA) was certified for the September 2014 amendments to Rule 1111 (referred to herein as the September 2014 Final EA).



However, aside from the topic of air quality, PAR 1111 is not expected to create new significant effects for any other environmental topic areas. Thus, analysis of the proposed project indicates that the type of CEQA document appropriate for the proposed project is a Subsequent Environmental Assessment (SEA), in lieu of an EA. The SEA is a substitute CEQA document, prepared in lieu of a Subsequent Environmental Impact Report (EIR) with significant impacts (CEQA Guidelines Section 15162(b)), pursuant to the SCAQMD's Certified Regulatory Program (CEQA Guidelines Section 15251(l); codified in SCAQMD 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.

Because the new potentially significant adverse effects to operational air quality that may result from implementing PAR 1111 were not analyzed in the September 2014 Final EA, the SCAQMD, as lead agency for the proposed project has prepared a Subsequent EA (SEA) with significant impacts pursuant to its Certified Regulatory Program. The September 2014 Final EA identified the topic of operational air quality in the environmental checklist as the only topic that would be affected by the proposed rule amendments at that time. However, the analysis in the September 2014 Final EA concluded that the operational air quality impacts were at less than significant levels. Since PAR 1111 is now shown to have potentially significant adverse air quality impacts during operation as a result of projected NOx emission reductions foregone, the focus of the analysis in the SEA is limited to the operational air quality as the only environmental topic area to be analyzed. In addition, since PAR 1111 may have statewide, regional, or area wide significance, a CEQA scoping meeting is required pursuant to Public Resources Code Section 21083.9(a)(2) and was held at the SCAQMD's Headquarters in conjunction with the Public Workshop on October 19, 2017. No CEQA comments were made at the Public Workshop/CEQA scoping meeting relative to PAR 1111. Further, pursuant to CEQA Guidelines Section 15252, since significant adverse impacts were identified, an alternatives analysis and mitigation measures are required. The Draft SEA has been released for a 45-day public review and comment period from Tuesday, December 26, 2017 to Friday, February 9, 2018 at 5:00 p.m. For any comments received relative to CEQA analysis in the Draft SEA, SCAQMD staff will include the comment letters along with responses to comments in an appendix to the Final SEA. In addition, since release of the preliminary draft for PAR 1111, PAR 1111 contains revisions that will be reflected in the Final SEA.

The September 2017 Final EA, upon which the SEA relies, is available from the SCAQMD's website at: <http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2014/par-1111-fea-wapps.pdf>; by visiting the Public Information Center at SCAQMD Headquarters located at 21865 Copley Drive, Diamond Bar, CA 91765; or by contacting Fabian Wesson, Public Advisor by phone at (909) 396-2039 or by email at [PICrequests@aqmd.gov](mailto:PICrequests@aqmd.gov).

Prior to making a decision on the adoption of PAR 1111, the SCAQMD 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.

The proposed amendments to Rule 1111 are considered to be modifications to a previously approved project (the amendments to Rule 1111 in September 2014) and are considered to be a



“project” as defined by the California Environmental Quality Act (CEQA). Therefore, a Subsequent Environmental Assessment (SEA) is the appropriate CEQA document. The previous CEQA document to the SEA is publically available upon request and can be reviewed by calling the SCAQMD Public Information Center at (909) 396-2001 or by visiting SCAQMD’s website at [www.aqmd.gov](http://www.aqmd.gov). The direct link to this document is also referenced in the Final SEA. Based on SCAQMD staff’s review of PAR 1111, the proposed project has the potential to generate significant adverse operational air quality impacts but that it would not generate significant adverse environmental impacts to any other environmental topic areas.

The Draft SEA was released for a 45-day public review and comment period from December 26, 2017, to February 9, 2018. Three comment letters were received and responses have been prepared. The comment letters and responses are included in an appendix to the Final SEA (see Appendix D). Since the release of the Draft SEA, minor modifications were made to PAR 1111 and some revisions were made in response to verbal and written comments on the project’s effects. SCAQMD staff has reviewed the modifications to PAR 1111 and concluded that none of the modifications constitute significant new information or a substantial increase in the severity of an environmental impact, nor provide new information of substantial importance relative to the Draft SEA. In addition, revisions to PAR 1111 in response to verbal or written comments would not create new, significant effects. As a result, these revisions do not require recirculation of the CEQA document pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Thus, the Draft SEA has been revised to reflect the aforementioned modifications and to include the comment letters and responses to comments such that it is now a Final SEA and is included as an attachment to the Governing Board package (see Attachment H of this Board package).

Prior to making a decision on the adoption of PAR 1111, the SCAQMD Governing Board must review and certify the Final SEA as providing adequate information on the potential adverse environmental impacts that may occur as a result of adopting PAR 1111.

## **SOCIOECONOMIC IMPACT ASSESSMENT**

Proposed Amended Rule 1111 will extend the compliance deadline for OEMs to attain the 14 ng/J NOx emission standard for furnaces. It also amends the alternate compliance plan, which allows for mitigation fees to be paid in lieu of compliance with the standard. The proposed amendments to the alternate compliance plan will result in mitigation fees being set at a tiered rate based on the size and type of the furnace. These fees will range from \$150-\$325 for the Phase One period and range from \$150-\$450 for the Phase Two period as specified in Table 2 of PAR 1111. In conjunction with these proposed amendments to the rule, a rebate program for compliant furnaces sold in the region will be instituted and funded by the mitigation fees as described in earlier sections of this report.

As described in the affected industries section, PAR 1111 would potentially affect manufacturers (NAICS 333), distributors and wholesalers of furnaces (NAICS 423), retailers and dealers of furnaces (NAICS 444), and construction and building contractors and installers (NAICS 238 and 811). No manufacturers of the gas fired fan-type furnaces regulated under this rule are located within SCAQMD’s four-county region. There are, however, many downstream businesses located within this region, including wholesalers and retailers of these furnaces and contractors that install or repair them. Based on these industry classifications and recent data, the number of establishments in these industries within the four-county region are included below, however



only a portion of these establishments will have business with furnaces covered under Rule 1111. There are approximately 18,800 establishments in the merchant wholesalers of durable goods industry (NAICS 423), 2,450 establishments in the building material and garden equipment and supplies dealers industry (NAICS 444), 17,600 establishments in the specialty trade contractors industry (NAICS 238), and 16,500 in repair and maintenance industry (NAICS 811).<sup>1</sup> Of these establishments a majority would be classified as a small business<sup>2</sup> according to SCAQMD's Rule 102 definition.<sup>3</sup>

Rule 1111 currently requires that OEMs begin selling furnaces that comply with the 14 ng/J NO<sub>x</sub> emission limit as early as April 2018, without an option to pay a mitigation fee. While the mitigation fees would increase for the OEMs selling non-compliant furnaces, it is expected to be economically more advantageous than the current rule requirement where there will be no alternate compliance option for non-condensing and condensing furnaces by April 2018 and October 2018, respectively. At the same time, those OEMs selling compliant furnaces are expected to benefit from the rebate program through the increased demand for their products, which is associated with the lower effective prices that would be paid by the end-users receiving the rebate. Furthermore, the increased mitigation fee is intended to level out the cost difference between compliant and non-compliant furnaces while sustaining the rebate program. As discussed in Chapter 2, a fee and rebate proposal within the range of that being proposed was evaluated with a partial equilibrium, economic optimization model and was found to equalize the average price of compliant and non-compliant furnaces. Based on these factors, staff finds that PAR 1111 does not create a competitive disadvantage for OEMs producing compliant furnaces. PAR 1111 would encourage further commercialization of compliant products while continuing to provide an option for the sales of non-compliant products. Ultimately, the effect of the increased mitigation fees and rebates will be to induce a mixture of compliant and non-compliant furnaces being sold in the region during the extended alternate compliance period. This outcome will be less costly to the regional economy than requiring OEMs, which pass through the higher cost of compliant furnaces to end-users through higher prices, to only sell compliant furnaces into SCAQMD's jurisdiction as early as April 2018 as required by the current rule. Therefore, PAR 1111 will not have adverse socioeconomic impacts additional to those that have been analyzed for the current rule.

---

<sup>1</sup> U.S. Census Bureau, 2015 County Business Patterns. Los Angeles, Orange, Riverside, and San Bernardino counties. <https://www.census.gov/programs-surveys/cbp.html>

<sup>2</sup> The SCAQMD defines a "small business" in Rule 102 for purposes of fees as one which employs 10 or fewer persons and which earns less than \$500,000 in gross annual receipts. The SCAQMD also defines "small business" for the purpose of qualifying for access to services from the SCAQMD's Small Business Assistance Office (SBAO) as a business with an annual receipt of \$5 million or less, or with 100 or fewer employees. In addition to the SCAQMD's definition of a small business, the federal Clean Air Act Amendments (CAAA) of 1990 and the federal Small Business Administration (SBA) also provide definitions of a small business. The CAAA classifies a business as a "small business stationary source" if it: (1) employs 100 or fewer employees, (2) does not emit more than 10 tons per year of either VOC or NO<sub>x</sub>, and (3) is a small business as defined by SBA. The SBA definitions of small businesses vary by six-digit North American Industrial Classification System (NAICS) codes. In general terms, a small businesses must have no more than 500 employees for most manufacturing and mining industries, and no more than \$7 million in average annual receipts for most nonmanufacturing industries.

<sup>3</sup> Based on County Business Patterns for California. U.S. Census Bureau, 2015 County Business Patterns. <https://www.census.gov/programs-surveys/cbp.html>



For CEQA analysis purposes, four alternatives to PAR 1111 were developed and described in the ~~Draft Subsequent Environmental Assessment (SEA)~~ Final SEA. As illustrated in Table 1-2 of the Final SEA, these alternatives are: No Project (Alternative A), More Stringent NO<sub>x</sub> Limit (Alternative B), Less Stringent Timing (Alternative C), and More Mitigation (Alternative D). The No Project alternative would not amend the current rule; there are no adverse socioeconomic impacts additional to those that have been analyzed for the current rule.

The More Stringent NO<sub>x</sub> Limit alternative differs from PAR 1111 in that it will require OEMs to comply with a 10 ng/J emission standard starting in April 2018 while maintaining the proposed extension of the alternate compliance option, therefore potentially resulting in lower emission reductions foregone than the current rule or proposed amendments. However, it would present a challenge to OEMs to make furnaces commercially available that achieve this lower standard than what is required in the current rule and could require increased expenditures on research, development, and deployment for some OEMs. Therefore, this alternative may result in adverse socioeconomic impacts additional to those that have been analyzed for the current rule.

The Less Stringent Timing alternative differs from PAR 1111 in that it would allow more time for OEMs to achieve the 14 ng/J standard and use the alternate compliance option in the meantime. This option is less stringent and potentially less costly than both the proposed amendments and the current rule. Therefore, it would not have adverse socioeconomic impacts additional to those that have been analyzed for the current rule.

The More Mitigation alternative differs from PAR 1111 in that it would increase the mitigation fee further above the proposed fee increases, but maintain the proposed extension of compliance deadline for the 14 ng/J ~~emission~~emission standard. This alternative is expected to be economically more advantageous than the current rule requirement where there will be no alternate compliance option. Additionally, the proposed mitigation fee incurred by OEMs selling non-compliant furnaces under this alternative is not expected to exceed the average incremental cost of compliant furnaces. Therefore, this alternative is not expected to have adverse socioeconomic impacts additional to those that have been analyzed for the current rule.

## **DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727**

California Health and Safety Code Section 40727 requires that prior to adopting, amending, or repealing a rule or regulation, the SCAQMD 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. In order to determine compliance with Sections 40727, 40727.2 require a written analysis comparing the proposed amended rule with existing regulations.

The following provides the draft findings.

**Necessity:** A need exists to amend Rule 1111 to provide residential furnace manufacturers additional time to develop the technology to meet the NO<sub>x</sub> emission limit.



**Authority:** The SCAQMD obtains its authority to adopt, amend, or repeal rules and regulations from California Health and Safety Code Sections 39002, 40000, 40001, 40440, 40440.1, 40702, 40725 through 40728, 41508, and 41700.

**Clarity:** PAR 1111 has been written or displayed so that its meaning can be easily understood by the persons affected by the rule.

**Consistency:** PAR 1111 is in harmony with, and not in conflict with or contradictory to, existing federal or state statutes, court decisions, or federal regulations.

**Non-Duplication:** PAR 1111 does not impose the same requirement as any existing state or federal regulation, and is necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD.

**Reference:** In amending this rule, the SCAQMD hereby implements, interprets, or makes specific reference to the following statutes: Health and Safety Code sections 39002, 40001, 40702, 40440(a), and 40725 through 40728.5.

## INCREMENTAL COST-EFFECTIVENESS

Health and Safety Code Section 40920.6 requires an incremental cost-effectiveness analysis for Best Available Retrofit Control Technology (BARCT) rules or emission reduction strategies when there is more than one control option that would achieve the emission reduction objective of the proposed amendments, relative to ozone, CO, SO<sub>x</sub>, NO<sub>x</sub>, and their precursors.

The only option for reducing NO<sub>x</sub> emission from equipment affected by PAR 1111 is replacement of current burners in newly manufactured equipment with low NO<sub>x</sub> burners. Some furnaces do use electricity to provide heat and other kinds of units use heated water from a small boiler or water heater. However, these equipment are either not regulated by the SCAQMD (electric furnaces or heat pumps) or are regulated by other SCAQMD rules (Rules 1121 or 1146.2). Because this rule amendment provides furnace manufacturers with an alternate compliance option and there is only one control option, a typical incremental cost-effectiveness analysis cannot be prepared.

However, for the 2009 rule amendment, staff did evaluate the incremental cost effectiveness as compared to a less stringent option. The same technology used to achieve a NO<sub>x</sub> limit of 14 ng/J can also be used to achieve less stringent limits of 17 ng/J (25 ppm) or the upper bound limit of 20 ng/J (30 ppm) included in Control Measure CMB-03. For these less stringent limits the cost of the technology is the same but because emission reductions are less, the cost effectiveness deteriorates rapidly. In other words, the less stringent option is less cost-effective.

## COMPARATIVE ANALYSIS

Under Health and Safety Code Section 40727.2, the SCAQMD is required to perform a comparative written analysis when adopting, amending, or repealing a rule or regulation. The comparative analysis is relative to existing federal or state requirements, existing or proposed



SCAQMD rules, and air pollution control requirements and guidelines that are applicable to industrial, institutional, and commercial combustion equipment.

The SCAQMD is not aware of any state or federal requirements regulating air pollution that are applicable to new or in-use PAR 1111 units. Rule 1111 is also the only SCAQMD rule regulating this type of equipment. Because there are no state or federal requirements for PAR 1111 units, the proposed amendments are not in conflict with and do not duplicate any SCAQMD, state, or federal requirement.

## **CONCLUSION AND RECOMMENDATIONS**

Although compliant condensing and non-condensing furnace products have been demonstrated seven years ago, only one manufacturer currently has a non-condensing compliant product commercially available for sale. Recent product certifications have shown that additional commercialized compliant products are forthcoming within the next few months. However, based on stakeholder input, meeting customer demands and developing broader product availability would require additional time beyond the current mitigation fee period. In addition, the application of economic modeling shows that compliant product availability will be enhanced with an increase in the mitigation fee in conjunction with the application of a rebate. All of these recommendations introduced into Rule 1111 will lead to the much needed SIP-approved NOx emissions reductions.



## REFERENCES

---



## REFERENCES

SCAQMD, 2009. *Staff Repot: Proposed Amended Rule 1111 – NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces*. South Coast Air Quality Management District, November 2009.

SCAQMD, 2014. *Rule 1111 Technology Assessment for Residential Furnaces*. South Coast Air Quality Management District, January 2014.

SCAQMD, 2014. *Staff Repot: Proposed Amended Rule 1111 – NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces*. South Coast Air Quality Management District, September 2014.

SCAQMD, 2017. *Final 2016 Air Quality Management Plan*. South Coast Air Quality Management District, March 2017.

DOE, 2015. *Technical Support Document: Energy Efficiency Program for Consumer Products and Commercial and Industrial Equipment: Residential Furnaces*. U.S. Department of Energy, February 2015.



## **RESPONSE TO COMMENTS**

---



## RESPONSE TO COMMENTS

SCAQMD staff held a public workshop and CEQA scoping meeting on October 19, 2017, in the SCAQMD Diamond Bar headquarters. Twelve public comment letters or emails were received by the comment end date of November 9, 2017. These responses also reflect comment letters and emails that were received prior to February 12, 2018. The comments and staff's responses are summarized below:

### Mitigation Fee Increase

- 1. Comment:** The mitigation fee increase will negatively impact companies located within the District versus business outside of the District.

**Response:** Because the South Coast Basin experiences some of the worse air pollution in the nation, air emission regulations within the District will be stricter than areas outside of the District. However, great care is taken to implement the most cost effective means to reduce air emissions from all regulated sources of emissions, including home furnaces subject to Rule 1111. Based on the current mitigation fee, it is the SCAQMD staff's understanding that manufacturers and distributors have been passing this fee to consumers. The goal is to commercialize compliant products that consumers will purchase. The mitigation fee is a compliance option that is to encourage manufacturers to commercialize compliant products. The rebate will encourage consumers to purchase compliant products.

- 2. Comment:** The mitigation fee increase will make homeowners opt to repair older furnaces versus replacing with new and technologically advanced equipment.

**Response:** -The Rule 1111 40 ng/J NO<sub>x</sub> limit has been in place since 1984; Repairing a malfunctioning 40 ng/J unit does not reset the life span of the unit, and doing so would result in a much shorter useful life until replacement is necessary versus initial replacement with a new 40 ng/J non-compliant unit. In addition, the proposed consumer rebate will help motivate installation of compliant units.

- 3. Comment:** The mitigation fee increase will encourage non-compliance.

**Response:** The SCAQMD enforcement staff will continue to maintain a high level of enforcement for illegal sales. Stakeholders are encouraged to report any non-compliance and also provide recommendations in identifying potential paths to rule circumvention.

- 4. Comment:** The mitigation fee increase will restrict consumer choice.

**Response:** To date, there are three OEMs and various models being certified for condensing and non-condensing units. Some other OEMs expect to seek



certification in the near future. On December 4, 2017, Lennox launched a line of compliant products (non-condensing units in the size of 60,000, 80,000, and 100,000 btu/hr), which are now commercially available for sale. Moreover, Lennox representative also stated that they will provide a full portfolio of compliant products to meet the market demand by the current compliance dates for all types of furnaces. All other manufacturers expect or mentioned the possibility of commercializing compliant non-condensing products in October – December, 2018. On this basis, it is not anticipated the consumer choice will be restricted.

- 5. Comment:** The current mitigation fee already can buy more offsets than the forgone emission reductions by using the NOx credit price in the RECLAIM program.

**Response:** The Rule 1111 mitigation fee is based on the cost effectiveness of other NOx reduction projects for the forgone emission reductions as set forth in the staff report for the previous Rule 1111 amendment. There is no justification to compare the cost effectiveness of NOx emission reductions needed under Rule 1111 to the NOx credit price in the RECLAIM program. That is, the RECLAIM NOx credit ~~exchange~~ is only allowed to be used among facilities in this program, ~~subject to a price that is controlled by an open market.~~ Furthermore, it is not realistic to purchase RTCs because the Governing Board has directed that the RECLAIM program be sunsetted long before excess Rule 1111 emissions will cease (over 20 years).

- 6. Comment:** An increase in the mitigation fee will not accelerate ~~the~~ compliance with Rule 1111.

**Response:** The purpose of the mitigation fee has been to provide the OEMs an alternative compliance option while compliant ~~en~~-units ~~could not be made~~were not available. The increase in the fee is intended to level the cost difference between compliant and non-compliant products. The mitigation fee increase, along with the proposed rebate, are intended to encourage commercialization of ~~compliance~~ compliant products and encourage the purchase of compliant units.

- 7. Comment:** The proposed fee increase is not only punitive, it might also be an unconstitutional tax.

**Response:** Paying the mitigation fee is an alternative option for OEMs that will not have furnaces available for sale that comply with the 14 ng/J NOx emission limit by the compliance date. While some OEMs have already certified compliant units, others are planning to certify and sell furnaces that meet the emission limit by the compliance date, and still others are choosing to pay the mitigation fee. Because it is optional, the mitigation fee is not considered a tax.



- 8. Comment:** The mitigation fee increase would drive lower income mobile home customers to repair vs. replace the appliance or opt for a less costly and less efficient product substitute.
- Response:** There is no mitigation fee increase by the current proposal for mobile home furnaces.
- 9. Comment:** Recommend not to change the current mitigation fee.
- Response:** -Under staff's proposal, the mitigation fee increase would be used to fund the proposed rebate program while slightly favoring the purchase of compliant units. To that end staff, believes that the current proposal fulfills that objective. However, staff recognizes that the fee increase must also take into consideration such things as the economic impact on low income residents.
- 10. Comment:** As an OEM, our company supports the SCAQMD to increase the mitigation fee for non-compliant furnaces to \$400.
- Response:** Staff continues to agree with the commenter on a mitigation fee increase. By the current proposal, there is no fee increase for mobile home units, while for the other type of units, the mitigation fee will be increased to \$300 to \$450 depending on furnace type and size.

### **Fee Increase Effective Date**

#### **11. Comments:**

- (1) The current proposal to increase the mitigation fee and introduce a rebate for compliant furnaces prior to the end of the original 3 year schedule, and with short notice, does not allow sufficient time to adjust our product development and production schedules. Any change in the fee should be implemented after the 3-year period for the mitigation fee option currently specified in the rule has expired.
- (2) Provide OEMs with a reasonable period of adjustment by having the new fees in effect not less than 8 months from the date of the proposed amendment.
- (3) Mitigation fee increase should only be applied when any type of product becomes available in the market.
- (4) Delaying approval and implementation of the proposed amendment will severely and negatively impact manufacturers who invested, while rewarding those manufacturers who did not, and may lead to additional delays in the introduction and commercialization of compliant products. Recommends SCAQMD proceed with the proposed amendment schedule and immediately implement.



**Response:** Comments on the mitigation fee are considerably diverse. Compliant non-condensing units have been commercially available since December 4, 2017 and compliant condensing units are expected to be commercially available by April 1, 2018. Staff has updated the proposal to have the fee increase effective at the beginning of the next compliance plan cycle for all but condensing units. For condensing units, the fee increase shall be effective on May 1, 2018, about 60 days after rule amendment and, 14-30 days after the beginning of the next compliance plan cycle.

### **Cost and Fee Analysis**

#### **12. Comments:**

- (1) The manufacturer does not have complete control over the process by which the final installed cost of the furnace is established, and thus does not agree with the cost analysis used to justify the mitigation increase.
- (2) The District has not yet produced the economic model details it uses as the basis for its proposed fee increase and rebate program or its environmental analysis.
- (3) One OEM finds the economic analysis conducted by SCAQMD to be valid and strongly supports the Amendment proposal.

**Response:** Staff's cost analysis is based on market share, cost information, and other input provided by OEMs, including data relating to markups and the resulting final installed cost for the units. The proposed rebate program is self-sustaining due to the mitigation fee increase. As described in the staff report in Chapter 2, the Partial Equilibrium economic model, explained in detail below, only provided staff with a sense of direction support in for the cost analysis as explained in the staff report. ~~Because of its very limited use there is no need to provide a detailed description of the economic model in the staff report.~~ The model was presented at the September 21, 2017 Working Group meeting and the October 19, 2017 Public Workshop. It was also part of a discussion with the OEM who raised comment 12(2) in an October 26, 2017 conference call.

### **Technical Description of Economic Modeling**

A partial-equilibrium model, specified as a price-endogenous sector model, was used in order to evaluate the research question. Partial equilibrium refers to the market-clearing price and quantity/sales, where consumers' marginal willingness to pay for an additional unit of product is equated to producers' marginal cost to supply an additional unit of the same product. The price-endogenous framework allows for simultaneous decisions by utility-maximizing consumers and profit-maximizing producers, with the equilibrium or market-clearing price being endogenously determined at the intersection of producers' supply curve and consumers' demand curve (McCarl and Spreen 1980). The equilibrium quantity supplied and demanded in the regional market for



furnaces was determined by maximizing social welfare in this market, which is comprised of the profit earned by producers and the value of the product to consumers, subject to a policy requirement to achieve a given market share of compliant furnaces.

The model was calibrated based on the information described above for the market for furnaces in the South Coast Air Basin. Perfect competition was assumed so that, at equilibrium, the marginal cost of production corresponds to a product's market price. The costs of producing compliant and non-compliant furnaces, respectively, were modeled as constant marginal costs of production, based on the assumption that the producers could supply sufficient furnaces for this region without an increase in cost above the \$1,250 and \$1,750 assumed. The consumers' demand curve for furnaces, which describes consumer behavior, was calibrated based on the current market situation with an average price of \$1,250 per unit and an annual market of 150,000 furnaces and a price elasticity of demand of -0.22, a value empirically derived for household appliances (Taylor and Houthakker 2009).<sup>6</sup>

The model is specified mathematically as:

$$\underset{\{q_c, q_{nc}\}}{Max} \quad W = (a + bQ)Q - (c_c - r)q_c - (c_{nc} + f)q_{nc} \quad (1)$$

Subject to:

$$\frac{q_c}{q_{nc}} \geq \gamma \quad (2)$$

$$fq_{nc} - rq_c = 0 \quad (3)$$

$$q_c + q_{nc} = Q \quad (4)$$

$$q_c, q_{nc} \geq 0 \quad (5)$$

where,  $a$  and  $b$  are the intercept and slope of the demand curve, respectively.  $c_c$  and  $c_{nc}$  are the marginal costs of the compliant and non-compliant units, respectively.  $r$  is the amount of the rebate for the compliant units and  $f$  is the amount of the mitigation fee for non-compliant units.  $q_c$  and  $q_{nc}$  are the quantities of compliant and non-compliant furnaces produced for the South Coast Air Basin and  $\gamma$  is the ratio of compliant to non-compliant furnaces to be achieved by a proposed policy.  $W$  is the social welfare function which consists of consumer and producer surpluses and is maximized subject to the constraints (equations 2-4).

A non-linear solver is used to solve this maximization problem numerically, yielding the results illustrated in Figures 1a and 1b. The equilibrium price ( $P^*$ ) can be found by evaluating the demand function  $P = (a + bQ)$  at the solution to the problem:  $Q^* = q_c^* + q_{nc}^*$ , and also be

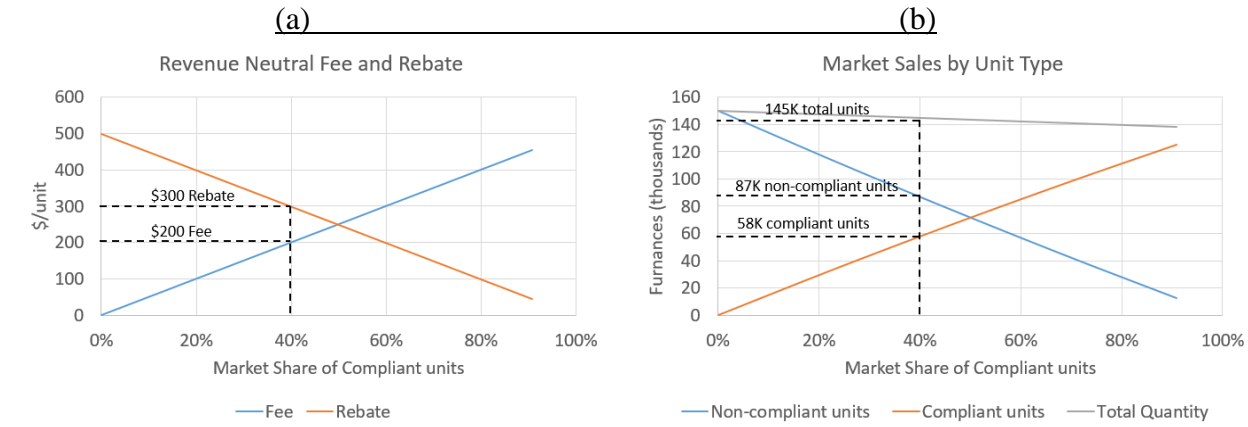
---

<sup>6</sup> Price elasticity of demand indicates the percentage change in quantity demanded in response to a one percent change in price.



shown to be equal to the weighted average of the marginal cost of furnaces  $P^* = c_c \frac{q_c^*}{Q^*} + c_{nc} \frac{q_{nc}^*}{Q^*}$ . The amounts of the mitigation fee and rebate are implicit in the solution of the problem, being the difference between the average price and the marginal cost, such that  $f = P^* - c_{nc}$  and  $r = c_c - P^*$ .

Figure 1 – Partial Equilibrium Model Analysis for Mitigation Fee Increase and Rebate



## References

McCarl, Bruce A., and Thomas H. Spreen. 1980. "Price Endogenous Mathematical Programming As a Tool for Sector Analysis." *American Journal of Agricultural Economics* 62 (1): 87–102. doi:10.2307/1239475.

Taylor, Lester D., and H. S. Houthakker. 2009. *Consumer Demand in the United States: Prices, Income, and Consumption Behavior*. Springer Science & Business Media.

## Fee Increase to Fund Rebate

### 13. Comments:

- (1) It is understandable to have mitigation fees cover the cost of a rebate, but the proposed \$400 fee allows \$150 per unit for an unspecified 'administrative cost' which is an exorbitant amount. A fee at or around \$300 is more reasonable.
- (2) It is anticipated that the already collected funds and the projected collection for next year using the current fee structure would provide sufficient funds for a consumer rebate program.

**Response:** The current mitigation fee, \$200 for each condensing unit and \$150 for each other types, can and will only be used for projects to offset the forgone emission reductions from selling Rule 1111 non-compliant products; as such this amount is *not* for an "unspecified 'administrative cost,'" as asserted by the commenter. Only the increased portion of the proposed mitigation fee can be used for rebate program.



**14. Comment:** The increased mitigation fee has no rational relationship to the actual cost of offsetting excess emissions but rather attempts to influence customer behavior through market price.

**Response:** The proposed mitigation fee will maintain the original portion of the fee for emission mitigation projects, and the increased portion of the fee will be used to fund the Rule 1111 rebate program. The increase in the fee is intended to level out the cost difference between compliant and non-compliant products while sustaining the rebate program. Without such a program, OEMs would be penalized for timely developing compliant, but more expensive, products that meet the compliance deadlines established in the current version of Rule 1111, because less expensive, non-compliant products would dominate the market. This approach should also encourage commercialization of compliant products while continuing to provide an option for the sales of non-compliant products.

**15. Comment:** Support the increase of the mitigation fees to a minimum of \$400 for all furnaces and the use of the \$250 increase in the mitigation fees to incentivize consumers to purchase compliant units.

**Response:** Thank you for the support. Staff is considering all the comments with regards to the mitigation fee, including this comment. ~~This comment is also under consideration.~~

**16. Comment:** Recommends the rebate program to be retro-active 120 days prior to its final approval.

**Response:** Staff is considering retro-actively implementing the rebate program. Details will be worked out in the contract with the third party contractor for implementation.

### **Consideration of Condensing Furnace**

**17. Comment:** Compared to non-condensing furnaces, condensing furnaces should have a higher incentive for compliant products and higher penalty for non-compliant products.

**Response:** Staff is proposing a higher incentive and higher mitigation fee for condensing furnaces.

**18. Comment:** For OEMs focused on condensing furnace development, it is unfair to start the mitigation fee increase at the same time for condensing and non-condensing units.

**Response:** ~~Staff has updated the proposal to have the fee increase to begin on April 15~~ Staff has updated the proposal to have the fee increase to begin on April 15 ~~May 1, 2018, instead of April 1, 2018,~~ May 1, 2018, instead of April 1, 2018, for condensing units, and at the



beginning of the next compliance plan cycle for non-condensing units (i.e. October 1, 2018). ~~Nevertheless, even with this proposed change, the~~ fee increase for condensing units will start before the fee increase for non-condensing units.

### **CEQA**

**19. Comment:** Are the materials/information used for the proposed Rule 1111 compliance with CEQA available?

**Response:** The CEQA document was released on December 26, 2017, for a 45-day comment period. The comment period ~~will~~ closed on February 9, 2018.

### **Emission Limit**

**20. Comment:** There are currently no furnaces being sold which can meet the 14 ng/J low-NOx specification.

**Response:** Lennox International Inc. has manufactured compliant non-condensing products (in the size of 60,000, 80,000, and 100,000 btu/hr) that have been commercially available since December 4, 2017.

**21. Comment:** The mitigation fee is not the underlying driver in providing compliant units to the district; ensuring consumer safety, product reliability, and fully developing the technology to meet the emission standards are time consuming activities. In addition, all of the OEMs have been designing their furnaces to achieve the 14 ng/J NOx limit.

**Response:** The OEMs with compliant products that are ready for the market now or in the near future are confident that their product will operate safely and reliably.

**22. Comment:** SCAQMD must maintain the 14 ng/J emission limit.

**Response:** Staff agrees that the 14 ng/J NOx emission limit should not change. It is also worth noting that for the condensing and non-condensing models certified for three OEMs, the tested emissions were all at or below 7 ng/J.

### **Others**

**23. Comment:** Provide projected emissions reductions including the operating hours, the number of furnaces, emissions reduction of each replacement, and expected replacement.

**Response:** Emissions reduction for Rule 1111 was estimated by a top-down approach, versus the bottom-up approach alluded to by the commenter. As an area



source with no SCAQMD permit requirement, staff estimated baseline emission for the whole population of this source based on their natural gas consumption, and an equipment life-time of 20 to 25 years.

**24. Comment:** Distributors should not be responsible to pay mitigation fees for units coming into their warehouses in SCAQMD but are subsequently distributed outside of SCQAMD.

**Response:** The same comment was raised during the 2014 rulemaking process. Staff holds the same response as in Staff Report dated on September 5, 2014, as below.

“The proposed rule would allow units intended for sale outside the SCAQMD to be exempt from the mitigation fee. However, to avoid paying a mitigation fee for all units shipped to the SCAQMD, the manufacturer and distributor must have in place and implement a plan to clearly identify all units. The manufacturer and distributor must place labels on each unit and the outside of each unit’s shipping container identifying those units that may be sold into the SCAQMD pursuant to the 10 month sell through period in the rule, those units stored for sale outside the SCAQMD, and those units sold pursuant to a mitigation fee alternate compliance plan. In addition, the manufacturer and distributor must have in place a system to identify the date each unit was shipped to the distribution center in the SCAQMD, the date each unit arrived at the distribution center, the dates each unit was sold and shipped out of the distribution center, the address where each unit was shipped to (for units sold into and out of the SCAQMD) and the person or business who purchased each unit.”

**25. Comment:** The rebate program should be well-communicated to stakeholders with appropriate lead time prior to the start of the rebate availability.

**Response:** Staff has been engaged in discussion regarding the rebate program and its implementation with stakeholders since the September 21, 2017, Working Group meeting. As a result of the discussion, District staff determined that contracting with a third party for implementation was the optimal solution. The Request for Proposal (RFP) was approved by the Governing Board ~~approval~~ on December 1, 2017. The RFP was posted on the SCAQMD website with a lead time of over 30 days prior to its approval, and any selected proposal and resulting contract with details of the rebate implementation are open to public record request. Approval for the selection is scheduled for the March 2, 2018, Governing Board meeting. In addition, the rebate program continues to be a discussion topic in any individual meeting or Working Group meeting with the stakeholders.

**26. Comment:** With respect to the October 19, 2017, Public Workshop, we request an extension until December 4, 2017, to file comments.



- Response:** The public comment was extended for one week, with the ending date changed from November 2, 2017, to November 9, 2017.
- 27. Comment:** Staff should analyze the impact of an increased mitigation fee not only on homeowners of single family homes, but also on residents of multi-family homes.
- Response:** The applicability is based on rated heat input capacity. This analysis considered multi-family units if they fall into the heat input range.
- 28. Comment:** Any extension of the mitigation must be balanced not to punish manufacturers that already invested significantly in the development of compliant products.
- Response:** Staff agrees with the commenter and has worked with the OEMs that have developed compliant products to ensure that such investments are not compromised with the proposed rule amendments.
- 29. Comment:** Some stakeholders have requested a sell-through for existing inventory of non-compliant furnaces beyond the end of the extended mitigation fee period.
- Response:** Staff believes that the mitigation fee functions in a similar manner as a sell-through provision. At the February 16, 2018 Stationary Source Committee meeting, Mayor Benoit recommended that staff report back to the Stationary Source Committee in 12 months and if needed, staff can incorporate a 90-day sell-through provision in Rule 1111. The Resolution includes a commitment consistent with recommendations staff received at the February Stationary Source Committee meeting.
- 30. Comment:** Some stakeholders have commented that the mitigation fee approach is too complex while others have commented that the tiered and phase approach is manageable.
- Response:** The phased portion of the mitigation fee is to encourage manufacturers to develop compliant units before the second phase of the mitigation fee is implemented. The tiered portion of the mitigation fee reflects comments to lower fees for smaller units and mobile home units (lower income consumers) and increase fees for condensing units.
- 31. Comment:** The fee increase effective date for condensing units is too soon (at the time of rule amendment or beginning of the next compliant cycle on April 1, 2018).
- Response:** Staff is proposing the fee increase to commence at the beginning of the next compliance cycle. In addition, more time is provided for condensing units



due to the limited time between rule adoption and the start of the next compliance cycle (60 days from adoption).

**32. Comment:** The requirement in Rule 1111 (d)(3) of 120 days prior to shipment for certification application submittal is not feasible for quick commercialization of compliant products.

**Response:** Staff has proposed to remove this 120 days lead time requirement and states simply that units must be certified before being shipped into the SCAQMD jurisdiction.

**33. Comment:** Some of the OEMs commented that the proposed mitigation fee change could cause pricing problems for units encumbered in a contractual agreement prior to the rule amendment requested, and thus an exemption of the mitigation fee increase for those units is needed; one OEM commented that this exemption would allow planned load-in of non-compliant products.

**Response:** This exemption has been added to ensure the prices for the units encumbered in a contract are not affected by the rule amendment.

**34. Comment:** Some of the OEMs suggested they should be able to continue to sell 40 ng/J natural gas furnaces to be converted to propane furnaces with conversion kit at installation; they claimed having a separate propane furnace production line would add cost burden to consumers and the compliant 14 ng/J furnace is not technically compatible for conversion to propane furnace.

**Response:** Although one manufacturer stated they have a propane kit for the lower emitting furnace unit, the proposed amended rule will allow sales of natural gas furnaces that are not certified to meet 14 ng/J of NOx emission and are to be installed with a propane conversion kit and for propane firing only, providing the OEM meets specific labeling and reporting requirements.

**35. Comment:** One of the manufacturers has commented that the purpose of the mitigation fee and rebate should be to provide an incentive to commercialize and encourage purchase of compliant units. This manufacturer claims that the proposed mitigation fee in combination with the proposed rebate does not provide adequate support to manufacturers that are selling of compliant units, especially non-condensing units.

**Response:** Staff believes that the mitigation fee increase which is \$150 to \$450, depending on the furnace type and heat input capacity combined with a consumer rebate of \$500 for the first 6,000 compliant units and thereafter providing a \$300 rebate for the remaining condensing furnaces and a \$200 rebate for the remaining non-condensing, weatherized, and mobile home furnaces is a substantial incentive to manufacturers. The proposed rebate program will make compliant products more competitive in the market. Staff



will closely monitor compliant unit sales, seeking Board approval to make any necessary adjustments to the rebate program to help increase sales of compliant units, and increase the amount of money for the rebate program, if needed.

**36. Comment:** The proposed rebate of \$500 for the first 6,000 furnaces is excessive and very disruptive to the market, and it is unfair for manufacturers that are on track to launch compliant furnaces.

**Response:** The proposed rebate program intends to alleviate the resulting cost differential for customers between compliant and non-compliant products, and continue to encourage cleaner technologies. Please see response to above Comment #35 for more details.

**37. Comment:** Contractors could potentially promise rebate funds to the end-consumer that may already be exhausted.

**Response:** Staff will be working with the Working Group and the selected rebate implementation contractor for the best way to prevent this kind of situation.



## ATTACHMENT H

### SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

#### **Final Subsequent Environmental Assessment to the September 2014 Final Environmental Assessment for Proposed Amended Rule 1111 – Reduction of NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces**

**February 2018**

**SCAQMD No. 140722JI/12012017RB**

**State Clearinghouse No: 2017121067**

**Executive Officer**

Wayne Nastri

**Deputy Executive Officer**

**Planning, Rule Development and Area Sources**

Philip Fine, Ph.D.

**Assistant Deputy Executive Officer**

**Planning, Rule Development and Area Sources**

Susan Nakamura

**Assistant Deputy Executive Officer**

**Planning, Rule Development and Area Sources**

Sarah Rees, Ph.D.

---

<b>Author:</b>	Ryan Bañuelos	Air Quality Specialist, CEQA
<b>Technical Assistance:</b>	Yanrong Zhu	Air Quality Specialist, Rule Development
<b>Reviewed By:</b>	Michael Krause	Planning and Rules Manager, CEQA
	Barbara Radlein	Program Supervisor, CEQA
	Tracy A. Goss, P.E.	Planning and Rules Manager, Rule Development
	Gary Quinn, P.E.	Program Supervisor, Rule Development
	Mary Reichert	Senior Deputy District Counsel



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
GOVERNING BOARD**

**CHAIRMAN:** DR. WILLIAM A. BURKE  
Speaker of the Assembly Appointee

**VICE CHAIRMAN:** DR. CLARK E. PARKER, SR  
Senate Rules Committee Appointee

**MEMBERS:**

MARION ASHLEY  
Supervisor, Fifth District  
County of Riverside

BEN BENOIT  
Mayor, Wildomar  
Cities of Riverside County

JOE BUSCAINO  
Councilmember, 15th District  
City of Los Angeles Representative

MICHAEL A. CACCIOTTI  
Councilmember, South Pasadena  
Cities of Los Angeles County/Eastern Region

JOSEPH K. LYOU, Ph. D.  
Governor's Appointee

LARRY MCCALLON  
Mayor, Highland  
Cities of San Bernardino County

JUDITH MITCHELL  
Mayor Pro Tem, Rolling Hills Estates  
Cities of Los Angeles County/Western Region

SHAWN NELSON  
Supervisor, Fourth District  
County of Orange

DWIGHT ROBINSON  
Councilmember, Lake Forest  
Cities of Orange County

JANICE RUTHERFORD  
Supervisor, Second District  
County of San Bernardino

HILDA L. SOLIS  
Supervisor, First District  
County of Los Angeles

**EXECUTIVE OFFICER:**  
WAYNE NASTRI



## PREFACE

This document constitutes the Final Subsequent Environmental Assessment (SEA) for Proposed Amended Rule (PAR) 1111 – Reduction of NO<sub>x</sub> Emissions From Natural-Gas-Fired, Fan-Type Central Furnaces. SCAQMD prepared a Draft Subsequent Environmental Assessment (SEA) that was released for a 45-day public review and comment period from Tuesday, December 26, 2017, to Friday, February 9, 2018, at 5:00 p.m. Analysis of PAR 1111 in the Draft SEA identified the topic of operational air quality as the only environmental topic area that may be significantly adversely affected. In addition, since PAR 1111 may have statewide, regional, or areawide significance, a CEQA scoping meeting was held at the SCAQMD's Headquarters in conjunction with the Public Workshop on October 19, 2017. No comments related to CEQA were made at the CEQA scoping meeting. The comment letters received relative to the Draft SEA and the responses to the comments are included in Appendix D of this Final SEA.

Analysis of operational air quality in the Draft SEA confirmed that operational air quality emissions associated with implementation of PAR 1111 would exceed the SCAQMD's significant operational threshold for NO<sub>x</sub>. No other environmental topic areas that would be significantly adversely affected were identified as a result of the analysis of PAR 1111 in the Draft SEA. The Draft SEA analyzed four alternatives to the proposed project based on the effectiveness to achieve the project objectives and the environmental effects of each alternative. Analysis of each alternative in the Draft SEA concluded that the proposed project is the best choice to achieve the project objectives and minimize the significant adverse environmental impacts to operational air quality.

Subsequent to the release of the Draft SEA, modifications were made to PAR 1111. To facilitate identification, modifications to the document are included as underlined text and text removed from the document is indicated by ~~striketrough~~. To avoid confusion, minor formatting changes are not shown in underline or striketrough.

Staff has reviewed the modifications to PAR 1111 and concluded that none of the revisions constitute: 1) significant new information; 2) a substantial increase in the severity of an environmental impact; or 3) new information of substantial importance relative to the draft document. In addition, revisions to the proposed project in response to verbal or written comment would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the document pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Therefore, this document now constitutes the Final SEA for PAR 1111.



## TABLE OF CONTENTS

### Chapter 1 – Executive Summary

Introduction.....	1-1
California Environmental Quality Act (CEQA) .....	1-4
Previous CEQA Documentation for Rule 1111 .....	1-6
Intended Uses of this Document .....	1-7
Areas of Controversy .....	1-8
Executive Summary .....	1-10

### Chapter 2 - Project Description

Project Location .....	2-1
Project Background.....	2-2
Project Objective.....	2-3
Project Description.....	2-4
Summary of Affected Equipment .....	2-5

### Chapter 3 – Existing Setting

Introduction.....	3-1
Existing Setting.....	3-2
Air Quality .....	3-3

### Chapter 4 – Environmental Impacts

Introduction.....	4-1
Potential Significant Environmental Impacts and Mitigation Measures .....	4-1
Air Quality .....	4-2
Cumulative Environmental Impacts and Mitigation Measures .....	4-6
Potential Environmental Impacts Found Not to be Significant .....	4-7
Significant Environmental Effects Which Cannot be Avoided .....	4-9
Significant Irreversible Environmental Changes .....	4-9
Potential Growth-Inducing Impacts .....	4-10
Relationship Between Short-Term Uses and Long-Term Productivity .....	4-10

### Chapter 5 – Alternatives

Introduction.....	5-1
Alternatives Rejected as Infeasible .....	5-4
Description of Alternatives .....	5-4
Comparison of Alternatives .....	5-5
Conclusion .....	5-5

## APPENDICES

Appendix A: Proposed Amended Rule 1111	
Appendix B: CEQA Impact Evaluation	
Appendix C: References	
Appendix D: Comment Letters Received on the Draft SEA and Responses to Comments	



## LIST OF TABLES

Table 1-1: Areas of Controversy.....	1-9
Table 1-2: Summary of the Proposed Project and Alternatives.....	1-4
Table 1-3: Comparison of Adverse Environmental Impacts of the Proposed Project and Alternatives.....	1-5
Table 3-1: NOx Baseline Emission Inventory for Rule 1111 Equipment from September 2014 Rule Amendment.....	3-2
Table 3-2: State and Federal Ambient Air Quality Standards .....	3-4
Table 3-3: 2016 Air Quality Data – South Coast Air Quality Management District .....	3-6
Table 4-1: SCAQMD Air Quality Significance Thresholds.....	4-3
Table 4-2: Rule 1111 and PAR 1111 <u>Alternative Compliance Option End Dates</u> ...	4-4
Table 4-3: Estimated NOx Emission Reductions Foregone .....	4-5
Table 5-1: Summary of the Proposed Project and Alternatives .....	5-2
Table 5-2: Comparison of Adverse Environmental Impacts of the Proposed Project and Alternatives.....	5-3

## LIST OF FIGURES

Figure 2-1: Southern California Air Basins .....	2-1
--	-----



## **CHAPTER 1**

---

### **EXECUTIVE SUMMARY**

**Introduction**

**California Environmental Quality Act (CEQA)**

**Previous CEQA Documentation for Rule 1111**

**Intended Uses of this Document**

**Areas of Controversy**

**Executive Summary**



## INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977<sup>1</sup> as the agency responsible for the development and enforcement of air pollution control rules and regulations in the South Coast Air Basin (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<sub>2</sub>), and particulate matter with an aerodynamic diameter of less than 10 microns (PM<sub>10</sub>). 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 (PM<sub>2.5</sub>). The California Clean Air Act (CCAA), adopted in 1988, requires the SCAQMD to achieve and maintain state ambient air quality standards for ozone, CO, sulfur dioxide (SO<sub>2</sub>), and NO<sub>2</sub> 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 U.S. EPA is required to periodically update the national ambient air quality standards (NAAQS).

By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) that demonstrates compliance with all federal and state ambient air quality standards for areas within SCAQMD<sup>2</sup> jurisdiction. The SCAQMD must also adopt rules and regulations that carry out the AQMP<sup>3</sup>. The AQMP is a regional blueprint for how the SCAQMD will achieve air quality standards and healthful air. The 2016 AQMP was adopted by the SCAQMD Governing Board on March 3, 2017<sup>4</sup>. The 2016 AQMP implements regulatory measures to reduce emissions of particulate matter (PM), oxides of sulfur (SO<sub>x</sub>), and oxides of nitrogen (NO<sub>x</sub>) to attain the state and national ambient air quality standards for ozone, particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>), and particulate matter with an aerodynamic diameter of 2.5 microns or less (PM<sub>2.5</sub>). The 2016 AQMP states that both NO<sub>x</sub> and volatile organic compounds (VOC) emissions need to be addressed. However, the 2016 AQMP emphasizes that NO<sub>x</sub> emission reductions are more effective to reduce the formation of ozone and PM<sub>2.5</sub>. Ozone is a criteria pollutant shown to adversely affect human health and is formed when volatile organic compounds (VOCs) react with NO<sub>x</sub> in the atmosphere. NO<sub>x</sub> is a precursor to the formation of ozone and PM<sub>2.5</sub>, and NO<sub>x</sub> emission reductions are necessary to achieve the ozone standard attainment. NO<sub>x</sub> emission reductions also contribute to attainment of PM<sub>2.5</sub> standards.

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 Title 14 of the California Code of Regulations, 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.”

---

<sup>1</sup> The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch. 324 (codified at Health and Safety Code Sections 40400-40540).

<sup>2</sup> Health and Safety Code Section 40460(a).

<sup>3</sup> Health and Safety Code Section 40440(a).

<sup>4</sup> SCAQMD, Final 2016 Air Quality Management Plan, March 2017. <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp>



Rule 1111 – Reduction of NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces was adopted in December 1978 and later amended in July 1983, November 2009, and September 2014. Rule 1111 was developed to reduce NO<sub>x</sub> emissions from residential and commercial gas-fired fan-type space heating furnaces with a rated heat input capacity of 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. Rule 1111 applies to manufacturers, distributors, sellers, and installers of residential furnaces and requires manufacturers to certify that each furnace model offered for sale in the SCAQMD complies with the emission limit using specific test methods approved by the SCAQMD and U.S. EPA. Rule 1111 provides manufacturers an alternative compliance option to pay a per-unit mitigation fee for up to 36 months past the applicable compliance date. Most single family homes, many multi-unit residences, and some small commercial buildings in the SCAQMD use this type of space heating equipment.

When first adopted, Rule 1111 addressed all sizes of space heating furnaces and required all residential and commercial space heating furnaces to meet a NO<sub>x</sub> emission limit of 40 nanograms per Joule (ng/J) of heat output. The July 1983 amendments limited applicability to units sized for residences and exempted larger commercial space heaters (e.g., furnaces with a heat input 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). The July 1983 amendments also exempted units manufactured for use in mobile homes (manufactured housing), revised the definition of efficiency, and clarified testing procedures.

In November 2009, Rule 1111 was amended to make it consistent with the objectives of the 2007 Air Quality Management Plan (AQMP) Control Measure CMB-03 - Reductions from Commercial Space Heating by establishing a more stringent NO<sub>x</sub> emission limit of 14 ng/J, and required the three major categories of residential furnace – condensing (high efficiency), non-condensing (standard), and weatherized – to meet the lower 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 November 2009 amendments, had to meet a NO<sub>x</sub> limit of 40 ng/J by October 1, 2012, and 14 ng/J by October 1, 2018. At the time, the NO<sub>x</sub> emission limit of 14 ng/J reflected a 65 percent reduction from the previous NO<sub>x</sub> emission limit of 40 ng/J. To facilitate the depletion of existing inventories and to ensure a smooth transition to equipment that complied with the more stringent NO<sub>x</sub> limit, Rule 1111 also provided a temporary 10-month exemption (e.g., sell-through period) for units manufactured and delivered into the SCAQMD prior to the compliance date.

To encourage and accelerate the development of cleaner technology, the November 2009 amendments provided a financial incentive for achieving early compliance with the 14 ng/J NO<sub>x</sub> emission limit, and three million dollars was allocated for this purpose. Specifically, for any manufacturer that delivered and sold furnaces that complied with the 14 ng/J NO<sub>x</sub> emission limit into the SCAQMD 90 days prior to the applicable compliance date were eligible to receive a \$75 payment for each standard efficiency furnace and \$90 for each high-efficiency unit. However, to date, no manufacturer applied for this incentive, as products have yet to be fully commercialized.

The November 2009 amendments also required a technology assessment, which was presented to the Governing Board on January 10, 2014. The technology assessment evaluated both the feasibility of the more stringent NO<sub>x</sub> emission limit and the implementation schedule. The SCAQMD Technology Advancement Office (TAO) initiated a Request for Proposals (RFP) to develop prototype residential furnaces that would meet the 14 ng/J NO<sub>x</sub> emission limit. Four



technology development projects were initiated in 2010 and completed in 2013. Of the total cost of \$1,447,737, The Gas Company provided \$447,737 and the San Joaquin Valley Unified Air Pollution Control District provided \$50,000. The prototype furnaces developed through these four projects demonstrated that the 14 ng/J NO<sub>x</sub> emission limit is achievable for all types of forced air residential heating furnaces produced for the United States market. However, the technology assessment concluded that additional time would be needed to commercialize 14 ng/J furnaces.

The September 2014 amendments delayed the compliance date for condensing furnaces from April 1, 2015, to April 1, 2018; for non-condensing furnaces from October 1, 2015, to October 1, 2018, for weatherized furnaces from October 1, 2016, to October 1, 2019; and for mobile home furnaces from October 1, 2018, to October 1, 2021. These amendments also provided an alternative compliance option that allowed manufacturers to pay a per unit mitigation fee of \$200 for each condensing furnace and \$150 for each other type of furnace distributed or sold into the SCAQMD, in lieu of meeting the 14 ng/J NO<sub>x</sub> emission limit. The mitigation fee was to be used to offset the NO<sub>x</sub> emissions reductions foregone by funding other NO<sub>x</sub> emission reduction projects. The September 2014 amendments allow the mitigation fee/alternative compliance option to be used for up to 36 months past the applicable compliance date. Depending on furnace type, the mitigation fee option will end, and can no longer be used as an alternative to meeting the 14 ng/J NO<sub>x</sub> emission limit ~~will phase in~~, over the period from April 1, 2018, to October 1, 2021. At that time, the manufacturers endorsed the mitigation fee/alternative compliance option. All manufacturers have been submitting mitigation fees that correspond to recent sales of non-compliant furnaces.

In April 2016, the Air Conditioning Heating and Refrigeration Institute (AHRI) and original equipment manufacturers (OEMs) met with SCAQMD staff and asserted that safety and reliability concerns, among other issues, had prevented the development of compliant units for commercialization. To monitor the status of technology development, SCAQMD staff surveyed manufacturers from May 2016 to July 2016 and scheduled individual meetings with stakeholders (eight OEMs, two burner manufacturers, and other interested parties) in March, April, and May 2017. SCAQMD staff also held two Task Force meetings on April 27, 2017, and May 25, 2017 to discuss implementation status and rule recommendations. As a result of these efforts, SCAQMD staff was able to confirm that compliant furnaces had not been introduced into the market; However, since that time, three OEMs have, to date, developed certified 14 ng/J compliant products that are undergoing field testing. Moreover, on December 4, 2017, one manufacturer (Lennox) launched a product line of compliant products (non-condensing units in the size of 60,000, 80,000, and 100,000 BTU per hour), which are now commercially available. ~~indicated that a compliant product would be commercially available prior to the 2017 winter season.~~ Initial recommendations by SCAQMD staff for Rule 1111 amendments were made to the Stationary Source Committee and staff proceeded with rule-making to provide additional time ~~for compliance~~ to develop compliant products through the use of the mitigation fee option. As a result, SCAQMD staff now ~~contains~~ includes a proposal in Proposed Amended Rule (PAR) 1111 to further extend the ~~compliance end dates in~~ for the alternative compliance option for condensing furnaces, non-condensing furnaces, weatherized furnaces, and mobile home furnaces in accordance with feedback received from OEMs. PAR 1111 also contains a proposal to increase the mitigation fee for non-compliant units.



## CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

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 SCAQMD 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 once the secretary of the resources agency has certified the regulatory program. The SCAQMD's regulatory program was certified by the secretary of resources agency on March 1, 1989, and has been adopted as, and is implemented by, SCAQMD Rule 110 – Rule Adoption Procedures to Assure Protection and Enhancement of the Environment. Pursuant to Rule 110, the SCAQMD typically prepares an Environmental Assessment (EA) to evaluate the environmental impacts for rule projects proposed for adoption or amendment.

PAR 1111 is considered a “project” as defined by CEQA. 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 SCAQMD 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.

PAR 1111 contains amendments that revise existing requirements included in Rule 1111, as amended in September 2014, based on considerations of technology development and implementation status, stakeholders’ input, and the need to encourage development and sale of compliant products~~in order to resolve compliance issues raised by stakeholders~~. In particular, PAR 1111 would increase the mitigation fee from \$200 for each non-compliant condensing furnace and \$150 each for all other non-compliant furnaces regulated under this rule to \$400~~a two phased mitigation fee increase that ranges between \$300 and \$450 based on the furnace type and heat input capacity for all non-compliant condensing, non-condensing, and weatherized non-compliant units~~, and PAR 1111 would also extend the dates for during which the mitigation fee may be paid in lieu of complying with the NOx limit for the following equipment categories: 1) condensing furnaces from April 1, 2018, to October 1, 2019; 2) non-condensing furnaces from October 1, 2018, to October 1, 2019; and 3) weatherized furnaces from October 1, 2019, to October 1, 2020;~~and 4) mobile home furnaces from October 1, 2021, to October 1, 2022.~~ For mobile home units, there will be no increase in the mitigation fee or change in the mitigation fee option end date.

If the compliance-mitigation fee end dates are extended, PAR 1111 is expected to result in foregone NOx emissions reductions of 0.07 to 0.09 tons per day in 2018, 0.26 to 0.33-0.32 tons per day in 2023, and 0.26 to 0.33-0.32 tons per day in 2031, all of which exceed the SCAQMD’s regional air quality CEQA significance threshold for NOx during operation. Analysis of PAR 1111 indicates that the estimated NOx emission reductions that were originally projected to be achieved as part of the September 2014 amendments to Rule 1111 will be delayed~~estimated amount of NOx emission reductions foregone will substantially revise the existing requirements included in Rule~~



~~1111 as last amended in September 2014.~~ As such, SCAQMD staff has determined that PAR 1111 contains new information of substantial importance which was not known and could not have been known at the time the Final Environmental Assessment (EA) was certified for the September 2014 amendments to Rule 1111 (referred to herein as the September 2014 Final EA). However, aside from the topic of air quality, PAR 1111 is not expected to create new significant effects for any other environmental topic areas. Thus, analysis of the proposed project indicates that the type of CEQA document appropriate for the proposed project is a Subsequent Environmental Assessment (SEA), in lieu of an EA. The SEA is a substitute CEQA document, prepared in lieu of a Subsequent Environmental Impact Report (EIR) with significant impacts (CEQA Guidelines Section 15162(b)), pursuant to the SCAQMD's Certified Regulatory Program (CEQA Guidelines Section 15251(l); codified in SCAQMD 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.

Because the new potentially significant adverse effects to operational air quality that may result from implementing PAR 1111 were not analyzed in the September 2014 Final EA, the SCAQMD, as lead agency for the proposed project has prepared this Subsequent EA (SEA) with significant impacts pursuant to its Certified Regulatory Program. The September 2014 Final EA identified the topic of operational air quality in the environmental checklist as the only topic that would be affected by the proposed rule amendments at that time. However, the analysis in the September 2014 Final EA concluded that the operational air quality impacts were at less than significant levels. Since PAR 1111 is now shown to have potentially significant adverse air quality impacts during operation as a result of projected NOx emission reductions foregone, the focus of the analysis in this Final SEA is limited to operational air quality as the only environmental topic area to be analyzed. In addition, since PAR 1111 may have statewide, regional, or areawide significance, a CEQA scoping meeting is required pursuant to Public Resources Code Section 21083.9(a)(2) and was held at the SCAQMD's Headquarters in conjunction with the Public Workshop on October 19, 2017. No CEQA comments were made at the Public Workshop/CEQA scoping meeting relative to PAR 1111. Further, pursuant to CEQA Guidelines Section 15252, since significant adverse impacts were identified, an alternatives analysis and mitigation measures are required. The Draft SEA ~~has been~~ was released for a 45-day public review and comment period from Tuesday, December 26, 2017 to Friday, February 9, 2018 at 5:00 p.m. ~~For any Comments received relative to CEQA analysis in this the Draft SEA have been responded to and are included in Appendix D of the Final SEA, SCAQMD staff will include the comment letters along with responses to comments in an appendix to the Final SEA.~~

The September 2014 Final EA, upon which this SEA relies, is available from the SCAQMD's website at: [http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2014/par\\_1111\\_fea\\_wapps.pdf](http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2014/par_1111_fea_wapps.pdf); by visiting the Public Information Center at SCAQMD Headquarters located at 21865 Copley Drive, Diamond Bar, CA 91765; or by contacting Fabian Wesson, Public Advisor by phone at (909) 396-2039 or by email at PICrequests@aqmd.gov.

Subsequent to the release of the Draft SEA, modifications were made to PAR 1111 and some of the revisions were made in response to verbal and written comments on the project's effects. At the time the Draft SEA was released for public review and comment, extension of the compliance dates was shown to result in foregone NOx emission reductions of 0.07 to 0.09 tons per day in 2018, 0.26 to 0.33 tons per day in 2023, and 0.26 to 0.33 tons per day in 2031. However, subsequent to the release of the Draft SEA, the proposed project was modified to: 1) increase the



mitigation fee in two phases to a range of \$300 to \$450, depending on the furnace type and heat input capacity; 2) extend the mitigation fee alternative compliance option by 1.5 years for condensing furnaces, and one year for non-condensing furnaces and weatherized furnaces; 3) provide an exemption from the mitigation fee increase for units encumbered in a contractual agreement by OEMs and distributors for new construction, if contracts were signed prior to January 1, 2018; 4) provide an exemption of rule applicability for natural gas furnaces installed with a propane conversion kit for propane firing only, with the defined labeling and reporting requirement; and 5) remove the 120 day lead time requirement for certification application submittal. The removal of the alternative compliance extension option for mobile home units is expected to result in a minor adjustment in the amount of foregone NOx emission reductions shown in the Draft SEA. The effect of the modifications to PAR 1111, after the release of the Draft SEA, would result in foregone NOx emission reductions of 0.07 to 0.09 tons per day in 2018, 0.26 to 0.32 tons per day in 2023, and 0.26 to 0.32 tons per day in 2031. The modifications to PAR 1111 since the release of the Draft SEA would result in less foregone NOx emissions, however the foregone NOx emissions reductions would remain above the NOx significance threshold of 55 pounds per day. Staff has reviewed the modifications to PAR 1111 and concluded that none of the modifications constitute: 1) significant new information; 2) a substantial increase in the severity of an environmental impact; or 3) new information of substantial importance relative to the draft document. In addition, revisions to PAR 1111 in response to verbal or written comments would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the Draft SEA pursuant to CEQA Guidelines Section 15073.5 and 15088.5. Thus, the Draft SEA has been revised to reflect the aforementioned modifications such that it is now a Final SEA.

Prior to making a decision on the adoption of PAR 1111, the SCAQMD 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.

## **PREVIOUS CEQA DOCUMENTATION FOR RULE 1111**

This Final SEA is a comprehensive environmental document that analyzes potential environmental impacts from PAR 1111. SCAQMD 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, and lack of progress in advancing the effectiveness of control technologies to comply with requirements in technology forcing rules, etc.). Rule 1111 was adopted in December 1978 and amended in July 1983, November 2009, and September 2104. A CEQA document was prepared for the amendments to Rule 1111 in 2009 and 2014.

The following summarizes the two previously prepared CEQA documents for Rule 1111 and is included for informational purposes. These documents are available for downloading from the SCAQMD's website via the weblinks immediately following the summaries. In addition, hardcopies of these CEQA documents can be obtained by submitting a Public Records Act request to the SCAQMD's Public Records Unit.

### **Final Environmental Assessment for Proposed Amended Rule 1111 (November 2009)**

Final EA for Proposed Amended Rule 1111 – NOx Emissions from Natural Gas-Fire, Fan-type Central Furnaces; November 2009 (SCAQMD No. 090902JI; State Clearinghouse No. 2009091100): The November 2009 Rule 1111 amendment established a NOx emission limit of



14 ng/J, and required the three major categories of residential furnaces – condensing, non-condensing, and weatherized – to meet the new emission limit by October 1, 2014, October 1, 2015, and October 1, 2016 respectively. The November 2009 amendments to Rule 1111 was estimated to reduce NO<sub>x</sub> emissions by less than 0.1 ton per day by 2014 and 3.1 tons per day by 2023. The November 2009 amendments to Rule 1111 also required a technology assessment be performed to evaluate the feasibility of the 14 ng/J NO<sub>x</sub> emission limit and the rule implementation schedule. A Draft EA for the November 2009 amendments to Rule 1111 was prepared and no significant adverse environmental impacts were identified. The Draft EA for the November 2009 amendments to Rule 1111 was released for a 30-day public review and comment period from September 24, 2009 to October 23, 2009 and no comment letters were received. The Final EA was certified by the SCAQMD Governing Board on November 6, 2009. This document can be obtained by visiting the following website at:

<http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2009/final-environmental-assessment-for-proposed-amended-rule-1111.pdf>

### **Final Environmental Assessment for Proposed Amended Rule 1111 (September 2014)**

Final EA for Proposed Amended Rule 1111 – Reduction of NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces; September 2014 (SCAQMD No. 140722JI; State Clearinghouse No. 2009091100): The September 2014 amendments to Rule 1111 delayed the compliance date for condensing furnaces and provided an alternative compliance option that allowed manufacturers subject to Rule 1111 to pay a per unit mitigation fee in lieu of meeting the 14 ng/J NO<sub>x</sub> emission limit that was scheduled to phase in between April 1, 2018, and October 1, 2021. The mitigation fee option was based on furnace type. The September 2014 amendments to Rule 1111 were estimated to result in a delay of NO<sub>x</sub> emission reductions by 46 pounds per day during until the compliance date. A Draft EA for the September 2014 amendments to Rule 1111 was prepared and no significant adverse environmental impacts were identified. The September 2014 amendment to Rule 1111 were approved into the State Implementation Plan (SIP) in March 2016 and the mitigation fee was earmarked to offset NO<sub>x</sub> emissions reductions foregone. A Draft EA for the September 2014 amendments to Rule 1111 was released for a 30-day public review and comment period from July 29, 2014 to August 27, 2014 and no comment letters were received. The Final EA was prepared and certified by the SCAQMD Governing Board on September 5, 2014. This document can be obtained by visiting the following website at:

[http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2014/par\\_1111\\_fea\\_wapps.pdf](http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2014/par_1111_fea_wapps.pdf)

## **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 SCAQMD Governing Board and the public with information on the environmental effects of the proposed project; and b) be used as a tool by the SCAQMD 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 SCAQMD's Governing Board which will consider the SEA for PAR 1111 in their decision-making, the California Air Resources Board (a state agency) and the United States Environmental Protection Agency (a federal agency) will be reviewing PAR 1111 and all supporting documents, including the SEA, as part of the process for considering the inclusion of PAR 1111 into the State Implementation Plan. There are no permits or other approvals required to implement PAR 1111. Moreover, PAR 1111 is 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 PAR 1111, they could possibly rely on this SEA during their decision-making process. Similarly, other single purpose public agencies approving projects that utilize compliant equipment subject to PAR 1111 may rely on this SEA.

## **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 the proposed project, concerns regarding PAR 1111 were expressed by representatives of industry and environmental groups, either in public meetings or in written comments, which are highlighted in Table 1-1.



**Table 1-1**  
**Areas of Controversy**

Area of Controversy	Topics Raised by the Public	SCAQMD Evaluation
Lack of availability of compliant products in the market and the expiration of <del>the compliance dates</del> <u>mitigation fee alternative compliance option</u> for all but one type of furnace.	OEMs claimed that the lack of adequate safety and reliability testing had prevented the development of compliant units for commercialization.	SCAQMD staff conducted a survey of manufacturers and <del>staff</del> has continued to monitor the status of technology development. The compilation of the survey responses indicated that while compliant furnaces were not yet fully introduced into the market, the OEMs developed products that have been demonstrated during field tests to comply with the NOx emission limit of 14 ng/J. One OEM has <u>released</u> a compliant non-condensing product that is commercially available for the winter 2017 season. SCAQMD staff recommended providing additional time in PAR 1111 to allow OEMs to develop compliant units.
Mitigation Fee	OEMs opined that the new mitigation fee was too high and would impact businesses and consumers.	SCAQMD staff proposed a fee increase to incentivize early conversion in light of the <del>delayed</del> <u>extended alternative compliance date</u> and <u>to pay</u> for a rebate program, which is a separate action from the rule amendment. Staff <del>will also consider</del> <u>developed</u> a tiered approach to the mitigation fee to reduce spikes in fiscal burden.
Compliance Dates	OEMs raised concerns over the ability to comply with proposed new compliance dates in Rule 1111.	SCAQMD <del>will consider</del> <u>developed</u> a tiered approach to the compliance dates to lessen the financial impact to businesses and consumers.

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 PAR 1111 have been evaluated in Chapter 4 of this SEA. No direct or indirect physical changes resulting from economic or social effects have been identified as a result of implementing PAR 1111.

To date, no other controversial issues relevant to the CEQA analysis were raised as a part of developing the proposed project.



## 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 Final SEA consists of the following chapters: Chapter 1 – Executive Summary; Chapter 2 – Project Description; Chapter 3 – Existing Setting, Chapter 4 – Potential Environmental Impacts and Mitigation Measures; Chapter 5 – Project Alternatives; and various appendices. The following subsections briefly summarize the contents of each chapter.

### 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 SCAQMD 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

PAR 1111 reflects the proposed project and is a culmination of recommendations made throughout the public engagement process including the April 2016 meeting between the Air Conditioning Heating and Refrigeration Institute and OEMs, the survey of manufacturers conducted between May 2016 and July 2016, the Task Force meetings held on April 27, 2017 and May 25, 2017, the Working Group Meetings held on July 27, 2017, September 21, 2017, and November 15, 2017, and the Public Workshop/CEQA Scoping Meeting held on October 19, 2017. If adopted, PAR 1111 would increase the mitigation fee to a two-phased mitigation fee increase that ranges between \$300 and \$450 based on the furnace type and heat input capacity ~~\$400~~ for non-compliant condensing, non-condensing, and weatherized units and further extend the dates for during which the mitigation fee may be paid in lieu of complying with the NOx limit established in Rule 1111 for the following equipment categories: 1) condensing furnaces from April 1, 2018, to October 1, 2019; 2) non-condensing furnaces from October 1, 2018, to October 1, 2019; and 3) weatherized furnaces from October 1, 2019, to October 1, 2020,; and 4) mobile home furnaces from October 1, 2021, to October 1, 2022. For mobile home units, there will be no increase in the mitigation fee or change in the mitigation fee end date.

If PAR 1111 is adopted and the alternative compliance option is extended, PAR 1111 is expected to result in foregone NOx emissions reductions of 0.07 to 0.09 tons per day in 2018, 0.26 to ~~0.33~~ 0.32 tons per day in 2023, and 0.26 to ~~0.33~~ 0.32 tons per day in 2031, all of which exceed the SCAQMD's regional air quality CEQA significance threshold. However, the NOx emission reductions foregone will be eventually achieved because existing units will be eventually replaced and upgraded over time.

Other minor changes are also proposed for clarity and consistency throughout the rule. A copy of PAR 1111 can be found in Appendix A of this SEA.

### Summary of Chapter 3 - Existing Setting

Pursuant to the CEQA Guidelines Section 15125, Chapter 3 – Existing Setting includes a description of the environmental topics areas as being potentially adversely affected by the proposed project. As previously explained, PAR 1111 is a revision to the previously approved



project that was analyzed in the September 2014 Final EA and only the topic of operational air quality was identified as having less than significant adverse environmental impacts. All other environmental topic areas analyzed in the September 2014 Final EA were shown to have no significant impacts. Since PAR 1111 is now shown to have potentially significant adverse air quality impacts during operation as a result of projected NO<sub>x</sub> emission reductions foregone, the focus of the analysis in this SEA is limited to the operational air quality as the only environmental topic area to be analyzed. The following discussion briefly highlights the existing setting for the topic of air quality.

## **Air Quality**

Air quality in the area of the SCAQMD's jurisdiction has shown substantial improvement over the last two decades. Nevertheless, some federal and state air quality standards are still exceeded frequently and by a wide margin. Of the NAAQS established for seven criteria pollutants (ozone, lead, sulfur dioxide, nitrogen dioxide, carbon monoxide, PM<sub>10</sub> and PM<sub>2.5</sub>), the area within the SCAQMD's jurisdiction is only in attainment with the NAAQS for carbon monoxide, sulfur dioxide, and nitrogen dioxide. Chapter 3 provides a brief description of the existing air quality setting for each criteria pollutant, as well as the human health effects resulting from exposure to each criteria pollutant.

## **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.

## **Potential Environmental Impacts Found To Be Significant**

Operational air quality is the only environmental topic area identified in this Final SEA that has a potentially significant adverse impact and is reviewed in Chapter 4.

## **Potential Environmental Impacts Found Not To Be Significant**

The September 2014 amendments to Rule 1111 provided manufacturers additional time to produce residential furnaces that meet the NO<sub>x</sub> emission limit of 14 ng/J. Because the September 2014 amendments to Rule 1111 would not have any significant adverse effects on the environment, SCAQMD staff prepared an environmental assessment with no significant impacts (e.g., the September 2014 Final EA). The September 2014 Final EA evaluated 17 environmental topic areas and only the topic of air quality and greenhouse gas emissions was identified as having the potential to be adversely affected if the September 2014 amendments to Rule 1111 were implemented. However, after an assessment of air quality and greenhouse gas emissions impacts,



the September 2014 amendments to Rule 1111 were expected to result in a delay of NO<sub>x</sub> emission reductions from October 1, 2014, until April 1, 2015, of up to 46 pounds per day, which is below the SCAQMD Mass Daily Air Quality Significance Threshold for operational NO<sub>x</sub> emissions (55 lbs/day). Thus, the September 2014 Final EA concluded that the impacts to air quality would be less than significant. All of the remaining 16 environmental topic areas were also concluded to have no significant or less than significant direct or indirect adverse effects.

The effects of implementing PAR 1111 would result in foregone NO<sub>x</sub> emissions reductions of 0.07 to 0.09 tons per day in 2018, 0.26 to ~~0.33~~0.32 tons per day in 2023, and 0.26 to ~~0.33~~0.32 tons per day in 2031, all of which exceed the SCAQMD Mass Daily Air Quality Significance Threshold for operational NO<sub>x</sub> emissions (55 lbs/day). By preparing a SEA for PAR 1111, since the topic of air quality is the only environmental topic area that would be affected by PAR 1111, no other environmental topic areas have been evaluated in this SEA. Thus, the PAR 1111 Final SEA is consistent with the conclusions reached in the previously certified document (e.g., the September 2014 Final EA) that aside from the topic of operational air quality, there would be no other significant adverse effects from the implementation of PAR 1111. Thus, PAR 1111 would have no significant or less than significant direct or indirect adverse effects on the following environmental topic areas.

- aesthetics
- air quality during construction and greenhouse gas emissions during construction and operation
- agriculture and forestry resources
- biological resources
- cultural resources
- energy
- 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 traffic



## **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 relationship between short-term uses and long-term productivity. (CEQA Guidelines Section 15065(a)(2).) Additional analysis of the proposed project confirms that it 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 proposed project is not expected to achieve short-term goals at the expense of long-term environmental productivity or goal achievement.

## **Summary Chapter 5 - Alternatives**

Four alternatives to the proposed project are summarized in Table 1-2: Alternative A (No Project), Alternative B (More Stringent NO<sub>x</sub> Limit), Alternative C (Less Stringent Timing), and Alternative D (More Mitigation). 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 operational air quality impacts from each of the project alternatives for the individual rule components that comprise the proposed project is provided in Table 1-3. Aside from operational air quality impacts, no other potentially significant adverse impacts were identified for the proposed project or any of the project alternatives. The proposed project is considered to provide the best balance between the remaining emission reductions that other components of Rule 1111 may continue to achieve and the adverse environmental impacts due to operation activities (from emission reductions foregone) while meeting the objectives of the project. Therefore, the proposed project is preferred over the project alternatives.



**Table 1-2**  
**Summary of the Proposed Project and Alternatives**

KEY RULE COMPONENTS	PROPOSED PROJECT	ALTERNATIVE A No Project	ALTERNATIVE B More Stringent NOx Limit	ALTERNATIVE C Less Stringent Timing	ALTERNATIVE D More Mitigation
<b>NOx Limit</b>	<ul style="list-style-type: none"> <li>14 ng/J for all equipment types currently in effect</li> <li>14 ng/J for mobile home furnaces by October 1, 2018</li> </ul>	<ul style="list-style-type: none"> <li>14 ng/J for all equipment types currently in effect</li> <li>14 ng/J for mobile home furnaces by October 1, 2018</li> </ul>	<ul style="list-style-type: none"> <li><b>10 ng/J for all equipment types</b></li> <li><b>10 ng/J for mobile home furnaces</b> by October 1, 2018</li> </ul>	<ul style="list-style-type: none"> <li>14 ng/J for all equipment types currently in effect</li> <li>14 ng/J for mobile home furnaces by October 1, 2018</li> </ul>	<ul style="list-style-type: none"> <li>14 ng/J for all equipment types currently in effect</li> <li>14 ng/J for mobile home furnaces by October 1, 2018</li> </ul>
<b>Alternate Compliance Option to Meeting NOx Limit<sup>1</sup></b>	<p>Allowed to pay a mitigation fee in lieu of meeting NOx limit but with <b>extended compliance dates and increased mitigation fees for all units, except mobile home units</b></p> <p>Mitigation Fee Schedule:</p> <ul style="list-style-type: none"> <li><b>Condensing Unit</b> \$350 - \$450 <del>400</del> per unit <del>Date of Adoption April, 15, 2018</del> – September 30, 2019</li> <li><b>Non-condensing Unit</b> \$300 - \$400 per unit <del>Date of Adoption October 1, 2018</del> – September 30, 2019</li> <li><b>Weatherized Unit</b> \$400 per unit <del>Date of Adoption October 1, 2018</del> – September 30, 2020</li> <li><b>Mobile Home Unit</b> \$150 <del>400</del> per unit October 1, 2018 – September 30, <del>2021</del> <u>2022</u></li> </ul>	<p>Allowed to pay a mitigation fee in lieu of meeting NOx limit with <b>existing rule compliance dates</b></p> <p>Mitigation Fee Schedule:</p> <ul style="list-style-type: none"> <li><b>Condensing Unit</b> \$200 per unit April 1, 2015 – March 31, 2018</li> <li><b>Non-condensing Unit</b> \$150 per unit October 1, 2015 – September 30, 2018</li> <li><b>Weatherized Unit</b> \$150 per unit October 1, 2016 – September 30, 2019</li> <li><b>Mobile Home Unit</b> \$150 per unit October 1, 2018 – September 30, 2021</li> </ul>	<p>Allowed to pay a mitigation fee in lieu of meeting NOx limit but with extended compliance dates and increased mitigation fees</p> <p>Mitigation Fee Schedule:</p> <ul style="list-style-type: none"> <li><b>Condensing Unit</b> \$350 - \$450 <del>400</del> per unit <del>Date of Adoption April, 15, 2018</del> – September 30, 2019</li> <li><b>Non-condensing Unit</b> \$300 - \$400 per unit <del>Date of Adoption October 1, 2018</del> – September 30, 2019</li> <li><b>Weatherized Unit</b> \$300 - \$400 per unit <del>Date of Adoption October 1, 2018</del> – September 30, 2020</li> <li><b>Mobile Home Unit</b> \$150 <del>400</del> per unit October 1, 2018 – September 30, <del>2021</del> <u>2022</u></li> </ul>	<p>Allowed to pay the mitigation fee in lieu of meeting NOx limit but with an increased mitigation fee and a <b>three year extension of the compliance dates</b></p> <p>Mitigation Fee Schedule:</p> <ul style="list-style-type: none"> <li><b>Condensing Unit</b> \$350 - \$400 per unit <del>April, 15, 2018 Date of Adoption</del> – March 31, 2021</li> <li><b>Non-condensing Unit</b> \$300 - \$400 per unit <del>October 1, 2018 Date of Adoption</del> – September 30, 2021</li> <li><b>Weatherized Unit</b> \$300 - \$400 per unit <del>October 1, 2018 Date of Adoption</del> – September 30, 2022</li> <li><b>Mobile Home Unit</b> \$150 <del>400</del> per unit October 1, 2018 – September 30, 2024</li> </ul>	<p>Allowed to pay a mitigation fee in lieu of meeting NOx limit but with <b>extended compliance dates and increased mitigation fees</b></p> <p>Mitigation Fee Schedule:</p> <ul style="list-style-type: none"> <li><b>Condensing Unit</b> <b>\$500 per unit</b> <del>April, 15, 2018 Date of Adoption</del> – September 30, 2019</li> <li><b>Non-condensing Unit</b> <b>\$500 per unit</b> <del>October 1, 2018 Date of Adoption</del> – September 30, 2019</li> <li><b>Weatherized Unit</b> <b>\$500 per unit</b> <del>October 1, 2018 Date of Adoption</del> – September 30, 2020</li> <li><b>Mobile Home Unit</b> <b>\$500 per unit</b> October 1, 2018 – September 30, <del>2021</del> <u>2022</u></li> </ul>

<sup>1</sup> The mitigation fee schedule and fee increase is based on unit size and equipment type and will be implemented in two phases. The fee increase range presented in Table 1-2 is the Phase 2 fee schedule. The complete fee schedule is located in Table 2 in PAR 1111.



**Table 1-3**  
**Comparison of Adverse Environmental Impacts of the Proposed Project and Alternatives**

<b>CATEGORY</b>	<b>PROPOSED PROJECT</b>	<b>ALTERNATIVE A No Project</b>	<b>ALTERNATIVE B More Stringent NOx Limit</b>	<b>ALTERNATIVE C Less Stringent Timing</b>	<b>ALTERNATIVE D More Mitigation</b>
<b>Air Quality (During Operation)</b>	Expected to result in NOx emission reductions foregone of 0.07 to 0.09 tons per day in 2018, 0.26 to <del>0.33</del> <u>0.32</u> tons per day in 2023, and 0.26 to <del>0.33</del> <u>0.32</u> tons per day in 2031.	No new NOx emission reductions foregone. Existing compliance deadlines to achieve 14ng/J would remain intact.	Expected to result in lesser quantities of NOx emission reductions foregone over a shorter time frame than the proposed project.	Expected to result in equivalent NOx emission reductions foregone as the proposed project except that the recovery of the NOx emission reductions foregone will occur over a longer time frame than the proposed project.	Expected to result in equivalent NOx emission reductions foregone as the proposed project.
<b>Significance of Air Quality Operational Impacts</b>	Significant: Exceeds the SCAQMD's regional air quality CEQA significance threshold for NOx due to the quantity of NOx emission reductions foregone.	Not significant: Does not exceed SCAQMD's regional air quality CEQA significance threshold for NOx. Compliance cannot be achieved by the original compliance schedule.	Significant: Exceeds the SCAQMD's regional air quality CEQA significance threshold for NOx but at an amount that is less significant than the proposed project.	Significant: Exceeds the SCAQMD's regional air quality CEQA significance threshold for NOx due to the quantity of NOx emission reductions foregone, but at an amount that is more significant than the proposed project and for a greater period of time than the proposed project.	Significant: Exceeds the SCAQMD's regional air quality CEQA significance threshold for NOx due to the quantity of NOx emission reductions foregone at an amount that is equivalent to the proposed project. However, the additional mitigation fee will provide the SCAQMD with additional funding for the rebate program and additional projects to achieve additional NOx emission reductions throughout the Basin.



## **CHAPTER 2**

---

### **PROJECT DESCRIPTION**

**Project Location**

**Project Background**

**Project Objective**

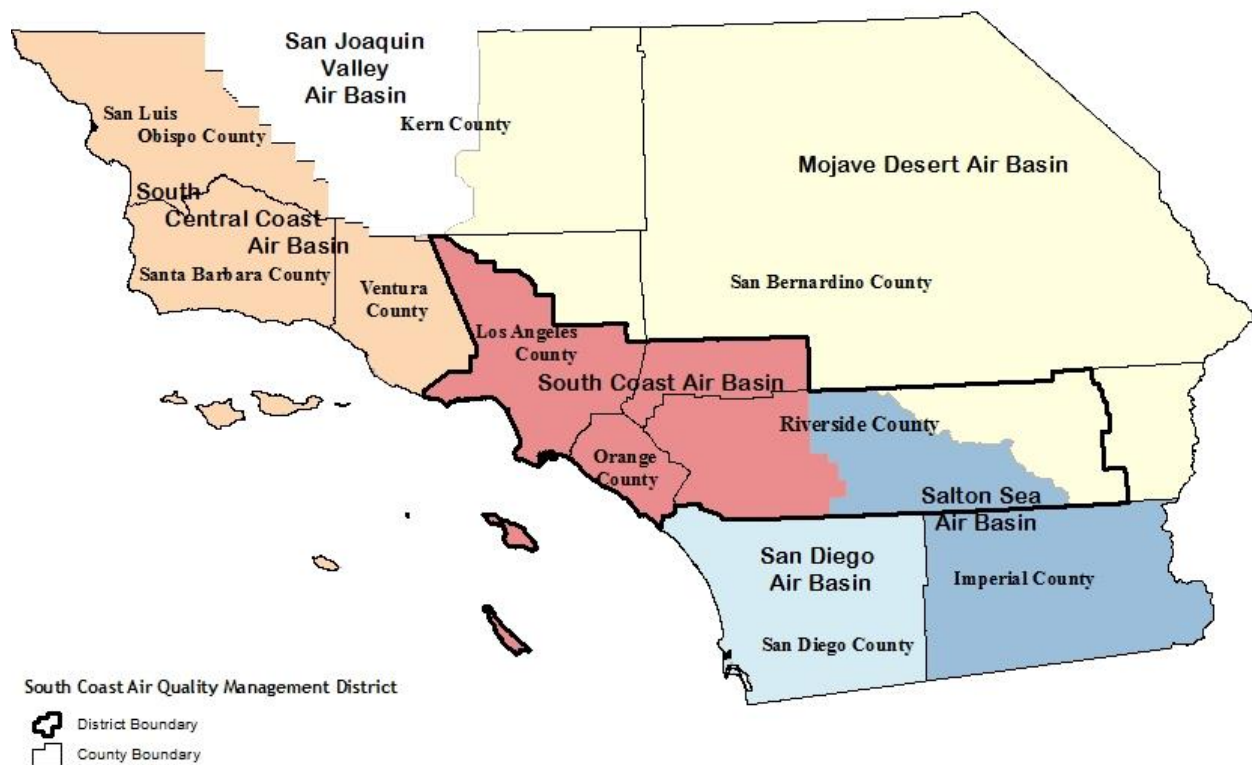
**Project Description**

**Summary of Affected Equipment**



## PROJECT LOCATION

PAR 1111 applies to manufacturers (NAICS 333), distributors and wholesalers (NAICS 423), retailers and dealers (NAICS 444), and installers of ~~residential~~ furnaces and requires manufacturers to certify that each furnace model offered for sale in the SCAQMD's jurisdiction complies with the NOx emission limit using specific test methods approved by the SCAQMD and U.S. EPA. The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of SCAQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. It 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 nonattainment 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**



## PROJECT BACKGROUND

Rule 1111 was adopted by the SCAQMD Governing Board on December 1978, to address space heating furnaces. The original rule required all residential and commercial space heating furnaces to meet a NO<sub>x</sub> emission limit of 40 nanograms per Joule (ng/J) of heat output (equivalent to 61 ppm at a reference level of 3 percent oxygen and 80 percent Annual Fuel Utilization Efficiency (AFUE)) beginning January 1, 1984. At the December 1978 rule adoption Hearing, a rule requirement that all space heating furnaces meet a 12 ng/J NO<sub>x</sub> emission limit by 1995 was considered by the Governing Board but not adopted.

Rule 1111 was first amended in July 1983 to limit applicability based on a unit's size and to exempt larger commercial space heaters. The rule amendment limited applicability to furnaces with a heat input 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. The July 1983 amendment also exempted units manufactured for use in mobile homes (manufactured housing), revised the definition of efficiency, and clarified testing procedures.

In November 2009, Rule 1111 was amended to be consistent with the objectives of the 2007 Air Quality Management Plan (AQMP) Control Measure CMB-03. The 2009 amendment established a new lower NO<sub>x</sub> emission limit of 14 ng/J (equivalent to 22 ppm at a reference level of 3% oxygen and 80 percent AFUE), and required the three major categories of residential furnace – condensing (high efficiency), non-condensing (standard), and weatherized – 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, had to meet a NO<sub>x</sub> limit of 40 ng/J in October 1, 2012, with a future limit of 14 ng/J in October 1, 2018. The new lower NO<sub>x</sub> emission limit of 14 ng/J reflects a 65 percent reduction from the then current limit of 40 ng/J. To facilitate the depletion of existing inventories and to ensure smooth transition to the new limits, Rule 1111 also provided a temporary 10-month exemption (a sell-through period) for units manufactured and delivered into the SCAQMD prior to the compliance date.

To encourage and accelerate technology development, the 2009 Rule 1111 amendment provided an incentive for early compliance with the 14 ng/Joule NO<sub>x</sub> emission limit, and a three million dollar fund was approved for this purpose. Manufacturers that delivered 14 ng/J furnaces into the SCAQMD prior to the applicable compliance date were given the opportunity to receive a payment of \$75 for each standard efficiency furnace and \$90 for each high-efficiency unit sold and delivered into the SCAQMD 90 days prior to the applicable compliance date. However, to date, no manufacturer has applied for this incentive.

The 2009 Rule 1111 amendment also required a technology assessment and status report to the Governing Board. This technology assessment evaluated both the feasibility of the new lower NO<sub>x</sub> emission limit and the rule implementation schedule. The SCAQMD Technology Advancement Office (TAO) initiated a Request for Proposals (RFP) to develop prototype residential furnaces that meet the new 14 ng/J NO<sub>x</sub> limit. The technology development projects were initiated in 2010 and completed in 2013. The total cost of the four projects was \$1,447,737 with \$447,737 provided by The Gas Company and \$50,000 provided by the San Joaquin Valley Unified Air Pollution Control District. The prototype furnaces developed through these four projects demonstrated that the new lower Rule 1111 NO<sub>x</sub> limit is achievable in all of the types of forced air residential heating furnaces produced for the United States market. However, additional



time may be needed to commercialize 14 ng/J furnaces. This technology assessment was presented to the Governing Board meeting on January 10, 2014.

Rule 1111 was last amended in September 2014 to delay the compliance date for condensing furnaces and provide an alternative compliance option. The alternative compliance option allows manufacturers subject to Rule 1111 to pay a per-unit mitigation fee of \$200 for each condensing furnace and \$150 for each other type of furnace distributed or sold into the SCAQMD, in lieu of meeting the new lower NO<sub>x</sub> emission limit. The mitigation fee alternative compliance option can be used for up to 36 months past the applicable compliance date. Depending on furnace type, the mitigation fee option will end, and the NO<sub>x</sub> limit of 14 ng/J will phase in, over the period from April 1, 2018, to October 1, 2021. Industry endorsed the mitigation fee approach. The September 2014 amendment was approved into the State Implementation Plan (SIP) in March 2016 and the mitigation fee was set aside to be used to offset foregone NO<sub>x</sub> emissions reductions.

In April 2016, the Air Conditioning Heating and Refrigeration Institute (AHRI) and OEMs met with SCAQMD staff asserting that safety and reliability concerns had prevented the development of a compliant unit for commercialization. In response, staff conducted a survey with manufacturers from May to July 2016 and have been closely monitoring the technology development status. Furthermore, staff scheduled individual meetings with stakeholders (eight OEMs, two burner manufacturers, and other interested parties) in March, April, and May 2017. Task Force meetings were held on April 27, 2017, and May 25, 2017, in which implementation status and rule recommendations were discussed. These investigations found that compliant furnaces have not yet been introduced into the market; however, three OEMs have developed products complying with the Rule 1111 NO<sub>x</sub> 14 ng/J limit with field tests underway. Moreover, only one manufacturer has a compliant non-condensing product that is commercially available for the 2017 winter season. As a result, SCAQMD staff now proposes to amend Rule 1111 once again to further extend the compliance dates in the alternative compliance option for condensing furnaces, non-condensing furnaces, weatherized furnaces, and mobile home furnaces. In addition, PAR 1111 also proposes an increase to the mitigation fee and clarifies the applicability of the rule. A rebate program, separate from the rule amendment, is also proposed.

## **PROJECT OBJECTIVE**

Because PAR 1111 was developed to address stakeholder feedback citing safety and reliability concerns that prevented the development of compliant units for widespread commercialization, the primary objective of PAR 1111 is to address the issues associated with the development and implementation of compliant technology while encouraging the development and sale of compliant products. Another objective of PAR 1111 is to ensure that OEMs have an incentive to proceed with capital investment necessary to commercialize compliant units.



## PROJECT DESCRIPTION

SCAQMD staff is proposing to amend Rule 1111 to reflect recommendations made by stakeholders throughout the rule development process and to resolve technology development and implementation issues that have been raised by stakeholders. If adopted, PAR 1111 would further extend the dates ~~for during which the mitigation fee may be paid in lieu of complying with the~~ NOx limit established in Rule 1111 for the following equipment categories: 1) condensing furnaces from April 1, 2018, to October 1, 2019; 2) non-condensing Furnaces from October 1, 2018, to October 1, 2019; and 3) weatherized furnaces from October 1, 2019, to October 1, 2020; ~~and 4) mobile home furnaces from October 1, 2021, to October 1, 2022.~~ For mobile home units, there will be no increase in the mitigation fee or change in the mitigation fee option end date. If the ~~compliance-mitigation fee end~~ dates are extended, PAR 1111 is expected to result in foregone NOx emissions reductions of 0.07 to 0.09 tons per day in 2018, 0.26 to ~~0.33~~ 0.32 tons per day in 2023, and 0.26 to ~~0.33~~ 0.32 tons per day in 2031, all of which exceed the SCAQMD's regional air quality CEQA significance threshold. As such, analysis of PAR 1111 in the Final SEA identified potentially significant adverse environmental impacts in the topic of air quality, specifically operational air quality, as an area that may be adversely affected by the proposed project. However, the emissions reductions foregone will eventually be achieved because existing furnaces will be eventually replaced and upgraded over time. In addition, the following changes are proposed in PAR 1111:

- Increase the mitigation fee to a two-phased mitigation fee increase that ranges between \$300 and \$450~~\$400~~ based on the furnace type and heat input capacity for non-compliant condensing, non-condensing, and weatherized units [see paragraph (c)(5) and Table 2 – Alternative Compliance Plan with the Phase One and Phase Two Mitigation Fee Schedule]; and
- Provide an exemption of rule applicability for natural gas furnaces installed with propane conversion kits for propane firing only, with a defined labeling requirement~~Amend the definition of Fan Type Central Furnace (paragraph (b)(4)) to prevent circumvention in regard to propane furnaces and to add applicability to any fan type central furnace that is in natural gas firing mode. Thus, a fan type central furnace that has been configured to be liquid propane fired, and is distributed or sold in the South Coast Basin with a natural gas conversion kit would be subject to PAR 1111 if conversion occurs;~~ and
- Extend the mitigation fee alternative compliance option by 1.5 years for condensing furnaces, and one year for non-condensing furnaces and weatherized furnaces; and
- Provide an exemption from the mitigation fee increase for units encumbered in a contractual agreement by OEMs and distributors for new construction, if contracts were signed prior to January 1, 2018; and
- Remove the 120 day lead time requirement for certification application submittal.

A copy of PAR 1111 can be found in Appendix A of this Final SEA. In addition, a rebate program is separately proposed to incentivize the purchase of the lower emitting compliant furnaces on a more cost-competitive level.



## **SUMMARY OF AFFECTED EQUIPMENT**

SCAQMD staff believes that the industries that would be affected by and benefit from the delayed compliance requirements contained in PAR 1111 include manufacturers (NAICS 333), distributors and wholesalers (NAICS 423), and retailers and dealers (NAICS 444) of residential furnaces that are located within SCAQMD's jurisdiction. Construction and building contractors and installers (NAICS 238 and 811) will also be required to comply with PAR 1111, since compliant heating units are installed and utilized in residential and commercial settings for heating small buildings. The Air Conditioning Heating and Refrigeration Institute (AHRI), the major manufacturer's trade organization, indicates that there are no manufacturers of fan-type gas-fired residential furnaces within the SCAQMD's jurisdiction. However, these companies do maintain regional sales offices and distribution centers in the SCAQMD and there are manufacturers of other types of heating furnaces in the SCAQMD.



## **CHAPTER 3**

---

### **EXISTING SETTING**

**Introduction**

**Existing Setting**

**Air Quality**



## INTRODUCTION

In order to determine the significance of the impacts associated with a proposed project, it is necessary to evaluate the project's impacts against the backdrop of the environment as it exists at the time the environmental analysis is commenced. The CEQA Guidelines define "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." (CEQA Guidelines Section 15360; *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 project, as it exists at the time the environmental analysis is commenced, from both a local and regional perspective. (CEQA Guidelines Section 15125.) Therefore, the "environment" or "existing setting" against which a project's impacts are compared consists of the immediate, contemporaneous physical conditions at and around the project site. (Remy, et al; 1996.)

The November 2009 amendments to Rule 1111 required new residential heating furnaces to meet lower NOx emission limits starting in 2012. The November 2009 Final EA, concluded that the project would not have a significant effect on the environment for all 17 of the environmental topic areas analyzed. The analysis in the November 2009 Final EA concluded that the operational air quality impacts were expected to permanently reduce NOx emissions (an environmental benefit) from the affected source category by less than 0.1 ton per day by 2014 and 3.1 tons per day by 2023. The November 2009 Final EA can be obtained by visiting the following website at:

<http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2009/final-environmental-assessment-for-proposed-amended-rule-1111.pdf>.

The September 2014 amendments to Rule 1111 provided manufacturers additional time to produce residential furnaces that meet the NOx emission limit of 14 ng/J. The September 2014 Final EA also concluded that the project would not have a significant effect on the environment for all 17 of the environmental topic areas analyzed. The September 2014 Final EA concluded that the operational air quality impacts would result in a delay in emission reductions of up to 46 pounds per day during the period from October 1, 2014, until April 1, 2015, which is below the SCAQMD Mass Daily Air Quality Significance Thresholds for operational NOx emissions (55 lbs/day). The September 2014 Final EA can be obtained by visiting the following website at:

[http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2014/par\\_1111\\_fea\\_wapps.pdf](http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2014/par_1111_fea_wapps.pdf).

The following section summarizes the existing setting for operational air quality which was the only environmental topic identified that may be adversely affected by the proposed project. The Final Program EIR for the 2016 AQMP also contains comprehensive information on existing and projected environmental settings for the topic of air quality. The Final Program EIR for the 2016 AQMP can be obtained by visiting the following website at: <http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfeir.pdf>.

Hard copies of the above referenced documents are also available by visiting the SCAQMD's Public Information Center at SCAQMD Headquarters located at 21865 Copley Drive, Diamond Bar, CA 91765; by contacting Fabian Wesson, Public Advisor by calling (909) 396-2039 or by emailing at [PICrequests@aqmd.gov](mailto:PICrequests@aqmd.gov).



## EXISTING SETTING

Rule 1111 is applicable to the following equipment categories of residential and commercial fan-type central furnaces: 1) condensing furnaces; 2) non-condensing furnaces; 3) weatherized furnaces; and 4) mobile home furnaces. Specifically, Rule 1111 controls NO<sub>x</sub> emissions from residential and commercial fan-type central furnaces 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. Under Rule 1111, regulated equipment must meet a NO<sub>x</sub> emission limit of 14 ng/J by the compliance dates set forth in Table 1 of the rule.

### **Baseline Emission Inventory**

Existing Rule 1111 applies to manufacturers (NAICS 333), distributors and wholesalers (NAICS 423), and retailers and dealers (NAICS 444) of ~~residential~~ furnaces that are located within SCAQMD's jurisdiction. The equipment subject to Rule 1111 is used in residential and commercial settings for heating small buildings. PAR 1111 will also apply to the same manufacturers, distributors and wholesalers, and retailers and dealers already subject to Rule 1111. The baseline emission inventory for equipment subject to Rule 1111, as summarized in Table 3-1, was estimated to be 9.51 tons per day of NO<sub>x</sub> (from 2012 actual natural gas consumption data – Table III-1-6 2012 Annual Average Emissions Associated with Natural Gas Combustion in TPD in the 2016 AQMP).

**Table 3-1**  
**NO<sub>x</sub> Baseline Emission Inventory for Rule 1111 Equipment**  
**from September 2014 Rule Amendments**

<b>Rule 1111 NO<sub>x</sub> Emission Limit as of September 2014</b>	<b>NO<sub>x</sub> Baseline Emission Inventory (tons/day)</b>
<ul style="list-style-type: none"> <li>• 14 ng/J by October 1, 2018 for Mobile Home</li> <li>• 14 ng/J for Condensing, Non-Condensing, and Weatherized</li> </ul>	9.51



## **AIR QUALITY**

It is the responsibility of SCAQMD to ensure that state and federal ambient air quality 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, CO, NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and lead. 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 more stringent than the federal standards and in the case of PM<sub>10</sub> and SO<sub>2</sub>, far more stringent. California has also established standards for sulfates, visibility reducing particles, hydrogen sulfide, and vinyl chloride. The state and national ambient air quality standards for each of these pollutants and their effects on health are summarized in Table 3-2. SCAQMD monitors levels of various criteria pollutants at 38 monitoring stations. The 2016 air quality data (the latest data available) from SCAQMD's monitoring stations are presented in Table 3-3.



**Table 3-2**  
**State and Federal Ambient Air Quality Standards**

Pollutant	Averaging Time	State Standard <sup>a</sup>	Federal Primary Standard <sup>b</sup>	Most Relevant Effects
<b>Ozone (O<sub>3</sub>)</b>	1-hour	0.09 ppm (180 µg/m <sup>3</sup> )	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 <sup>3</sup> )	0.070 ppm (137 µg/m <sup>3</sup> )	
<b>Suspended Particulate Matter (PM<sub>10</sub>)</b>	24-hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	(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 <sup>3</sup>	No Federal Standard	
<b>Suspended Particulate Matter (PM<sub>2.5</sub>)</b>	24-hour	No State Standard	35 µg/m <sup>3</sup>	(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 <sup>3</sup>	12 µg/m <sup>3</sup>	
<b>Carbon Monoxide (CO)</b>	1-Hour	20 ppm (23 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )	(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 <sup>3</sup> )	9 ppm (10 mg/m <sup>3</sup> )	



**Table 3-2 (Concluded)**  
**State and Federal Ambient Air Quality Standards**

Pollutant	Averaging Time	State Standard <sup>a</sup>	Federal Primary Standard <sup>b</sup>	Most Relevant Effects
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>	1-Hour	0.18 ppm (339 µg/m <sup>3</sup> )	0.100 ppm (188 µg/m <sup>3</sup> )	(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 <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )	
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>	1-Hour	0.25 ppm (655 µg/m <sup>3</sup> )	75 ppb (196 µg/m <sup>3</sup> )–	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 <sup>3</sup> )	No Federal Standard	
<b>Sulfates</b>	24-Hour	25 µg/m <sup>3</sup>	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
<b>Hydrogen Sulfide (H<sub>2</sub>S)</b>	1-Hour	0.03 ppm (42 µg/m <sup>3</sup> )	No Federal Standard	Odor annoyance.
<b>Lead (Pb)</b>	30-Day Average	1.5 µg/m <sup>3</sup>	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 <sup>3</sup>	
	Rolling 3-Month Average	No State Standard	0.15 µg/m <sup>3</sup>	
<b>Visibility Reducing Particles</b>	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.
<b>Vinyl Chloride</b>	24-Hour	0.01 ppm (26 µg/m <sup>3</sup> )	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/m <sup>3</sup> = micrograms per cubic meter mg/m <sup>3</sup> = milligrams per cubic meter				

<sup>a</sup> The California ambient air quality standards for O<sub>3</sub>, CO, SO<sub>2</sub> (1-hour and 24-hour), NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are values not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

<sup>b</sup> The national ambient air quality standards, other than O<sub>3</sub> and those based on annual averages are not to be exceeded more than once a year. The O<sub>3</sub> 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.



**Table 3-3**  
**2016 Air Quality Data – South Coast Air Quality Management District**

<b>CARBON MONOXIDE (CO)<sup>a</sup></b>				
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
<b>LOS ANGELES COUNTY</b>				
1	Central Los Angeles	361	1.9	1.4
2	Northwest Coastal Los Angeles County	366	2.2	1.1
3	Southwest Coastal Los Angeles County	362	1.6	1.3
4	South Coastal Los Angeles County 1	--	--	--
4	South Coastal Los Angeles County 2	--	--	--
4	South Coastal Los Angeles County 3	363	3.3	2.2
4	I-710 Near Road <sup>##</sup>	--	--	--
6	West San Fernando Valley	366	2.4	1.9
8	West San Gabriel Valley	366	1.5	1
9	East San Gabriel Valley 1	366	1.3	1.2
9	East San Gabriel Valley 2	364	1.1	1
10	Pomona/Walnut Valley	361	1.7	1.3
11	South San Gabriel Valley	366	2.8	1.7
12	South Central Los Angeles County	366	4.4	3.9
13	Santa Clarita Valley	366	1.3	1.1
<b>ORANGE COUNTY</b>				
16	North Orange County	366	3.1	1.5
17	Central Orange County	355	2.6	2.1
17	I-5 Near Road <sup>##</sup>	360	3.7	2.2
18	North Coastal Orange County	366	2.1	1.7
19	Saddleback Valley	353	1.3	0.7
<b>RIVERSIDE COUNTY</b>				
22	Corona/Norco Area	--	--	--
23	Metropolitan Riverside County 1	359	1.7	1.3
23	Metropolitan Riverside County 3	366	1.9	1.4
24	Perris Valley	--	--	--
25	Elsinore Valley	298*	1.2	0.6
26	Temecula Valley	--	--	--
29	San Gorgonio Pass	--	--	--
30	Coachella Valley 1**	361	3.1	1.5
30	Coachella Valley 2**	--	--	--
30	Coachella Valley 3**	--	--	--
<b>SAN BERNARDINO COUNTY</b>				
32	Northwest San Bernardino Valley	366	1.7	1.3
33	I-10 Near Road <sup>##</sup>	366	1.7	1.3
33	CA-60 Near Road <sup>##</sup>	--	--	--
34	Central San Bernardino Valley 1	359	1.7	1
34	Central San Bernardino Valley 2	358	2.2	1.7
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains	--	--	--
<b>DISTRICT MAXIMUM</b>			<b>4.4</b>	<b>3.9</b>
<b>SOUTH COAST AIR BASIN</b>			<b>4.4</b>	<b>3.9</b>
ppm = parts per million -- = Pollutant not monitored ** = Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO2 are operating near the following freeways: I-1, I-10, CA-60, and I-710.				
			**Salton Sea Air Basin *Incomplete Data	

<sup>a</sup> 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.



**Table 3-3 (Continued)**  
**2016 Air Quality Data – South Coast Air Quality Management District**

OZONE (O3)										
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			State	
						Old > 0.124 ppm 1-hr	Current > 0.070 ppm 8-hr*	2008 > 0.075 ppm 8-hr	Current > 0.09 ppm 1-hr	Current > 0.070 ppm 8-hr
LOS ANGELES COUNTY										
1	Central LA	364	0.103	0.078	0.071	0	4	1	2	4
2	Northwest Coastal LA County	365	0.085	0.073	0.066	0	2	0	0	2
3	Southwest Coastal LA County	361	0.087	0.08	0.067	0	2	1	0	3
4	South Coastal LA County 1	--	--	--	--	--	--	--	--	--
4	South Coastal LA County 2	--	--	--	--	--	--	--	--	--
4	South Coastal LA County 3	365	0.079	0.059	0.055	0	0	0	0	0
4	I-710 Near Road###	--	--	--	--	--	--	--	--	--
6	West San Fernando Valley	364	0.122	0.098	0.086	0	23	14	9	23
8	West San Gabriel Valley	358	0.126	0.09	0.082	1	18	15	12	19
9	East San Gabriel Valley 1	366	0.146	0.106	0.095	4	39	25	30	40
9	East San Gabriel Valley 2	362	0.148	0.114	0.098	6	52	31	38	55
10	Pomona/Walnut Valley	360	0.127	0.092	0.087	1	26	14	20	29
11	South San Gabriel Valley	359	0.111	0.081	0.074	0	6	2	9	6
12	South Central LA County	365	0.098	0.071	0.064	0	1	0	1	1
13	Santa Clarita Valley	366	0.13	0.115	0.1	2	57	35	29	59
ORANGE COUNTY										
16	North Orange County	365	0.103	0.078	0.075	0	6	3	3	7
17	Central Orange County	354	0.103	0.074	0.071	0	4	0	2	4
17	I-5 Near Road###	--	--	--	--	--	--	--	--	--
18	North Coastal Orange County	366	0.09	0.069	0.065	0	0	0	0	0
19	Saddleback Valley	365	0.122	0.093	0.079	0	13	6	5	13
RIVERSIDE COUNTY										
22	Corona/Norco Area	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	357	0.142	0.104	0.097	1	69	47	33	71
23	Metropolitan Riverside County 3	365	0.14	0.106	0.095	1	65	43	34	70
24	Perris Valley	366	0.131	0.098	0.092	1	55	30	23	56
25	Elsinore Valley	360	0.124	0.093	0.087	0	44	25	15	45
26	Temecula Valley	355	0.092	0.081	0.077	0	19	6	0	20
29	San Gorgonio Pass	358	0.128	0.106	0.094	1	52	39	26	54
30	Coachella Valley 1**	363	0.103	0.092	0.087	0	46	20	6	48
30	Coachella Valley 2**	331	0.099	0.089	0.081	0	27	12	3	29
30	Coachella Valley 3**	--	--	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY										
32	Northwest San Bernardino Valley	366	0.156	0.116	0.11	10	88	65	53	89
33	I-10 Near Road###	--	--	--	--	--	--	--	--	--
33	CA-60 Near Road###	--	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	362	0.139	0.105	0.098	3	49	39	34	52
34	Central San Bernardino Valley 2	366	0.158	0.118	0.114	10	106	76	70	108
35	East San Bernardino Valley	364	0.145	0.119	0.103	3	97	71	55	100
37	Central San Bernardino Mountains	365	0.163	0.121	0.116	9	101	80	64	103
38	East San Bernardino Mountains	--	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM			0.163	0.121	0.116	10	106	80	70	108
SOUTH COAST AIR BASIN			0.163	0.121	0.116	17	132	103	83	132
ppm = parts per million -- = Pollutant not monitored ## = Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO2 are operating near the following freeways: I-1, I-10, CA-60, and I-710. **Salton Sea Air Basin *Incomplete data										



**Table 3-3 (Continued)**  
**2016 Air Quality Data – South Coast Air Quality Management District**

NITROGEN DIOXIDE (NO <sub>2</sub> ) <sup>b</sup>					
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	1-hour Max. Conc. ppb, 1,	1-hour 98 <sup>th</sup> Percentile Conc. ppb,	Annual Average AAM Conc. ppb
<b>LOS ANGELES COUNTY</b>					
1	Central LA	366	64.7	61	20.8
2	Northwest Coastal LA County	366	54.5	49.3	11.6
3	Southwest Coastal LA County	348	81.5	54.7	10.1
4	South Coastal LA County 1	--	--	--	--
4	South Coastal LA County 2	--	--	--	--
4	South Coastal LA County 3	366	75.6	66.3	18.5
4	I-710 Near Road <sup>##</sup>	366	95.3	76.6	23.9
6	West San Fernando Valley	355	55.5	45.9	12.9
8	West San Gabriel Valley	366	71.9	58.4	15.4
9	East San Gabriel Valley 1	366	74.2	58.3	16.6
9	East San Gabriel Valley 2	365	65.4	45.7	11.6
10	Pomona/Walnut Valley	360	69.3	62.5	20.1
11	South San Gabriel Valley	361	63.2	60.1	20
12	South Central LA County	366	63.7	58.4	15.6
13	Santa Clarita Valley	361	46.4	39.4	10.2
<b>ORANGE COUNTY</b>					
16	North Orange County	359	60.4	51.5	14.7
17	Central Orange County	354	64.3	56.7	14.8
17	I-5 Near Road <sup>##</sup>	357	75.2	60.1	23.4
18	North Coastal Orange County	349	59.8	51.2	10.1
19	Saddleback Valley	--	--	--	--
<b>RIVERSIDE COUNTY</b>					
22	Corona/Norco Area	--	--	--	--
23	Metropolitan Riverside County 1	366	73.1	52.2	14.9
23	Metropolitan Riverside County 3	366	64.9	48.3	13.6
24	Perris Valley	--	--	--	--
25	Elsinore Valley	345*	51.3	35.6	8.1
26	Temecula Valley	--	--	--	--
29	San Geronio Pass	348	46.9	42.6	7.9
30	Coachella Valley 1**	363	42.6	34.4	6
30	Coachella Valley 2**	--	--	--	--
30	Coachella Valley 3**	--	--	--	--
<b>SAN BERNARDINO COUNTY</b>					
32	Northwest San Bernardino Valley	366	70.1	55.1	16.5
33	I-10 Near Road <sup>##</sup>	362	93.4	74.3	29.3
33	CA-60 Near Road <sup>##</sup>	361	89.8	71.3	31
34	Central San Bernardino Valley 1	357	71.7	56.4	18.2
34	Central San Bernardino Valley 2	355	60.1	51.4	16.6
35	East San Bernardino Valley	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--
38	East San Bernardino Mountains	--	--	--	--
<b>DISTRICT MAXIMUM</b>			<b>95.3</b>	<b>76.6</b>	<b>31</b>
<b>SOUTH COAST AIR BASIN</b>			<b>95.3</b>	<b>76.6</b>	<b>31</b>
ppb = parts per billion AAM = Annual Arithmetic Mean <sup>##</sup> = Four near-road sites measuring one or more of the pollutants PM <sub>2.5</sub> , CO, and/or NO <sub>2</sub> are operating near the following freeways: I-1, I-10, CA-60, and I-710. -- = Pollutant not monitored **Salton Sea Air Basin					

<sup>b</sup> The NO<sub>2</sub> federal 1-hour standard is 100 ppb and the annual standard is annual arithmetic mean NO<sub>2</sub> > 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).



**Table 3-3 (Continued)**  
**2016 Air Quality Data – South Coast Air Quality Management District**

<b>SULFUR DIOXIDE (SO<sub>2</sub>)<sup>c</sup></b>				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Maximum Conc. ppb, 1-hour	99 <sup>th</sup> Percentile Conc. ppb, 1-hour
<b>LOS ANGELES COUNTY</b>				
1	Central LA	366	13.4	2.5
2	Northwest Coastal LA County	--	--	--
3	Southwest Coastal LA County	363	9.7	5.7
4	South Coastal LA County 1	--	--	--
4	South Coastal LA County 2	--	--	--
4	South Coastal LA County 3	366	17.8	12
4	I-710 Near Road <sup>##</sup>	--	--	--
6	West San Fernando Valley	--	--	--
8	West San Gabriel Valley	--	--	--
9	East San Gabriel Valley 1	--	--	--
9	East San Gabriel Valley 2	--	--	--
10	Pomona/Walnut Valley	--	--	--
11	South San Gabriel Valley	--	--	--
12	South Central LA County	--	--	--
13	Santa Clarita Valley	--	--	--
<b>ORANGE COUNTY</b>				
16	North Orange County	--	--	--
17	Central Orange County	--	--	--
17	I-5 Near Road <sup>##</sup>	--	--	--
18	North Coastal Orange County	366	3.3	2.1
19	Saddleback Valley	--	--	--
<b>RIVERSIDE COUNTY</b>				
22	Corona/Norco Area	--	--	--
23	Metropolitan Riverside County 1	366	5.6	2
23	Metropolitan Riverside County 3	--	--	--
24	Perris Valley	--	--	--
25	Elsinore Valley	--	--	--
26	Temecula Valley	--	--	--
29	San Geronio Pass	--	--	--
30	Coachella Valley 1 <sup>**</sup>	--	--	--
30	Coachella Valley 2 <sup>**</sup>	--	--	--
30	Coachella Valley 3 <sup>**</sup>	--	--	--
<b>SAN BERNARDINO COUNTY</b>				
32	Northwest San Bernardino Valley	--	--	--
33	I-10 Near Road <sup>##</sup>	--	--	--
33	CA-60 Near Road <sup>##</sup>	--	--	--
34	Central San Bernardino Valley 1	363	6.3	2
34	Central San Bernardino Valley 2	--	--	--
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains	--	--	--
<b>DISTRICT MAXIMUM</b>			<b>17.8</b>	<b>12</b>
<b>SOUTH COAST AIR BASIN</b>			<b>17.8</b>	<b>12</b>
ppb = parts per billion -- = Pollutant not monitored ## = Four near-road sites measuring one or more of the pollutants PM <sub>2.5</sub> , CO, and/or NO <sub>2</sub> are operating near the following freeways: I-1, I-10, CA-60, and I-710.				

<sup>c</sup> The federal SO<sub>2</sub> 1-hour standard is 75 ppb (0.075 ppm). The state standards are 1-hour average SO<sub>2</sub> > 0.25 ppm (250 ppb) and 24-hour average SO<sub>2</sub> > 0.04 ppm (40 ppb).



**Table 3-3 (Continued)**  
**2016 Air Quality Data – South Coast Air Quality Management District**  
**SUSPENDED PARTICULATE MATTER PM10<sup>d</sup>**

2016 Air Quality Data - South Coast Air Quality Management District						
SUSPENDED PARTICULATE MATTER PM10 <sup>d</sup>						
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. µg/m <sup>3</sup> , 24-hour	No. (%) Samples Exceeding Standard		Annual Average AAM Conc. <sup>e</sup> µg/m <sup>3</sup>
				Federal > 150 µg/m <sup>3</sup> , 24-hour	State > 50 µg/m <sup>3</sup> , 24-hour	
LOS ANGELES COUNTY						
1	Central LA	277*	67	0	18(6%)	32.4
2	Northwest Coastal LA County	--	--	--	--	--
3	Southwest Coastal LA County	60	43	0	0(0%)	21.6
4	South Coastal LA County 1	--	--	--	--	--
4	South Coastal LA County 2	60	56	0	3(5%)	27.8
4	South Coastal LA County 3	59	75	0	8(14%)	31.9
4	I-710 Near Road <sup>##</sup>	--	--	--	--	--
6	West San Fernando Valley	--	--	--	--	--
8	West San Gabriel Valley	--	--	--	--	--
9	East San Gabriel Valley 1	60	74	0	12(20%)	33.7
9	East San Gabriel Valley 2	362	74	0	21(6%)	29.8
10	Pomona/Walnut Valley	--	--	--	--	--
11	South San Gabriel Valley	--	--	--	--	--
12	South Central LA County	--	--	--	--	--
13	Santa Clarita Valley	60	96	0	1(2%)	23.4
ORANGE COUNTY						
16	North Orange County	--	--	--	--	--
17	Central Orange County	353	74	0	3(1%)	24.4
17	I-5 Near Road <sup>##</sup>	--	--	--	--	--
18	North Coastal Orange County	--	--	--	--	--
19	Saddleback Valley	59	59	0	1(2%)	21
RIVERSIDE COUNTY						
22	Corona/Norco Area	51*	62	0	7(14%)	31.7
23	Metropolitan Riverside County 1	302*	82	0	58(19%)	36.9
23	Metropolitan Riverside County 3	356 <sup>+</sup>	116	0	175(49%)	49
24	Perris Valley	57	76	0	5(9%)	32.2
25	Elsinore Valley	366	99	0	4(1%)	21.4
26	Temecula Valley	--	--	--	--	--
29	San Gorgonio Pass	57	65	0	3(5%)	24
30	Coachella Valley 1**	355 <sup>+</sup>	113	0	6(2%)	20.8
30	Coachella Valley 2**	313**	137	0	56(18%)	36.9
30	Coachella Valley 3**	272**	150	0	76(28%)	43
SAN BERNARDINO COUNTY						
32	Northwest San Bernardino Valley	363	72	0	5(1%)	25
33	I-10 Near Road <sup>##</sup>	--	--	--	--	--
33	CA-60 Near Road <sup>##</sup>	--	--	--	--	--
34	Central San Bernardino Valley 1	61	94	0	15(25%)	38.1
34	Central San Bernardino Valley 2	333*	91	0	33(10%)	33.1
35	East San Bernardino Valley	56	72	0	4(7%)	27.8
37	Central San Bernardino Mountains	61	46	0	0(0%)	17.1
38	East San Bernardino Mountains	--	--	--	--	--
DISTRICT MAXIMUM			150 <sup>+</sup>	0 <sup>+</sup>	175 <sup>+</sup>	49.0 <sup>+</sup>
SOUTH COAST AIR BASIN			116 <sup>+</sup>	0 <sup>+</sup>	181 <sup>+</sup>	49.0 <sup>+</sup>
µg/m <sup>3</sup> = micrograms per cubic meter of air			<sup>##</sup> = Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO2 are operating near the following freeways: I-1, I-10, CA-60, and I-710.			
AAM = Annual Arithmetic Mean			+ = High PM10 (≥ 155 µg/m <sup>3</sup> ) 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.			
-- = Pollutant not monitored						
**Salton Sea Air Basin						
*Incomplete Data						

<sup>d</sup> Federal Reference Method (FRM) PM10 samples were collected every 6 days at all sites except for Stations 4144 and 4157, where samples were collected every 3 days. PM10 statistics listed above are for the FRM data only. Federal Equivalent Method (FEM) PM10 continuous monitoring instruments were operated at some of the above locations. Max 24-hour average PM10 at sites with FEM monitoring was 152 µg/m<sup>3</sup>, at Indio.

<sup>e</sup> State standard is annual average (AAM) > 20 µg/m<sup>3</sup>. Federal annual PM10 standard (AAM > 50 µg/m<sup>3</sup>) was revoked in 2006.



**Table 3-3 (Continued)**  
**2016 Air Quality Data – South Coast Air Quality Management District**  
**SUSPENDED PARTICULATE MATTER PM2.5<sup>f</sup>**

Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. $\mu\text{g}/\text{m}^3$ , 24-hour	98 <sup>th</sup> Percentile Conc. in $\mu\text{g}/\text{m}^3$ , 24-hr	No. (%) Samples Exceeding Federal Std $> 35 \mu\text{g}/\text{m}^3$ , 24-hour	Annual Average AAM Conc. <sup>g</sup> $\mu\text{g}/\text{m}^3$
<b>LOS ANGELES COUNTY</b>						
1	Central LA	357	44.39	27.3	2(0.6%)	11.83
2	Northwest Coastal LA County	--	--	--	--	--
3	Southwest Coastal LA County	--	--	--	--	--
4	South Coastal LA County 1	356	29.37	23.56	0	10.36
4	South Coastal LA County 2	350	28.93	22.05	0	9.62
4	South Coastal LA County 3	--	--	--	--	--
4	I-710 Near Road <sup>##</sup>	352	33.31	26.09	0	12.03
6	West San Fernando Valley	113	30.05	24.59	0	9.23
8	West San Gabriel Valley	119	29.21	25.38	0	9.59
9	East San Gabriel Valley 1	122	32.17	29.01	0	10.15
9	East San Gabriel Valley 2	--	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--	--
11	South San Gabriel Valley	120	46.59	25.13	2(1.7%)	11.75
12	South Central LA County	115	36.35	26.35	1(0.9%)	11.13
13	Santa Clarita Valley	--	--	--	--	--
<b>ORANGE COUNTY</b>						
16	North Orange County	--	--	--	--	--
17	Central Orange County	349	44.45	24.02	1(0.3%)	9.47
17	I-5 Near Road <sup>##</sup>	--	--	--	--	--
18	North Coastal Orange County	--	--	--	--	--
19	Saddleback Valley	117	24.79	13.41	0	7.36
<b>RIVERSIDE COUNTY</b>						
22	Corona/Norco Area	--	--	--	--	--
23	Metropolitan Riverside County 1	357 <sup>+</sup>	39.12	31.65	4(1.1%)	12.54
23	Metropolitan Riverside County 3	352 <sup>+</sup>	45.64	35.14	6(1.7%)	14.02
24	Perris Valley	--	--	--	--	--
25	Elsinore Valley	--	--	--	--	--
26	Temecula Valley	--	--	--	--	--
29	San Geronio Pass	--	--	--	--	--
30	Coachella Valley 1 <sup>**</sup>	112	14.71	12.43	0	5.53
30	Coachella Valley 2 <sup>**</sup>	115	25.84	15.04	0	7.74
30	Coachella Valley 3 <sup>**</sup>	--	--	--	--	--
<b>SAN BERNARDINO COUNTY</b>						
32	Northwest San Bernardino Valley	--	--	--	--	--
33	I-10 Near Road <sup>##</sup>	--	--	--	--	--
33	CA-60 Near Road <sup>##</sup>	347 <sup>+</sup>	44.14	33.02	6(1.7%)	14.73
34	Central San Bernardino Valley 1	111 <sup>+</sup>	30.45	26.25	0	12.04
34	Central San Bernardino Valley 2	113 <sup>+</sup>	32.54	27.12	0	10.84
35	East San Bernardino Valley	--	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--	--
38	East San Bernardino Mountains	55	28.42	22.14	0	6.83
<b>DISTRICT MAXIMUM</b>			<b>46.6<sup>+</sup></b>	<b>35.1<sup>+</sup></b>	<b>6<sup>+</sup></b>	<b>14.73<sup>+</sup></b>
<b>SOUTH COAST AIR BASIN</b>			<b>46.6<sup>+</sup></b>	<b>35.1<sup>+</sup></b>	<b>9<sup>+</sup></b>	<b>14.73<sup>+</sup></b>
$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter of air AAM = Annual Arithmetic Mean -- = Pollutant not monitored <sup>**</sup> Salton Sea Air Basin <sup>*</sup> Incomplete Data						
<sup>##</sup> = Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO2 are operating near the following freeways: I-1, I-10, CA-60, and I-710 <sup>+</sup> = High PM10 ( $\geq 155 \mu\text{g}/\text{m}^3$ ) 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.						

<sup>f</sup> PM2.5 samples were collected every 3 days at all sites except for station numbers 072, 077, 087, 3176, 4144 and 4165, where samples were taken daily, and station number 5818 where samples were taken every 6 days. PM2.5 statistics listed above are for the FRM data only. FEM PM2.5 continuous monitoring instruments were operated at some of the above locations for special purposes studies.

<sup>g</sup> Both federal and state standards are annual average (AAM)  $> 12.0 \mu\text{g}/\text{m}^3$ .



**Table 3-3 (Concluded)**  
**2016 Air Quality Data – South Coast Air Quality Management District**

2010 Air Quality Data - South Coast Air Quality Management District		LEAD <sup>h</sup>		SULFATES (SOx) <sup>i</sup>	
Source Receptor Area No.	Location of Air Monitoring Station	Max. Monthly Average Conc. <sup>m)</sup> µg/m <sup>3</sup>	Max. 3-Month Rolling Average <sup>m)</sup> µg/m <sup>3</sup>	No. Days of Data	Max. Conc. µg/m <sup>3</sup> , 24-hour
LOS ANGELES COUNTY					
1	Central LA	0.016	0.01	58	5.8
2	Northwest Coastal LA County	--	--	--	--
3	Southwest Coastal LA County	0.006	0.01	58	6.2
4	South Coastal LA County 1	--	--	--	--
4	South Coastal LA County 2	0.008	0.01	59	6.3
4	South Coastal LA County 3	--	--	57	7.4
4	I-710 Near Road <sup>##</sup>	--	--	--	--
6	West San Fernando Valley	--	--	--	--
8	West San Gabriel Valley	--	--	--	--
9	East San Gabriel Valley 1	--	--	58	9.5 <sup>#</sup>
9	East San Gabriel Valley 2	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--
11	South San Gabriel Valley	0.011	0.01	--	--
12	South Central LA County	0.016	0.01	--	--
13	Santa Clarita Valley	--	--	59	4.1
ORANGE COUNTY					
16	North Orange County	--	--	--	--
17	Central Orange County	--	--	59	5.3 <sup>#</sup>
17	I-5 Near Road <sup>##</sup>	--	--	--	--
18	North Coastal Orange County	--	--	--	--
19	Saddleback Valley	--	--	58	3.7
RIVERSIDE COUNTY					
22	Corona/Norco Area	--	--	50	8.2 <sup>#</sup>
23	Metropolitan Riverside County 1	0.007	0.01	114	15.2 <sup>#</sup>
23	Metropolitan Riverside County 3	--	--	118	13.6 <sup>#</sup>
24	Perris Valley	--	--	55	6.0 <sup>#</sup>
25	Elsinore Valley	--	--	--	--
26	Temecula Valley	--	--	--	--
29	San Gorgonio Pass	--	--	56	4.0 <sup>#</sup>
30	Coachella Valley 1 <sup>**</sup>	--	--	51	3.9
30	Coachella Valley 2 <sup>**</sup>	--	--	113	4.1
30	Coachella Valley 3 <sup>**</sup>	--	--	--	--
SAN BERNARDINO COUNTY					
32	Northwest San Bernardino Valley	0.007	0.01	--	--
33	I-10 Near Road <sup>##</sup>	--	--	--	--
33	CA-60 Near Road <sup>##</sup>	--	--	--	--
34	Central San Bernardino Valley 1	--	--	59	17.1 <sup>#</sup>
34	Central San Bernardino Valley 2	0.01	0.01	55	16.0 <sup>#</sup>
35	East San Bernardino Valley	--	--	56	12.1 <sup>#</sup>
37	Central San Bernardino Mountains	--	--	59	3.9 <sup>#</sup>
38	East San Bernardino Mountains	--	--	--	--
DISTRICT MAXIMUM		0.016 <sup>++</sup>	0.01 <sup>++</sup>	17.1 <sup>#</sup>	
SOUTH COAST AIR BASIN		0.016 <sup>++</sup>	0.01 <sup>++</sup>	17.1 <sup>#</sup>	
µg/m <sup>3</sup> = micrograms per cubic meter of air		+ = High PM10 (≥ 155 µg/m <sup>3</sup> ) 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.			
-- =Pollutant not monitored		++ = 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 0.88 µ/m <sup>3</sup> and 0.06 µ/m <sup>3</sup> .			
**Salton Sea Air Basin					
*Incomplete Data					
## = Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO2 are operating near the following freeways: I-1, I-10, CA-60, and I-710.					

<sup>h</sup> Federal lead standard is 3-months rolling average > 0.15 µg/m<sup>3</sup>; state standard is monthly average ≥ 1.5 µg/m<sup>3</sup>. Lead standards were not exceeded.

<sup>i</sup> Sulfate data is not available at this time. State sulfate standard is 24-hour ≥ 25 µg/m<sup>3</sup>. There is no federal standard for sulfate.



**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.

CO concentrations were measured at 25 locations in the Basin and neighboring Salton Sea Air Basin areas in 2016. CO concentrations did not exceed the standards in 2016. The highest 1-hour average CO concentration recorded (4.4 ppm in the South Central Los Angeles County area) was 13 percent of the federal 1-hour CO standard of 35 ppm and 22 percent of the state 1-hour standard of 20 ppm. The highest 8-hour average CO concentration recorded (3.9 ppm in the South Central Los Angeles County area) was 43 percent of the federal and state 8-hour CO standard of 9.0 ppm.

In 2004, SCAQMD formally requested the U.S. EPA to re-designate the Basin from nonattainment to attainment with the CO NAAQS. On February 24, 2007, U.S. EPA published in the Federal Register its proposed decision to re-designate the Basin from nonattainment to attainment for CO. The comment period on the re-designation proposal closed on March 16, 2007 with no comments received by the U.S. EPA. On May 11, 2007, U.S. EPA published in the Federal Register its final decision to approve SCAQMD's request for re-designation from non-attainment to attainment for CO, effective June 11, 2007.

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<sub>2</sub> 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.

### **Ozone**

Ozone (O<sub>3</sub>), 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).

The propensity of ozone for reacting with organic materials causes it to be damaging 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 above 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.

In 2016, SCAQMD regularly monitored ozone concentrations at 29 locations in the Basin and the Coachella Valley portion of the Salton Sea Air Basin. Maximum ozone concentrations (fourth highest concentration ppm 8-hour) for all areas monitored were below the stage 1 episode level (0.20 ppm) and below the health advisory level (0.15 ppm) (see Table 3-3). All counties in the Basin, as well as the Coachella Valley, exceeded the level of the new 2015 (0.070 ppm), the former 2008 (0.075 ppm), and/or the 1997 (0.08 ppm) 8-hour ozone NAAQS in 2016. While not all stations had days exceeding the previous 8-hour standards, all monitoring stations except two (South Coastal LA County 3 and North Coastal Orange County) had at least one day over the 2015 federal ozone standard (70 ppb).



In 2016, the maximum ozone concentrations in the Basin continued to exceed federal standards by wide margins. Maximum 1-hour and 8-hour average ozone concentrations were 0.163 ppm and 0.121 ppm, respectively (the maximum 1-hour and 8-hour average was recorded in the Central San Bernardino Mountain area). The maximum 8-hour concentration of 0.121 ppm was 173 percent of the new federal standard (0.070 ppm). The maximum 1-hour concentration was 181 percent of the 1-hour state ozone standard of 0.09 ppm. The 8-hour average concentration was 173 percent of the 8-hour state ozone standard of 0.070 ppm.

### **Nitrogen Dioxide**

NO<sub>2</sub> is a reddish-brown gas with a bleach-like odor. Nitric oxide (NO) is a colorless gas, formed from the nitrogen (N<sub>2</sub>) and oxygen (O<sub>2</sub>) 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<sub>2</sub>. NO<sub>2</sub> is responsible for the brownish tinge of polluted air. The two gases, NO and NO<sub>2</sub>, are referred to collectively as NO<sub>x</sub>. In the presence of sunlight, NO<sub>2</sub> reacts to form nitric oxide and an oxygen atom. The oxygen atom can react further to form ozone, via a complex series of chemical reactions involving hydrocarbons. Nitrogen dioxide may also react to form nitric acid (HNO<sub>3</sub>) which reacts further to form nitrates, components of PM<sub>2.5</sub> and PM<sub>10</sub>.

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<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> exposures and cardiopulmonary mortality, decreased lung function, respiratory symptoms, and emergency room asthma visits.

In animals, exposure to levels of NO<sub>2</sub> considerably higher than ambient concentrations results 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<sub>2</sub>.

In 2016, nitrogen dioxide concentrations were monitored at 27 locations. No area of the Basin or Salton Sea Air Basin exceeded the federal or state standards for NO<sub>2</sub>. The Basin has not exceeded the federal standard for NO<sub>2</sub> (0.0534 ppm) since 1991, when the Los Angeles County portion of the Basin recorded the last exceedance of the standard in any county within the United States. The current 1-hour average NO<sub>2</sub> NAAQS (100 ppb) was last exceeded on two days in 2014 in the South Coastal Los Angeles County area at the Long Beach-Hudson air monitoring station. However, the 98th percentile form of the standard was not exceeded, and the 2013-2015 design value is not in violation of the NAAQS. The higher relative concentrations in the Los Angeles area are indicative of the concentrated emission sources, especially heavy-duty vehicles. NO<sub>x</sub> emission reductions continue to be necessary because it is a precursor to both ozone and PM (PM<sub>2.5</sub> and PM<sub>10</sub>) concentrations.



With the revised NO<sub>2</sub> federal standard in 2010, near-road NO<sub>2</sub> 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) 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.

The longest operating near-road station in the Basin, adjacent to I-5 in Orange County, has not exceeded the level of the 1-hour NO<sub>2</sub> NAAQS (100 ppb) since the measurements began on January 1, 2014. The peak 1-hour NO<sub>2</sub> concentration at that site in 2014 was 78.8 ppb and the peak concentration for 2015 was 70.2 ppb. This can be compared to the annual peak values measured at the nearest ambient monitoring station in Central Orange County (Anaheim station), where the 2014 and 2015 peaks were 75.8 and 59.1, respectively.

### **Sulfur Dioxide**

SO<sub>2</sub> is a colorless gas with a sharp odor. It reacts in the air to form sulfuric acid (H<sub>2</sub>SO<sub>4</sub>), which contributes to acid precipitation, and sulfates, which are components of PM<sub>10</sub> and PM<sub>2.5</sub>. Most of the SO<sub>2</sub> emitted into the atmosphere is produced by burning sulfur-containing fuels.

Exposure of a few minutes to low levels of SO<sub>2</sub> can result in airway constriction in some asthmatics. All asthmatics are sensitive to the effects of SO<sub>2</sub>. 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 SO<sub>2</sub>. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO<sub>2</sub>.

Animal studies suggest that despite SO<sub>2</sub> 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 SO<sub>2</sub> levels. In these studies, efforts to separate the effects of SO<sub>2</sub> 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.

No exceedances of federal or state standards for sulfur dioxide occurred in 2016 at any of the six locations monitored the Basin. The maximum 1-hour SO<sub>2</sub> concentration was 17.8 ppb, as recorded in the South Coastal Los Angeles County area. The 99<sup>th</sup> percentile of 1-hour SO<sub>2</sub> concentration was 12 ppb, as recorded in South Coastal Los Angeles County area. Though SO<sub>2</sub> concentrations remain well below the standards, SO<sub>2</sub> is a precursor to sulfate, which is a component of fine particulate matter, PM<sub>10</sub>, and PM<sub>2.5</sub>. Historical measurements showed concentrations to be well below standards and monitoring has been discontinued.



**Particulate Matter (PM10 and PM2.5)**

Of great concern to public health are the 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 PM10 and PM2.5.

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 life-span, and an increased mortality from lung cancer.

Daily fluctuations in fine particulate matter concentration levels 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.

SCAQMD monitored PM10 concentrations at 23 locations in 2016. The federal 24-hour PM10 standard (150 µg/m<sup>3</sup>) was not exceeded in 2016. The Basin has remained in attainment of the PM10 NAAQS since 2006. The maximum three-year average 24-hour PM10 concentration of 150 µg/m<sup>3</sup> was recorded in the Coachella Valley area and was 100 percent of the federal standard and 300 percent of the much more stringent state 24-hour PM10 standard (50 µg/m<sup>3</sup>). The state 24-hour PM10 standard was exceeded at several of the monitoring stations. The maximum annual average PM10 concentration of 49 µg/m<sup>3</sup> was recorded in Metropolitan Riverside County. The federal annual PM10 standard has been revoked. The much more stringent state annual PM10 standard (20 µg/m<sup>3</sup>) was exceeded in most stations in each county in the Basin and in the Coachella Valley.

In 2016, PM2.5 concentrations were monitored at 19 locations throughout the Basin. U.S. EPA revised the federal 24-hour PM2.5 standard from 65 µg/m<sup>3</sup> to 35 µg/m<sup>3</sup>, effective December 17, 2006. In 2016, the maximum PM2.5 concentrations in the Basin exceeded the new federal 24-hour PM2.5 standard in seven out of 19 locations. The maximum 24-hour PM2.5 concentration of 46.6 µg/m<sup>3</sup> was recorded in the South San Gabriel Valley area. The 98th percentile 24-hour PM2.5 concentration of 35.1 µg/m<sup>3</sup> was recorded in the Metropolitan Riverside County, which barely exceeds the federal standard of 35 µg/m<sup>3</sup>. The maximum annual average concentration of 14.73 µg/m<sup>3</sup> was recorded in San Bernardino County, which represents 98 percent of the 2006 federal standard of 15 µg/m<sup>3</sup>.



On December 14, 2012, U.S. EPA strengthened the annual NAAQS for PM<sub>2.5</sub> to 12 µg/m<sup>3</sup> 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 as a result of direct emissions from cars and heavy-duty diesel trucks and buses. SCAQMD has installed the two required PM<sub>2.5</sub> monitors by January 1, 2015, at locations selected based upon the existing near-roadway NO<sub>2</sub> sites that were ranked higher for heavy-duty diesel traffic. The locations are: (1) I-710, located at Long Beach Blvd. in Los Angeles County near Compton and Long Beach; and (2) SR-60, located west of Vineyard Avenue near the San Bernardino/Riverside County border near Ontario, Mira Loma, and Upland. These near-road sites measure PM<sub>2.5</sub> daily with FRM filter-based measurements.

### **Lead**

Lead in the atmosphere is present as a mixture of a number of 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.

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 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.

The state standards for lead were not exceeded in any area of the SCAQMD in 2016. There have been no violations of these standards at SCAQMD's regular air monitoring stations since 1982, as a result of removal of lead from gasoline. However, monitoring at two stations immediately adjacent to stationary sources of lead recorded exceedances of the standard in Los Angeles County over the 2007-2009 time period. These data were used for designations under the revised standard that also included new requirements for near-source monitoring. As a result, a nonattainment designation was finalized for much of the Los Angeles County portion of the Basin when the current standard was implemented.

The current lead concentrations in Los Angeles County are now below the NAAQS. The maximum quarterly average lead concentration (0.01 µg/m<sup>3</sup> at several monitoring) was seven percent of the federal quarterly average lead standard (0.15 µg/m<sup>3</sup>). The maximum monthly average lead concentration (0.016 µg/m<sup>3</sup> in South Central Los Angeles County) was one percent of the state monthly average lead standard. As a result of the 2012-2014 design value below the



NAAQS, SCAQMD will be requesting that U.S. EPA re-designate the nonattainment area as attaining the federal lead standard. Stringent SCAQMD rules governing lead-producing sources will help to ensure that there are no future violations of the federal standard. Furthermore, one business that had been responsible for the highest measured lead concentrations in Los Angeles County has closed and is in the process of demolition and site clean-up.

### **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 SO<sub>2</sub>. Oxidation of sulfur dioxide yields sulfur trioxide (SO<sub>3</sub>), 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 SO<sub>2</sub> 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.

Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure. Animal studies suggest that acidic particles such as sulfuric acid aerosol and ammonium bisulfate are more toxic than nonacidic particles like ammonium sulfate. Whether the effects are attributable to acidity or to particles remains unresolved.

The most current preliminary data available for sulfates is for 2016. In 2016, the state 24-hour sulfate standard (25 µg/m<sup>3</sup>) was not exceeded in any of the 19 monitoring locations in the Basin. The maximum 24-hour sulfate concentration was 17.1 ppb, as recorded in the Central San Bernardino Valley. There are no federal sulfate standards.

### **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). (Air Gas, 2010.) 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.



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 a localized impacts rather than regional impacts. Because landfills in the SCAQMD are subject to Rule 1150.1 – Control of Gaseous Emissions from Municipal Solid Waste Landfills, which contains stringent requirements for landfill gas collection and control, potential vinyl chloride emissions are expected to be below the level of detection. Therefore, SCAQMD does not monitor for vinyl chloride at its monitoring stations.

### **Volatile Organic Compounds**

It should be noted that there are no state or national ambient air quality standards for VOCs because they are not classified as criteria pollutants. VOCs are regulated, however, because limiting VOC emissions reduces the rate of photochemical reactions that contribute to the formation of ozone. VOCs are also transformed into organic aerosols in the atmosphere, contributing to higher PM<sub>10</sub> 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 SCAQMD's primary mandate is attaining the state and NAAQS for criteria pollutants within the Basin, SCAQMD 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 SCAQMD to implement airborne toxic control measures (ATCM) adopted by CARB and to implement the Air Toxics "Hot Spots" Act. As a result, SCAQMD has regulated pollutants other than criteria pollutants such as TACs, greenhouse gases, and stratospheric ozone depleting compounds. SCAQMD has developed a number of rules to control non-criteria pollutants from both new and existing sources. These rules originated through state directives, CAA requirements, or the SCAQMD rulemaking process.

In addition to promulgating non-criteria pollutant rules, SCAQMD has been evaluating AQMP control measures as well as existing rules to determine whether or not they would affect, either positively or negatively, emissions of non-criteria pollutants. For example, rules in which VOC components of coating materials are replaced by 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.

The following subsections summarize the existing setting for the two major categories of non-criteria pollutants: compounds that contribute to TACs, global climate change, and stratospheric ozone depletion.



## **Air Quality – Toxic Air Contaminants**

### ***Federal***

Under Section 112 of the CAA, U.S. EPA is required to regulate sources that emit one or more of the 187 federally listed hazardous air pollutants (HAPs). HAPs are toxic air pollutants identified in the CAA, which are known or suspected of causing cancer or other serious health effects. The federal HAPs are listed on the U.S. EPA website at <http://www.epa.gov/ttn/atw/orig189.html>. In order to implement the CAA, approximately 100 National Emission Standards for Hazardous Air Pollutants (NESHAPs) have been promulgated by U.S. EPA for major sources (sources emitting greater than 10 tpy of a single HAP or greater than 25 tpy of multiple HAPs). SCAQMD can either directly implement NESHAPs or adopt rules that contain requirements at least as stringent as the NESHAP requirements. However, since NESHAPs often apply to sources in the Basin that are controlled, many of the sources that would have been subject to federal requirements already comply or are exempt.

In addition to the major source NESHAPs, U.S. EPA has also controlled HAPs from urban areas by developing Area Source NESHAPs under their Urban Air Toxics Strategy. U.S. EPA defines an area source as a source that emits less than 10 tons annually of any single hazardous air pollutant or less than 25 tons annually of a combination of hazardous air pollutants. The CAA requires the U.S. EPA to identify a list of at least 30 air toxics that pose the greatest potential health threat in urban areas. U.S. EPA is further required to identify and establish a list of area source categories that represent 90 percent of the emissions of the 30 urban air toxics associated with area sources, for which Area Source NESHAPs are to be developed under the CAA. U.S. EPA has identified a total of 70 area source categories with regulations promulgated for more than 30 categories so far.

The federal toxics program recognizes diesel engine exhaust (diesel particulate matter or DPM) as a health hazard; however, DPM itself is not one of their listed toxic air contaminants. Rather, each toxic compound in the speciated list of compounds in exhaust is considered separately. Although there are no specific NESHAP regulations for DPM, DPM reductions are realized through federal regulations including diesel fuel standards and emission standards for stationary, marine, and locomotive engines; and idling controls for locomotives.

### ***State***

The California air toxics program was based on the CAA and the original federal list of hazardous air pollutants. The state program was established in 1983 under the Toxic Air Contaminant Identification and Control Act, Assembly Bill (AB) 1807, Tanner. Under the state program, toxic air contaminants are identified through a two-step process of risk identification and risk management. This two-step process was designed to protect residents from the health effects of toxic substances in the air.

**Control of TACs under the TAC Identification and Control Program:** California's TAC identification and control program, adopted in 1983 as AB 1807, is a two-step program in which substances are identified as TACs and ATCMs are adopted to control emissions from specific



sources. CARB has adopted a regulation designating all 188 federal hazardous air pollutants (HAPs) as TACs.

ATCMs are developed by CARB and implemented by SCAQMD and other air districts through the adoption of regulations of equal or greater stringency. Generally, the ATCMs reduce emissions to achieve exposure levels below a determined health threshold. If no such threshold levels are determined, emissions are reduced to the lowest level achievable through the best available control technology unless it is determined that an alternative level of emission reduction is adequate to protect public health.

Under California law, a federal NESHAP automatically becomes a state ATCM, unless CARB has already adopted an ATCM for the source category. Once a NESHAP becomes an ATCM, CARB and each air pollution control or air quality management district have certain responsibilities related to adoption or implementation and enforcement of the NESHAP/ATCM.

**Control of TACs under the Air Toxics "Hot Spots" Act:** The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588) establishes a statewide program to inventory and assess the risks from facilities that emit TACs and to notify the public about significant health risks associated with the emissions. Facilities are phased into the AB 2588 program based on their emissions of criteria pollutants or their occurrence on lists of toxic emitters compiled by SCAQMD. Phase I consists of facilities that emit over 25 tons per year of any criteria pollutant and facilities present on SCAQMD's toxics list. Phase I facilities entered the program by reporting their TAC emissions for calendar year 1989. Phase II consists of facilities that emit between 10 and 25 tpy of any criteria pollutant and submitted air toxic inventory reports for calendar year 1990 emissions. Phase III consists of certain designated types of facilities which emit less than 10 tons per year of any criteria pollutant and submitted inventory reports for calendar year 1991 emissions. Inventory reports are required to be updated every four years under the state law.

**Air Toxics Control Measures:** As part of its risk management efforts, CARB has passed state ATCMs to address air toxics from mobile and stationary sources. Some key ATCMs for stationary sources include reductions of benzene emissions from service stations, hexavalent chromium emissions from chrome plating, perchloroethylene emissions from dry cleaning, ethylene oxide emissions from sterilizers, and multiple air toxics from the automotive painting and repair industries.

Many of CARB's recent ATCMs are part of the CARB Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (Diesel Risk Reduction Plan), which was adopted in September 2000 (<http://www.arb.ca.gov/diesel/documents/rrpapp.htm>) with the goal of reducing DPM emissions from compression ignition engines and associated health risk by 75 percent by 2010 and 85 percent by 2020. The Diesel Risk Reduction Plan includes strategies to reduce emissions from new and existing engines through the use of ultra-low sulfur diesel fuel, add-on controls, and engine replacement. In addition to stationary source engines, the plan addresses DPM emissions from mobile sources such as trucks, buses, construction equipment, locomotives, and ships.



**OEHHA Health Risk Assessment Guidelines:** In 2003, OEHHA developed and approved its Health Risk Assessment Guidance document (2003 OEHHA Guidelines) and prepared a series of Technical Support Documents, reviewed and approved by the Scientific Review Panel (SRP), that provided new scientific information showing that early-life exposures to air toxics contribute to an increased estimated lifetime risk of developing cancer and other adverse health effects, compared to exposures that occur in adulthood. As a result, OEHHA developed the Revised OEHHA Guidelines in March 2015, which incorporated this new scientific information. The new method utilizes higher estimates of cancer potency during early life exposures. There are also differences in the assumptions on breathing rates and length of residential exposures.

### **SCAQMD**

SCAQMD has regulated criteria air pollutants using either a technology-based or an emissions limit approach. The technology-based approach defines specific control technologies that may be installed to reduce pollutant emissions. The emissions limit approach establishes an emission limit, and allows industry to use any emission control equipment, as long as the emission requirements are met. The regulation of TACs often uses a health risk-based approach, but may also require a regulatory approach similar to criteria pollutants, as explained in the following subsections.

**Rules and Regulations:** Under SCAQMD's toxic regulatory program there are 26 source-specific rules that target toxic emission reductions that regulate over 10,000 sources such as metal finishing, spraying operations, dry cleaners, film cleaning, gasoline dispensing, and diesel-fueled stationary engines to name a few. In addition, other source-specific rules targeting criteria pollutant reductions also reduce toxic emissions, such as Rule 461 – Gasoline Transfer and Dispensing, which reduces benzene emissions from gasoline dispensing, and Rule 1124 – Aerospace Assembly and Component Manufacturing Operations, which reduces perchloroethylene, trichloroethylene, and methylene chloride emissions from aerospace operations.

New and modified sources of toxic air contaminants in the SCAQMD are subject to Rule 1401 - New Source Review of Toxic Air Contaminants and Rule 212 - Standards for Approving Permits. Rule 212 requires notification of SCAQMD's intent to grant a permit to construct a significant project, defined as a new or modified permit unit located within 1000 feet of a school (a state law requirement under AB 3205), a new or modified permit unit posing a maximum individual cancer risk of one in one million ( $1 \times 10^6$ ) or greater, or a new or modified facility with criteria pollutant emissions exceeding specified daily maximums. Distribution of notice is required to all addresses within a quarter mile radius, or other area deemed appropriate by SCAQMD. Rule 1401 currently controls emissions of carcinogenic and non-carcinogenic (health effects other than cancer) air contaminants from new, modified and relocated sources by specifying limits on cancer risk and hazard index (explained further in the following discussion), respectively. The rule lists nearly 300 TACs that are evaluated during SCAQMD's permitting process for new, modified, or relocated sources. During the past decade, more than ten compounds have been added or had risk values amended. The addition of DPM from diesel-fueled internal combustion engines as a TAC in March 2008 was the most significant of recent amendments to the rule. Rule 1401.1 –



Requirements for New and Relocated Facilities Near Schools sets risk thresholds for new and relocated facilities near schools. The requirements are more stringent than those for other air toxics rules in order to provide additional protection to school children.

**Air Toxics Control Plan:** On March 17, 2000, the SCAQMD Governing Board approved the Air Toxics Control Plan (2000 ATCP), which was the first comprehensive plan in the nation to guide future toxic rulemaking and programs. The ATCP was developed to lay out SCAQMD's air toxics control program which built upon existing federal, state, and local toxic control programs as well as co-benefits from implementation of SIP measures. The concept for the plan was an outgrowth of the Environmental Justice principles and the Environmental Justice Initiatives adopted by SCAQMD Governing Board on October 10, 1997. Monitoring studies and air toxics regulations that were created from these initiatives emphasized the need for a more systematic approach to reducing toxic air contaminants. The intent of the plan was to reduce exposure to air toxics in an equitable and cost-effective manner that promotes clean, healthful air in the SCAQMD. The plan proposed control strategies to reduce TACs in the SCAQMD implemented between years 2000 and 2010 through cooperative efforts of SCAQMD, local governments, CARB, and U.S. EPA.

**Cumulative Impact Reduction Strategies (CIRS):** The CIRS was presented to the SCAQMD Governing Board on September 5, 2003, as part of the White Paper on Regulatory Options for Addressing Cumulative Impacts from Air Pollution Emissions. The resulting 25 cumulative impacts strategies were a key element of the Addendum to March 2000 Final Draft Air Toxics Control Plan for Next Ten Years (2004 Addendum). The strategies included rules, policies, funding, education, and cooperation with other agencies. Some of the key SCAQMD accomplishments related to the cumulative impacts reduction strategies were:

- Rule 1401.1, which set more stringent health risk requirements for new and relocated facilities near schools
- Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines, which established DPM emission limits and other requirements for diesel-fueled engines
- Rule 1469.1 – Spraying Operations Using Coatings Containing Chromium, which regulated chrome spraying operations
- Rule 410 – Odor from Transfer Stations and Material Recovery Facilities which addresses odors from transfer stations and material recovery facilities
- Intergovernmental Review comment letters for CEQA documents
- SCAQMD's land use guidance document
- Additional protection in toxics rules for sensitive receptors, such as more stringent requirements for chrome plating operations and diesel engines located near schools

**2004 Addendum:** The 2004 Addendum was adopted by the SCAQMD Governing Board on April 2, 2004, and served as a status report regarding implementation of the various mobile and stationary source strategies in the 2000 ATCP and introduced new measures to further address air toxics. The main elements of the 2004 Addendum were to address the progress made in the



implementation of the 2000 ATCP control strategies; provide a historical perspective of air toxic emissions and current air toxic levels; incorporate the CIRS approved in 2003 and additional measures identified in the 2003 AQMP; project future air toxic levels to the extent feasible; and summarize future efforts to develop the next ATCP. Significant progress had been made in implementing most of SCAQMD strategies from the 2000 ATCP and the 2004 Addendum. CARB has also made notable progress in mobile source measures via its Diesel Risk Reduction Plan, especially for goods movement related sources, while the U.S. EPA continued to implement their air toxic programs applicable to stationary sources.

**Clean Communities Plan:** On November 5, 2010, the SCAQMD Governing Board approved the 2010 Clean Communities Plan (CCP). The CCP was an update to the 2000 ATCP and the 2004 Addendum. The objective of the 2010 CCP was to reduce exposure to air toxics and air-related nuisances throughout the SCAQMD, with emphasis on cumulative impacts. The elements of the 2010 CCP are community exposure reduction, community participation, communication and outreach, agency coordination, monitoring and compliance, source-specific programs, and nuisance. The centerpiece of the 2010 CCP is a pilot study through which SCAQMD staff works with community stakeholders to identify and develop solutions community-specific to air quality issues in two communities: (1) the City of San Bernardino; and (2) Boyle Heights and surrounding areas.

**Control of TACs under the Air Toxics "Hot Spots" Act:** On October 2, 1992, the SCAQMD Governing Board adopted public notification procedures for Phase I and II facilities. These procedures specify that AB 2588 facilities must provide public notice when exceeding the following risk levels:

- Maximum Individual Cancer Risk: greater than 10 in one million ( $10 \times 10^6$ )
- Total Hazard Index: greater than 1.0 for TACs except lead, or  $> 0.5$  for lead

Public notice is to be provided by letters mailed to all addresses and all parents of children attending school in the impacted area. In addition, facilities must hold a public meeting and provide copies of the facility risk assessment in all school libraries and a public library in the impacted area.

The AB 2588 Toxics "Hot Spots" Program is implemented through Rule 1402 - Control of Toxic Air Contaminants from Existing Sources. SCAQMD continues to review health risk assessments submitted. Notification is required from facilities with a significant risk under the AB 2588 program based on their initial approved health risk assessments and will continue on an ongoing basis as additional and subsequent health risk assessments are reviewed and approved.

There are currently about 361 facilities in SCAQMD's AB 2588 program. Since 1992 when the state Health and Safety Code incorporated a risk reduction requirement in the program, SCAQMD has reviewed and approved over 335 HRAs; 50 facilities were required to do a public notice and 24 facilities were subject to risk reduction. Currently, over 96 percent of the facilities in the



program have cancer risks below ten in a million and over 97 percent have acute and chronic hazard indices of less than one. (SCAQMD, 2015a.)

**CEQA Intergovernmental Review Program:** SCAQMD staff, through its Intergovernmental Review (IGR), provides comments to lead agencies on air quality analyses and mitigation measures in CEQA documents. The following are some key programs and tools that have been developed more recently to strengthen air quality analyses, specifically as they relate to exposure of mobile source air toxics:

- SCAQMD’s Mobile Source Committee approved the “Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions” (August 2002). This document provides guidance for analyzing cancer risks from DPM from truck idling and movement (e.g., truck stops, warehouse and distribution centers, or transit centers), ship hoteling at ports, and train idling.
- CalEPA and CARB’s “Air Quality and Land Use Handbook: A Community Health Perspective” (April 2005), provides recommended siting distances for incompatible land uses.
- Western Riverside Council of Governments’ Regional Air Quality Task Force developed a policy document titled “Good Neighbor Guidelines for Siting New and/or Modified Warehouse/Distribution Facilities” (September 2005). This document provides guidance to local government on preventive measures to reduce neighborhood exposure to toxic air contaminants from warehousing facilities.

**Environmental Justice (EJ):** Environmental justice has long been a focus of SCAQMD. In 1990, SCAQMD formed an Ethnic Community Advisory Group that was restructured as the Environmental Justice Advisory Group (EJAG) in 2008. EJAG’s mission is to advise and assist SCAQMD in protecting and improving public health in SCAQMD’s most impacted communities through the reduction and prevention of air pollution.

In 1997, the SCAQMD Governing Board adopted four guiding principles and ten initiatives (<http://www.aqmd.gov/ej/history.htm>) to ensure environmental equity. Also in 1997, the SCAQMD Governing Board expanded the initiatives to include the “Children’s Air Quality Agenda” focusing on the disproportionate impacts of poor air quality on children. Some key initiatives that have been implemented were the Multiple Air Toxics Exposure Studies (MATES, MATES II, MATES III, and MATES IV); the Clean Fleet Rules; CIRS; funding for lower emitting technologies under the Carl Moyer Program; the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning; a guidance document on Air Quality Issues in School Site Selection; and the 2000 ATCP and its 2004 Addendum. Key initiatives focusing on communities and residents include the Clean Air Congress; the Clean School Bus Program; Asthma and Air Quality Consortium; Brain and Lung Tumor and Air Pollution Foundation; air quality presentations to schools and community and civic groups; and Town Hall meetings. Technological and scientific projects and programs have been a large part of SCAQMD’s EJ program since its inception. Over time, the EJ program’s focus on public education, outreach, and opportunities for public participation have greatly increased. Public education materials and other resources for the public are available on SCAQMD’s website ([www.aqmd.gov](http://www.aqmd.gov)).



**AB 2766 Subvention Funds:** AB 2766 subvention funds, money collected by the state as part of vehicle registration and passed through to SCAQMD, is used to fund projects in local cities that reduce motor vehicle air pollutants. The Clean Fuels Program, funded by a surcharge on motor vehicle registrations in SCAQMD, reduces TAC emissions through co-funding projects that develop and demonstrate low-emission clean fuels and advanced technologies, and to promote commercialization and deployment of promising or proven technologies in Southern California.

**Carl Moyer Program:** Another program that targets diesel emission reductions is the Carl Moyer Program, which provides grants for projects that achieve early or extra emission reductions beyond what is required by regulations. Examples of eligible projects include cleaner on-road, off-road, marine, locomotive, and stationary agricultural pump engines. Other endeavors of SCAQMD's Technology Advancement Office help to reduce DPM emissions through co-funding research and demonstration projects of clean technologies, such as low-emitting locomotives.

**Control of TACs with Risk Reduction Audits and Plans:** Senate Bill (SB) 1731, enacted in 1992 and codified in Health and Safety Code Section 44390 et seq., amended AB 2588 to include a requirement for facilities with significant risks to prepare and implement a risk reduction plan that will reduce the risk below a defined significant risk level within specified time limits. SCAQMD Rule 1402 was adopted on April 8, 1994, to implement the requirements of SB 1731. In addition to the TAC rules adopted by SCAQMD under authority of AB 1807 and SB 1731, SCAQMD has adopted source-specific TAC rules, based on the specific level of TAC emitted and the needs of the area. These rules are similar to the state's ATCMs because they are source-specific and only address emissions and risk from specific compounds and operations.

#### ***Multiple Air Toxics Exposure Studies***

Multiple Air Toxics Exposure Study (MATES): In 1986, SCAQMD conducted the first MATES report to determine the Basin-wide risks associated with major airborne carcinogens. At the time, the state of technology was such that only 20 known air toxic compounds could be analyzed and diesel exhaust particulate did not have an agency accepted carcinogenic health risk value. TACs are determined by U.S. EPA, and by CalEPA, including OEHHA and CARB. For purposes of MATES, the California carcinogenic health risk factors were used. The maximum combined individual health risk for simultaneous exposure to pollutants under the study was estimated to be 600 to 5,000 in one million.

Multiple Air Toxics Exposure Study II (MATES II): At its October 10, 1997 meeting, the SCAQMD Governing Board directed staff to conduct a follow up to the MATES report to quantify the magnitude of population exposure risk from existing sources of selected air toxic contaminants at that time. MATES II included a monitoring program of 40 known air toxic compounds, an updated emissions inventory of toxic air contaminants (including microinventories around each of the 14 microscale sites), and a modeling effort to characterize health risks from hazardous air pollutants. The estimated Basin-wide carcinogenic health risk from ambient measurements was 1,400 per million people. About 70 percent of the Basin-wide health risk was attributed to DPM emissions; about 20 percent to other toxics associated with mobile sources (including benzene, butadiene, and formaldehyde); about 10 percent of Basin-wide health risk was attributed to



stationary sources (which include industrial sources and other certain specifically identified commercial businesses such as dry cleaners and print shops.)

**Multiple Air Toxics Exposure Study III (MATES III):** MATES III was part of the SCAQMD Governing Board's 2003-04 Environmental Justice Workplan approved on September 5, 2003. The MATES III report consisted of several elements including a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize carcinogenic health risk across the Basin. Besides toxics, additional measurements included organic carbon, elemental carbon, and total carbon, as well as, Particulate Matter (PM), including PM<sub>2.5</sub>. It did not estimate mortality or other health effects from particulate exposures. MATES III revealed a general downward trend in air toxic pollutant concentrations with an estimated Basin-wide lifetime carcinogenic health risk of 1,200 in one million. Mobile sources accounted for 94 percent of the basin-wide lifetime carcinogenic health risk with diesel exhaust particulate contributing to 84 percent of the mobile source Basin-wide lifetime carcinogenic health risk. Non-diesel carcinogenic health risk declined by 50 percent from the MATES II values.

**Multiple Air Toxics Exposure Study IV (MATES IV):** MATES IV, the current version, includes a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize risk across the Basin. The study focuses on the carcinogenic risk from exposure to air toxics but does not estimate mortality or other health effects from particulate exposures. An additional focus of MATES IV is the inclusion of measurements of ultrafine particle concentrations. MATES IV incorporates the updated health risk assessment methodology from OEHHA. Compared to previous studies of air toxics in the Basin, this study found decreasing air toxics exposure, with the estimated Basin-wide population-weighted risk down by about 57 percent from the analysis done for the MATES III time period. The ambient air toxics data from the ten fixed monitoring locations also demonstrated a similar reduction in air toxic levels and risks. On average, diesel particulate contributes about 68 percent of the total air toxics risk. This is a lower portion of the overall risk compared to the MATES III estimates of about 84 percent.

### **Health Effects**

**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 particular 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. CalEPA's OEHHA develops Reference Exposure Levels (RELs) for TACs which 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).



## **CHAPTER 4**

---

### **ENVIRONMENTAL IMPACTS**

**Introduction**

**Potential Significant Environmental Impacts and Mitigation Measures**

**Air Quality**

**Cumulative Environmental Impacts and Mitigation Measures**

**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 Uses and Long-Term Productivity**



## 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 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 17 environmental categories in which potential adverse impacts from a project are evaluated.

The CEQA Guidelines also indicate that the degree of specificity required in a CEQA document depends on the type of project being proposed. (CEQA Guidelines Section 15146.) The detail of the environmental analysis for certain types of projects cannot be as great as for others. As explained in Chapter 1, the analysis of PAR 1111 indicated that the type of CEQA document appropriate for the proposed project is a SEA.

## POTENTIAL SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This document is a SEA to the September 2014 Final EA. The previous environmental analysis in the September 2014 Final EA contained an environmental checklist and concluded that none of the 17 environmental topic areas would have potentially significant adverse impacts at the time the September 2014 amendments to Rule 1111 were adopted. PAR 1111, similar to Rule 1111, would also extend the compliance-mitigation fee alternative compliance option end dates for residential and commercial fan-type central furnaces. In addition, PAR 1111 proposes to increase the mitigation fee and clarify exemptions to prevent circumvention of the rule. A rebate program, separate from the rule amendment, is also proposed. Initial Analysis of PAR 1111 is expected to result in NOx emission reductions foregone of up to 0.07 to 0.09 tons per day in 2018, 0.26 to ~~0.33~~ 0.32 tons per day in 2023, and 0.26 to ~~0.33~~ 0.32 tons per day in 2031. The amount of NOx emission reductions foregone is expected to exceed the SCAQMD's significant operation air quality threshold for NOx (e.g., 55 pounds per day); thus, implementation of PAR 1111 would be expected to have significant adverse operational air quality impacts. The proposed changes contained in PAR 1111 are considered to contain new information of substantial importance, which was not known and could not have been known at the time the previous CEQA document for Rule 1111 (e.g., the September 2014 Final EA) was certified. Specifically, because the quantity of NOx emission reductions foregone would exceed the SCAQMD's significance operational air quality threshold for NOx (e.g., 55 pounds per day) and that these effects were not discussed in the



previously certified CEQA documents, PAR 1111 will create new significant effects to operational air quality that need to be further evaluated in this SEA per CEQA Guidelines Section 15162(a)(3)(A). Thus, only the topic of operational air quality has been analyzed in this SEA.

The environmental impact analysis for this environmental topic area 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 operational air quality impacts associated with the implementation of the PAR 1111.

## AIR QUALITY

### Significance Criteria

To determine whether air quality impacts from adopting and implementing PAR 1111 are significant, impacts will be evaluated and compared to the following criteria. If impacts exceed any of the significance thresholds in Table 4-1, they will be considered significant. All feasible mitigation measures will be identified and implemented to reduce significant impacts to the maximum extent feasible. PAR 1111 would be considered to have significant adverse air quality impacts if any one of the thresholds in Table 4-1 are equaled or exceeded.

In general, the SCAQMD makes significance determinations for construction impacts based on the maximum or peak daily emissions during the construction period, which provides a “worst-case” analysis of the construction emissions. However, since PAR 1111 would require manufacturers to adjust their current furnaces to achieve the NO<sub>x</sub> emission limit of 14 ng/J, no construction activities are associated with implementing PAR 1111. In addition, PAR 1111 is not expected to require construction or earth-moving activities because compliance with PAR 1111 would be achieved by OEMs manufacturing compliant units and making them available for purchase. Thus, the construction air quality significance thresholds do not apply to this project. Similarly, significance determinations for operational emissions are based on the maximum or peak daily allowable emissions during the operational phase.



**Table 4-1**  
**SCAQMD Air Quality Significance Thresholds**

Mass Daily Thresholds <sup>a</sup>		
Pollutant	Construction <sup>b</sup>	Operation <sup>c</sup>
NO <sub>x</sub>	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM <sub>10</sub>	150 lbs/day	150 lbs/day
PM <sub>2.5</sub>	55 lbs/day	55 lbs/day
SO <sub>x</sub>	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 SCAQMD Rule 402	
GHG	10,000 MT/yr CO <sub>2</sub> eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants <sup>d</sup>		
NO <sub>2</sub>  1-hour average annual arithmetic mean	SCAQMD 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 <sub>10</sub>  24-hour average annual average	10.4 µg/m <sup>3</sup> (construction) <sup>e</sup> & 2.5 µg/m <sup>3</sup> (operation) 1.0 µg/m <sup>3</sup>	
PM <sub>2.5</sub>  24-hour average	10.4 µg/m <sup>3</sup> (construction) <sup>e</sup> & 2.5 µg/m <sup>3</sup> (operation)	
SO <sub>2</sub>  1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99 <sup>th</sup> percentile) 0.04 ppm (state)	
Sulfate  24-hour average	25 µg/m <sup>3</sup> (state)	
CO  1-hour average 8-hour average	SCAQMD 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 <sup>3</sup> (state) 0.15 µg/m <sup>3</sup> (federal)	

<sup>a</sup> Source: SCAQMD CEQA Handbook (SCAQMD, 1993)

<sup>b</sup> Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).

<sup>c</sup> For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

<sup>d</sup> Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.

<sup>e</sup> Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day    ppm = parts per million     $\mu\text{g}/\text{m}^3$  = microgram per cubic meter     $\geq$  = greater than or equal to  
MT/yr CO<sub>2</sub>eq = metric tons per year of CO<sub>2</sub> equivalents     $>$  = greater than

Revision: March 2015



### Project-Specific Air Quality Impacts During Operation

PAR 1111 will provide relief to manufacturers by extending the ~~compliance-mitigation fee alternative compliance option end~~ dates for residential and commercial fan-type central furnaces. ~~Compliance-The alternative compliance option end dates for complying with the NOx limit~~ established in Rule 1111 would be further extended in PAR 1111 for the following equipment categories: 1) condensing furnaces from April 1, 2018, to October 1, 2019; 2) non-condensing furnaces from October 1, 2018, to October 1, 2019; and 3) weatherized furnaces from October 1, 2019, to October 1, 2020; ~~and 4) mobile home furnaces from October 1, 2021, to October 1, 2022.~~ For mobile home units, there will be no increase in the mitigation fee or change in the mitigation fee option end date. Table 4-2 summarizes the change in the mitigation fee option end compliance dates from the existing Rule 1111 to PAR 1111. In addition, it is important to note the PAR 1111 does not propose to change the 14 ng/J NOx emission limit which is currently established in Rule 1111. Since the September 2014 amendments to Rule 1111 had already established the 14 ng/J NOx emission limit, manufacturers were expected at that time to change their current manufacturing operations in order to develop and begin manufacturing compliant units. Since the requirement to develop compliant units is now part of the existing setting, PAR 1111 is not expected to alter how equipment manufacturers will proceed in order develop and manufacture compliant units in order to comply with PAR 1111 by the end of the alternative compliance option for each equipment category.

**Table 4-2**

#### **Rule 1111 and PAR 1111 Alternative Compliance Option End Dates**

<b>Equipment Category</b>	<b>Rule 1111 <u>Alternative Compliance Option End Date</u></b>	<b>PAR 1111 Extended <u>Alternative Compliance Option Dates</u></b>
<b>Condensing Furnace</b>	March 31, 2018	April 1, 2018 – October 1, 2019
<b>Non-Condensing Furnace</b>	September 30, 2018	October 1, 2018 – October 1, 2019
<b>Weatherized Furnace</b>	September 30, 2019	October 1, 2019 – October 1, 2020
<b>Mobile Home Furnace</b>	September 30, 2021	<del>October 1, 2021 – October 1, 2022</del> <u>No Change</u>

The estimates of NOx emission reductions foregone from residential and commercial fan-type central furnaces are based on the SCAQMD's 2016 Air Quality Management Plan (AQMP) emission inventory for actual natural gas consumption data from 2012. The reported annual average NOx emissions from residential heating that uses natural gas was 9.51 tons per day in 2012. Based on heating trends, most NOx emissions occur between October and May, and thus daily emissions during these months are higher than for the rest of the year. A typical residential or commercial fan-type central furnace emits 1.5 to 2.0 pounds of NOx per year and has a lifetime of approximately 20 to 25 years. The September 2014 amendments to Rule 1111 estimated that the annual average NOx emissions would be reduced by about 0.80 to 1.00 ton per day in 2018



and 2.03 to 2.54 tons per day in 2023. Replacement of existing furnaces with 14 ng/J furnaces was estimated to occur by ~~2047~~2046, approximately 25 years after the end of the last compliance date. Once all the existing furnaces are replaced, PAR 1111 is estimated to reduce NOx emissions from 9.51 tons per day to 6.18 tons per day. The NOx emission reduction was estimated based on the change in the NOx emission limit from furnaces with a NOx emission limit of 40 ng/J (baseline) to 14 ng/J (PAR 1111), a 65 percent reduction.

Based on this information, PAR 1111 would result in a delay in emissions reductions for residential and commercial fan-type central furnaces of up to 0.07 to 0.09 tons per day in 2018, 0.26 to ~~0.33~~ 0.32 tons per day in 2023, and 0.26 to ~~0.33~~ 0.32 tons per day in 2031. However, the emission reductions foregone will be eventually achieved because existing furnaces will be eventually replaced and upgraded over time. Condensing, Non-Condensing, Weatherized, and Mobile Home furnaces are already subject to the existing emissions limits previously established in Rule 1111. Table 4-3 presents a summary of the emissions reductions foregone, where most will be eventually ~~recovered~~ achieved over time. NOx is the only pollutant that is affected by PAR 1111 because the focus of the rule is to reduce NOx emissions from the affected categories of furnaces. As shown in Table 4-3, the quantity of peak daily operational NOx emission reductions foregone exceeds the SCAQMD's CEQA significance threshold for operation. Thus, PAR 1111 will result in significant adverse operational air quality impacts for NOx.

**Table 4-3**  
**Estimated NOx Emissions Reduction Foregone**

Year	Total Estimated NOx Emission Reductions Foregone	
	Tons per Day	Pounds per Day
2018	0.07 – 0.09	140 – 180
2023	0.26 – <del>0.33</del> <u>0.32</u>	520 – <del>660</del> <u>640</u>
2031	0.26 – <del>0.33</del> <u>0.32</u>	520 – <del>660</del> <u>640</u>
NOx SIGNIFICANCE THRESHOLD	0.0275*	55
SIGNIFICANT?	YES	YES

\* The NOx significance threshold for operation is 55 pounds per day which is equivalent to 0.0275 tons per day.

If significant adverse environmental impacts are identified in a CEQA document, the CEQA document shall describe feasible measures that could minimize the impacts of the proposed project. Adjustments to the alternative compliance option end dates for certain types of equipment are proposed in PAR 1111 because most OEMs do not yet have commercially available Rule 1111-compliant equipment ~~are not currently available for most OEMs~~. ~~For this reason, the NOx emission limits in the current version of Rule 1111 are unachievable and~~ Consequently, the previously estimated NOx emission reductions have also not occurred. If compliant equipment were widely available on the market, PAR 1111 would not be necessary. By allowing manufacturers more time to develop compliant units as proposed in PAR 1111, the originally



projected NOx emission reductions will be delayed. PAR 1111 includes an extension of the mitigation fee compliance option, portions of which will be used to offset forgone emissions reductions. An RFP has been issued to solicit bids to utilize these funds for emissions reductions projects. As proposals have not yet been received and evaluated, the details and extent to which the projects will offset the forgone emissions are unknown at this time. As such, there are no feasible mitigation measures that would eliminate or reduce the significant adverse operational air quality impacts for NOx emissions to less than significant levels if PAR 1111 is implemented.

It is important to note that ~~because~~ PAR 1111 focuses on reducing NOx emissions, and emissions of other criteria pollutants (e.g., CO, VOC, SOx, PM10, and PM2.5) and toxic air contaminants are not expected to change as a result of PAR 1111 compared with the current requirements for the affected sources under Rule 1111. Thus, PAR 1111 will not result in significant adverse operational air quality impacts for CO, VOC, SOx, PM10, PM2.5 and toxic air contaminants.

## **CUMULATIVE ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

CEQA Guidelines Section 15130 (a) requires a discussion of cumulative impacts if a project may have an effect that is potentially cumulatively considerable, as defined in CEQA Guidelines Section 15065(a)(3). The preceding analysis concluded that air quality impacts during operation would be significant from implementing the proposed project because the SCAQMD's significance threshold for operation will be exceeded for NOx (see Table 4-3). The cumulative secondary foregone NOx emissions reductions impacts associated with the extended compliance dates and equipment replacement schedules and changes in emission limits of NOx as contained in PAR 1111 are also considered to be cumulatively considerable pursuant to CEQA Guidelines Section 15064 (h)(1). will have the potential for creating significant adverse operational air quality impacts for NOx that is evaluated in the previous subchapters and presented in Table 4-3 in this Final SEA. It should be noted, however, that the air quality analysis is a conservative, "worst-case" analysis so the actual operational impacts may not be as great as estimated if OEMs are able to manufacture compliant equipment that meet the compliance schedule earlier than required under PAR 1111. In addition, the operational impacts of NOx emission reductions foregone are temporary, and the permanent projected emission reductions of NOx will eventually be achieved as a result of the proposed project. In other words, despite the extension of the compliance dates, the same amount of overall NOx emission reductions, as estimated in the current rule, will be achieved by PAR 1111 (e.g., 6.1 tons per day of NOx emission reductions by 2046).

Further, the temporary delay in NOx emission reductions will still meet the air quality progress and attainment demonstration projected in the 2016 AQMP. Based on regional modeling analyses performed for the 2016 AQMP, implementing control measures contained in the 2016 AQMP, in addition to the air quality benefits of the existing rules, is anticipated to bring the District into attainment with all national and most state ambient air quality standards. In particular, the federal annual PM2.5 standards are predicted to be achieved in 2023 with implementation of the proposed ozone strategy and the California annual PM2.5 standard will be achieved in 2025. The 2016 AQMP is also expected to achieve the ozone 8-hour standard by 2023.

Per CEQA Guidelines Section 15130(e), previously approved land use documents, including, but not limited to, general plans, specific plans, regional transportation plans, plans for the reduction of greenhouse gas emissions, and local coastal plans may be used in a cumulative impact analysis. A pertinent discussion of cumulative impacts contained in one or more previously certified EIRs



may be incorporated by reference pursuant to the provisions for tiering and program EIRs. No further cumulative impacts analysis is required when a project is consistent with a general, specific, master, or comparable programmatic plan where the lead agency determines that the regional or areawide cumulative impacts of the proposed project have already been adequately addressed, as defined in CEQA Guidelines Section 15152(f), in a certified EIR for that plan. Further, if a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for a such a project should not further analyze that cumulative impact, as provided in CEQA Guidelines Section 15183(j).

Despite the delay in implementation of some of the compliance dates, most of the overall NOx emission reductions as estimated in the current rule will be achieved by PAR 1111. Further, even though the projected NOx emission reductions foregone are estimated to be 0.07 to 0.09 tons per day in 2018, 0.26 to 0.32 tons per day in 2023, and 0.26 to 0.32 tons per day in 2031, the 2012 AQMP allocated one ton per day of NOx emissions in the SIP set aside account for every year starting in year 2013 to year 2030 in the event that NOx emission reductions were not achieved via rule adoptions or amendments. This NOx set aside account was re-evaluated and revised in the Final 2016 AQMP based on expected growth and the number of projects expected to take place in near future years to 2.0 tons per day for every year starting in year 2017 to year 2025 and 1.0 ton per day for every year starting in year 2026 to year 2031. As a result, even if PAR 1111 would delay NOx emission reductions, implementation of other control measures in the 2016 AQMP will provide human health benefits by reducing population exposures to existing NOx emissions.

Therefore, cumulative air quality impacts from the proposed project, previous amendments, and all other AQMP control measures considered together, are not expected to be significant because implementation of all 2016 AQMP control measures is expected to result in net emission reductions and overall air quality improvement. This determination is consistent with the conclusion in the 2016 AQMP Final Program EIR that cumulative air quality impacts from all AQMP control measures are not expected to be significant<sup>5</sup>. Therefore, there will be no significant cumulative adverse operational air quality impacts from implementing the proposed project.

**Cumulative Mitigation Measures During Operation:** The analysis indicates that the proposed project will result in a delay of NOx emission reductions during operation of the proposed project, but the delay will not result in cumulatively considerable significant adverse air quality impacts during operation because the amount of emission reductions to be achieved by the proposed project for NOx will, at the very least, meet the emission reduction projections and commitments made in the 2016 AQMP. Thus, no cumulative mitigation measures for operation are required.

## **POTENTIAL ENVIRONMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT**

Because this SEA is subsequent to the September 2014 Final EA, this SEA relies on the conclusions reached in that document as evidence for impacts found not to be significant. The September 2014 Final EA included an environmental checklist comprised of approximately 17 environmental topic areas that analyzed whether the September 2014 amendments to Rule 1111 would create potentially significant adverse impacts. The analysis in the September 2014 Final

<sup>5</sup> SCAQMD, Final Program Environmental Impact Report for the 2016 Air Quality Management Plan, March 2017; see Attachment D, Chapter 5, pp. 5-7 to 5-9. <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2017/2017-mar3-035.pdf>.



EA concluded that the following environmental areas would not be significantly adversely affected:

- aesthetics
- air quality and greenhouse gas emissions (GHGs) during construction and operation
- agriculture and forestry resources
- biological resources
- cultural resources
- energy
- 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 traffic

The detailed evaluation of the above environmental topic areas is contained in Chapter 2 of the September 2014 Final EA and is not repeated here.

The September 2014 Final EA concluded that Rule 1111 would have no significant or less than significant direct or indirect adverse effects for all 17 environmental topics areas, and these conclusions are consistent with the conclusions reached in this SEA for all environmental topic areas except for the topic of operational air quality, which has been shown to result in significant adverse impacts if PAR 1111 is implemented.

As such, the analysis in this SEA concluded that the following environmental areas would not be significantly adversely affected:

- aesthetics
- air quality during construction and GHGs during construction and operation
- agriculture and forestry resources
- biological resources
- cultural resources
- energy
- 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 traffic

## **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 Final SEA identified the topic of air quality during operation as the environmental topic area having potentially significant adverse environmental effects if PAR 1111 is implemented. As explained previously, without commercially available compliant units available on the market, the significant adverse air quality impacts during operation cannot be fully feasibly mitigated concurrently and thus, the amount of NOx emission reductions foregone would result in a significant and unavoidable impact if PAR 1111 is implemented.

## **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 Final SEA identified the topic of air quality during operation as the only environmental area with potentially significant adverse impacts if PAR 1111 is implemented. While replacement of residential and commercial fan-type central furnaces according to the extended compliance schedule in PAR 1111 is likely to ensure replacement of all existing furnaces by ~~2047~~2046 and eventually achieve the project NOx emission reductions over the long-term, the proposed changes to PAR 1111 would delay emissions reductions on the short-term for residential and commercial fan-type central furnaces of up to 0.07 to 0.09 tons per day in 2018, 0.26 to ~~0.33~~0.32 tons per day in 2023, and 0.26 to ~~0.33~~0.32 tons per day in 2031. These NOx emission reductions foregone occurring during the short-term will not increase existing emissions, but prevent new NOx emission reductions from occurring in the specified years. However, a portion of the NOx emission reductions foregone will be eventually achieved starting in compliance year 2018. Thus, despite the delay in implementation of some of the compliance dates as proposed in PAR 1111, the overall NOx emission reductions as originally estimated in the September 2014 version of Rule 1111 will be eventually achieved if PAR 1111 is implemented. Further, even though the projected NOx emission reductions foregone are estimated to be up to 0.07 to 0.09 tons per day in 2018, 0.26 to ~~0.33~~0.32 tons per day in 2023, and 0.26 to ~~0.33~~0.32 tons per day in 2031,



the 2012 AQMP allocated one ton per day of NO<sub>x</sub> emissions in the SIP set aside account for every year starting in year 2013 to year 2030 in the event that NO<sub>x</sub> emission reductions were not achieved via rule adoptions or amendments. This NO<sub>x</sub> set aside account was re-evaluated and revised in the Final 2016 AQMP based on expected growth and the number of projects expected to take place in near future years to 2.0 tons per day for every year starting in year 2017 to year 2025 and 1.0 ton per day for every year starting in year 2026 to year 2031. As a result, even though PAR 1111 would delay the achievement of the originally projected NO<sub>x</sub> emission reductions, implementation of other control measures in the 2016 AQMP will provide human health benefits by reducing population exposures to existing NO<sub>x</sub> emissions. For these aforementioned reasons, the proposed project would not result in irreversible environmental changes or irretrievable commitment of resources.

## POTENTIAL GROWTH-INDUCING IMPACTS

CEQA Guidelines Section 15126(d) requires an environmental analysis to consider the "growth-inducing impact of the proposed action." Implementing the proposed project will not, by itself, have any direct or indirect growth-inducing impacts on businesses in the SCAQMD's jurisdiction because it is not expected to foster economic or population growth or the construction of additional housing and primarily affects existing facilities.

## RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

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 purpose of the proposed project is to provide compliance relief for a limited group of emission sources. The September 2014 amendments to Rule 1111 did not achieve all of the NO<sub>x</sub> emission reductions originally contemplated at that time and PAR 1111 will continue to delay these projected NO<sub>x</sub> emission reductions starting in 2018, PAR 1111 will gradually begin to achieve some NO<sub>x</sub> emission reductions but the NO<sub>x</sub> emission reductions foregone will not be fully eliminated until ~~2047~~2046. NO<sub>x</sub> is a precursor to the formation of ozone and PM<sub>2.5</sub>, so even if PAR 1111 is implemented and there will be some NO<sub>x</sub> emission reductions foregone occurring primarily between compliance years 2018 and 2031, there will also be some NO<sub>x</sub> emissions reductions occurring in 2018 and these will continue to 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 operational air quality are considered potentially significant.



## **CHAPTER 5**

### **ALTERNATIVES**

---

**Introduction**

**Alternatives Rejected as Infeasible**

**Description of Alternatives**

**Comparison of Alternatives**

**Conclusion**



## INTRODUCTION

This Final SEA provides a discussion of alternatives to the proposed project as required by CEQA. Alternatives include measures for attaining 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 meaningful public participation. A CEQA document need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative. SCAQMD Rule 110 (the rule which implements the SCAQMD's certified regulatory program) does not impose any greater requirements for a discussion of project alternatives in a SEA than is required for an EIR under CEQA.

Four alternatives to the proposed project are summarized in Table 5-1: Alternative A (No Project), Alternative B (More Stringent NOx Limit), Alternative C (Less Stringent Timing), and Alternative D (More Mitigation). 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 potential operational air quality impacts from each of the project alternatives for the individual rule components that comprise the proposed project is provided in Table 5-2. Aside from this environmental topic area, no other significant adverse impacts were identified for the proposed project or any of the project alternatives. The proposed project is considered to provide the best balance between emission reductions and the adverse environmental impacts due to operation activities while meeting the objectives of the project. Therefore, the proposed project is preferred over the project alternatives.

The Governing Board may choose to adopt any portion or all of any alternative presented in the Final SEA with appropriate findings as required by CEQA. The Governing Board is able to adopt any portion or all of any of the alternatives presented because the impacts of each alternative will be fully disclosed to the public and the public will have the opportunity to comment on the alternatives and impacts generated by each alternative. Written suggestions on potential project alternatives received during the comment period for the Draft SEA ~~will be~~ were considered when preparing ~~the this~~ this Final SEA and ~~are included as an in a~~ are included as an in a Appendix D ~~in of theis~~ in of theis Final SEA.



**Table 5-1**  
**Summary of the Proposed Project and Alternatives**

KEY RULE COMPONENTS	PROPOSED PROJECT	ALTERNATIVE A No Project	ALTERNATIVE B More Stringent NOx Limit	ALTERNATIVE C Less Stringent Timing	ALTERNATIVE D More Mitigation
<b>NOx Limit</b>	<ul style="list-style-type: none"> <li>14 ng/J for all equipment types currently in effect</li> <li>14 ng/J for mobile home furnaces by October 1, 2018</li> </ul>	<ul style="list-style-type: none"> <li>14 ng/J for all equipment types currently in effect</li> <li>14 ng/J for mobile home furnaces by October 1, 2018</li> </ul>	<ul style="list-style-type: none"> <li><b>10 ng/J for all equipment types</b></li> <li><b>10 ng/J for mobile home furnaces</b> by October 1, 2018</li> </ul>	<ul style="list-style-type: none"> <li>14 ng/J for all equipment types currently in effect</li> <li>14 ng/J for mobile home furnaces by October 1, 2018</li> </ul>	<ul style="list-style-type: none"> <li>14 ng/J for all equipment types currently in effect</li> <li>14 ng/J for mobile home furnaces by October 1, 2018</li> </ul>
<b>Alternate Compliance Option to Meeting NOx Limit</b>	<p>Allowed to pay a mitigation fee in lieu of meeting NOx limit but with <b>extended compliance dates and increased mitigation fees for all units, except mobile home units</b></p> <p>Mitigation Fee Schedule:</p> <ul style="list-style-type: none"> <li><b>Condensing Unit</b> \$350 - \$450 <del>400</del>-per unit <del>Date of Adoption</del><u>April 1, 2018</u> – September 30, 2019</li> <li><b>Non-condensing Unit</b> \$300 - \$400 per unit <del>Date of Adoption</del><u>October 1, 2018</u> – September 30, 2019</li> <li><b>Weatherized Unit</b> \$300 - \$400 per unit <del>Date of Adoption</del><u>October 1, 2018</u> – September 30, 2020</li> <li><b>Mobile Home Unit</b> \$150 <del>400</del>-per unit October 1, 2018 – September 30, <u>2021</u> <del>2022</del></li> </ul>	<p>Allowed to pay a mitigation fee in lieu of meeting NOx limit with <b>existing rule compliance dates</b></p> <p>Mitigation Fee Schedule:</p> <ul style="list-style-type: none"> <li><b>Condensing Unit</b> \$200 per unit April 1, 2015 – March 31, 2018</li> <li><b>Non-condensing Unit</b> \$150 per unit October 1, 2015 – September 30, 2018</li> <li><b>Weatherized Unit</b> \$150 per unit October 1, 2016 – September 30, 2019</li> <li><b>Mobile Home Unit</b> \$150 per unit October 1, 2018 – September 30, 2021</li> </ul>	<p>Allowed to pay a mitigation fee in lieu of meeting NOx limit but with extended compliance dates and increased mitigation fees</p> <p>Mitigation Fee Schedule:</p> <ul style="list-style-type: none"> <li><b>Condensing Unit</b> \$350 - \$400 per unit <del>Date of Adoption</del><u>April 1, 2018</u> – September 30, 2019</li> <li><b>Non-condensing Unit</b> \$300 - \$400 per unit <del>Date of Adoption</del><u>October 1, 2018</u> – September 30, 2019</li> <li><b>Weatherized Unit</b> \$300 - \$400 per unit <del>Date of Adoption</del><u>October 1, 2018</u> – September 30, 2020</li> <li><b>Mobile Home Unit</b> \$150 <del>400</del>-per unit October 1, 2018 – September 30, <u>2021</u> <del>2022</del></li> </ul>	<p>Allowed to pay the mitigation fee in lieu of meeting NOx limit but with an increased mitigation fee and a <b>three year extension of the compliance dates</b></p> <p>Mitigation Fee Schedule:</p> <ul style="list-style-type: none"> <li><b>Condensing Unit</b> \$350 - \$450 <del>400</del>-per unit <del>Date of Adoption</del><u>April 1, 2018</u> – March 31, 2021</li> <li><b>Non-condensing Unit</b> \$300 - \$400 per unit <del>Date of Adoption</del><u>October 1, 2018</u> – September 30, 2021</li> <li><b>Weatherized Unit</b> \$300 - \$400 per unit <del>Date of Adoption</del><u>October 1, 2018</u> – September 30, 2022</li> <li><b>Mobile Home Unit</b> \$150 <del>400</del>-per unit October 1, 2018 – September 30, 2024</li> </ul>	<p>Allowed to pay a mitigation fee in lieu of meeting NOx limit but with <b>extended compliance dates and increased mitigation fees</b></p> <p>Mitigation Fee Schedule:</p> <ul style="list-style-type: none"> <li><b>Condensing Unit</b> \$500 per unit <del>Date of Adoption</del><u>April, 1, 2018</u> – September 30, 2019</li> <li><b>Non-condensing Unit</b> \$500 per unit <del>Date of Adoption</del><u>October 1, 2018</u> – September 30, 2019</li> <li><b>Weatherized Unit</b> \$500 per unit <del>Date of Adoption</del><u>October 1, 2018</u> – September 30, 2020</li> <li><b>Mobile Home Unit</b> \$500 per unit October 1, 2018 – September 30, <u>2021</u> <del>2022</del></li> </ul>

<sup>1</sup> The mitigation fee schedule and fee increase is based on the unit size and equipment type and will be implemented in two phases. The fee increase range contained in Table 1-2 is the Phase 2 fee schedule. The complete fee schedule is located in Table 2 in PAR 1111.



**Table 5-2**  
**Comparison of Adverse Environmental Impacts of the Proposed Project and Alternatives**

<b>CATEGORY</b>	<b>PROPOSED PROJECT</b>	<b>ALTERNATIVE A</b> No Project	<b>ALTERNATIVE B</b> More Stringent NOx Limit	<b>ALTERNATIVE C</b> Less Stringent Timing	<b>ALTERNATIVE D</b> More Mitigation
<b>Air Quality (During Operation)</b>	Expected to result in NOx emission reductions foregone of 0.07 to 0.09 tons per day in 2018, 0.26 to <del>0.33</del> <u>0.32</u> tons per day in 2023, and 0.26 to <del>0.33</del> <u>0.32</u> tons per day in 2031.	No new NOx emission reductions foregone. Existing compliance deadlines to achieve 14ng/J would remain intact.	Expected to result in lesser quantities of NOx emission reductions foregone over a shorter time frame than the proposed project.	Expected to result in equivalent NOx emission reductions foregone as the proposed project except that the recovery of the NOx emission reductions foregone will occur over a longer time frame than the proposed project.	Expected to result in equivalent NOx emission reductions foregone as the proposed project.
<b>Significance of Air Quality Operational Impacts</b>	Significant: Exceeds the SCAQMD's regional air quality CEQA significance threshold for NOx due to the quantity of NOx emission reductions foregone.	Not significant: Does not exceed SCAQMD's regional air quality CEQA significance threshold for NOx. Compliance cannot be achieved by the original compliance schedule.	Significant: Exceeds the SCAQMD's regional air quality CEQA significance threshold for NOx but at an amount that is less significant than the proposed project.	Significant: Exceeds the SCAQMD's regional air quality CEQA significance threshold for NOx due to the quantity of NOx emission reductions foregone, but at an amount that is more significant than the proposed project and for a greater period of time than the proposed project.	Significant: Exceeds the SCAQMD's regional air quality CEQA significance threshold for NOx due to the quantity of NOx emission reductions foregone at an amount that is equivalent to the proposed project. However, the additional mitigation fee will provide the SCAQMD with additional funding for the rebate program and additional projects to achieve additional NOx emission reductions throughout the Basin.



## ALTERNATIVES REJECTED AS INFEASIBLE

A CEQA document should identify any alternatives that were considered by the lead agency, but were rejected as infeasible during the scoping process and explain the reasons underlying the lead agency's determination [CEQA Guidelines Section 15126.6(c)]. No alternative was specifically rejected as being infeasible.

## DESCRIPTION OF ALTERNATIVES

The following proposed alternatives were developed by modifying specific components of the proposed project. The rationale for selecting and modifying specific components of the proposed project to generate feasible alternatives for the analysis is based on CEQA's requirement to present "realistic" alternatives; that is, alternatives that can actually be implemented.

The initial analysis of the proposed project determined that, of the amendments proposed, only the components that pertain to the delayed compliance schedule to meet certain NOx emission limits could have potential adverse significant impacts during operation. As such, the following four alternatives were developed by identifying and modifying major components of the proposed project. The alternatives, summarized in Table 5-1 and described in the following subsections, include the following: Alternative A (No Project), Alternative B (More Stringent NOx Limit), Alternative C (Less Stringent Timing), and Alternative D (More Mitigation). Unless otherwise specifically noted, all other components of the project alternatives are identical to the components of the proposed project. The following subsections provide a brief description of each alternative.

### **Proposed Project (Alternative Compliance Option, Increased Mitigation Fee):**

PAR 1111 intends to resolve the compliance issues by extending the compliance dates for residential and commercial fan-type central furnaces to comply with the NOx emission limits established in the September 2014 amendments to Rule 1111. Condensing, Non-condensing, Weatherized, and Mobile Home units are expected to comply with the applicable NOx emission limits and mitigation fee schedule set forth in PAR 1111. Recovery of the NOx emission reductions foregone are expected to occur starting in 2018 as older equipment gets replaced or retrofitted over time. Most NOx emission reductions foregone are expected to be recovered each year from compliance year 2018 to ~~2047~~2046.

### **Alternative A: No Project (Current Rule)**

Alternative A, the no project alternative, means that the current version of Rule 1111 that was amended in September 2014 would remain in effect. Under the current version of Rule 1111, Condensing, Non-condensing, Weatherized, and Mobile Home units would have to comply with the applicable NOx emission limits from 2018 to 2022. Compliance with these NOx limits would result in NOx emission reductions occurring from 2018 through 2022. Under this alternative, however, suppliers cannot provide equipment that meets the applicable NOx emission limits, creating potential compliance issues for the manufacturers, distributors and installers. The originally projected NOx emission reductions will not be achieved if the September 2014 amendments to Rule 1111 remain in effect.



**Alternative B: More Stringent NOx Limit Alternative (10 ng/J NOx Limit):**

Under Alternative B, the NOx limit of 10 ng/J is more stringent than the 14 ng/J in the proposed project, PAR 1111. Condensing, Non-Condensing, Weatherized, and Mobile Home units would have to comply with emission limit starting in 2018. The compliance dates for the more stringent NOx limit would be equivalent to the compliance dates in the proposed project. Recovery of the NOx emission reductions foregone are expected to occur starting in 2018 as older equipment gets replaced or retrofitted over time. The NOx emission reductions foregone are expected to be recovered more quickly each year from compliance year 2018 to 2022.

**Alternative C: Less Stringent Timing Alternative (Three Year Extension for Compliance Dates):**

Under Alternative C, the NOx emission limit would remain the same as the proposed project. However, the compliance dates for all equipment types would be extended by three years from the existing Rule 1111, which is less stringent than the proposed compliance date extension in PAR 1111. Condensing, Non-Condensing, Weatherized, and Mobile Home units are expected to comply with applicable NOx emission limits over the applicable extended compliance period of three years starting in 2018. Recovery of the NOx emission reductions foregone are expected to occur starting in 2018 as older equipment gets replaced or retrofitted over time. The NOx emission reductions foregone are expected to be recovered each year from compliance year 2018 to 2024.

**Alternative D: More Mitigation Alternative (Increased Mitigation Fees):**

Under Alternative D, the NOx emission limit would remain the same as the proposed project. However, the mitigation fee for all equipment types would be increased to \$500 per unit, which is more stringent than the proposed two-phase \$400–mitigation fee schedule in PAR 1111. Condensing, Non-Condensing, Weatherized, and Mobile Home units would still have to comply with the applicable NOx emission limits set forth in PAR 1111. Under Alternative D, the amount of NOx emission reductions foregone are expected to be equivalent to the proposed project and will occur starting in 2018 as older equipment gets replaced or retrofitted over time. The NOx emission reductions foregone are expected to be recovered each year from compliance year 2018 to 2024.

**COMPARISON OF ALTERNATIVES**

The following sections describe the potentially significant adverse operational air quality impacts that may occur for each project alternative. Potentially significant adverse operational air quality impacts are quantified where sufficient data are available. A comparison of the environmental impacts for each project alternative is provided in Table 5-2. No other environmental topics other than operational air quality were determined to be significantly adversely affected by implementing any project alternative.

**CONCLUSION**

By not adopting PAR 1111, Alternative A would not delay any of the requirements in the current version of Rule 1111 to comply with the applicable NOx emission limits. Further, implementation of Alternative A will require the same amount of NOx emission reductions to occur as is currently required by Rule 1111. However, Alternative A would not achieve the project objectives for the



proposed project because there is limited availability of compliant equipment on the market that is able to comply with the current NOx emission limits by the applicable compliance dates. This problem is further exacerbated because the non-compliant equipment would no longer be able to be sold or installed in the SCAQMD. Implementing Alternative A means that there will be no delay in requiring manufacturers to make compliant units available and in turn, obtaining NOx emission reductions and the corresponding health benefits that result from the NOx emission reductions. However, because there is ~~no~~ limited availability of equipment currently available on the market that is able to comply with the current NOx emission limits by the applicable compliance dates, these environmental benefits will not actually occur if Alternative A is selected. Instead, the baseline of NOx emissions currently generated by the affected furnaces will remain unchanged and no NOx emission reductions will occur. In addition, because non-compliant equipment may no longer be sold or installed, the owner may elect to repair a furnace instead of replacing it with low NOx emitting equipment, thus continuing to emit NOx at baseline levels.

If Alternative B were implemented, more stringent NOx emission limits than those in the proposed project would apply to the applicable equipment. The compliance dates for achieving the more stringent NOx emission limits would be equivalent to the compliance dates in the proposed project. If Alternative B is implemented, the environmental impacts (e.g., NOx emission reductions foregone) will be less significant than the proposed project, however Alternative B is expected to result in lesser quantities of NOx emission reductions foregone over a shorter time frame than the proposed project. In addition, Alternative B presents a challenge for OEMs to achieve a lower NOx emission limit and make furnaces commercially available and achievable in widespread applications. For this reason, Alternative B is concluded to be the environmentally superior alternative. Similarly, because the NOx emission reductions foregone would occur over a shorter period of time, Alternative B is also determined to be the least toxic alternative.

If Alternative C is implemented, NOx emission reductions would be achieved from reducing NOx emissions over a longer period of time between compliance years 2018 and 2024. Alternative C extends the delay in NOx emission reductions as compared to the proposed project. For this reason, when compared to the proposed project, Alternative C provides fewer benefits to air quality and public health. Of the significant adverse operational air quality impacts that would be generated under Alternative C, the impacts would be more than the proposed project and more significant over a longer period of time.

If Alternative D were implemented, more NOx emission reductions and health benefits compared to the proposed project would be achieved from implementation of the emission reduction projects funded by the mitigation fee that would reduce NOx emissions overall beginning in compliance year 2018 and any year thereafter. However, NOx emission reductions would not be occurring concurrently with the foregone emission reductions as it takes time to select projects and implement. Under Alternative D, the NOx emission reductions foregone are expected to be as significant as the proposed project. Thus, under these conditions, the impacts from the Alternative D would be equivalent to the proposed project.

Thus, when comparing the environmental effects of the project alternatives with the proposed project and evaluating the effectiveness of achieving the project objectives of the proposed project versus the project alternatives, the proposed project provides the best balance in achieving the project objectives while minimizing the significant adverse environmental impacts to operational air quality, while not imposing an overwhelming financial burden on the OEMs.



## **APPENDIX A**

---

### **PROPOSED AMENDED RULE 1111**

In order to save space and avoid repetition, please refer to the latest version of Proposed Amended Rule 1111 located elsewhere in the Governing Board Package (meeting date March 2, 2018). The version of Proposed Amended Rule 1111 that was circulated with the Draft SEA and released on December 26, 2017 for a 45-day public review and comment period ending on February 9, 2017 was identified as “PAR 1111 Preliminary Draft Rule October 2017.” Original hard copies of the Draft SEA, which include the draft version of the proposed amended rule listed above, can be obtained by visiting the Public Information Center at SCAQMD Headquarters located at 21865 Copley Drive, Diamond Bar, CA 91765, by contacting Fabian Wesson, Public Advisor by phone at (909) 396-2039 or by email at [PICrequests@aqmd.gov](mailto:PICrequests@aqmd.gov).



## **APPENDIX B**

---

### **CEQA IMPACT EVALUATION**



## Appendix B

## CEQA IMPACT EVALUATIONS - PAR 1111

(1/23/2018)

## Rule 1111 - 2014 Compliance After Mitigation

## 2014 Rule 1111 Emission Reduction Calculations (Tons per day (T/d))

		2012 Baseline (T/d)	Baseline Used (T/d)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
		9.51	9.51																					
% Mobile		4 %		0.004	0.008	0.013	0.017	0.021	0.025	0.030	0.034	0.038	0.042	0.046	0.051	0.055	0.059	0.063	0.068	0.072	0.076	0.080	0.085	0.089
% Condensing		15 %								0.031	0.072	0.113	0.155	0.196	0.237	0.278	0.319	0.361	0.402	0.443	0.484	0.525	0.567	0.608
% Non-Condensing		71 %								0.049	0.244	0.439	0.634	0.829	1.024	1.219	1.414	1.609	1.804	1.999	2.194	2.389	2.585	2.780
% Weatherized		10 %								0.007	0.034	0.062	0.089	0.117	0.144	0.172	0.199	0.227	0.254	0.282	0.309	0.337	0.364	
<b>Total Reduction (T/d)</b>		<b>100 %</b>		<b>0.004</b>	<b>0.008</b>	<b>0.013</b>	<b>0.017</b>	<b>0.021</b>	<b>0.025</b>	<b>0.109</b>	<b>0.357</b>	<b>0.625</b>	<b>0.899</b>	<b>1.174</b>	<b>1.449</b>	<b>1.724</b>	<b>1.998</b>	<b>2.273</b>	<b>2.548</b>	<b>2.822</b>	<b>3.097</b>	<b>3.372</b>	<b>3.647</b>	<b>3.921</b>

Notes:

1. Source of data is from 2012 AQMP Source Category Emissions, August 2014 Rule 1111 Amendment, SoCal Gas Inventory Data, 2010 Census Data, and Ernest Orlando Lawrence Berkeley National Laboratory

## PAR 1111 - Emissions Delay from 2014 to 2017

## 2017 PAR 1111 Emission Reduction Calculations (Tons per day (T/d))

		2012 Baseline (T/d)	Baseline Used (T/d)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
		9.51	9.51																					
% Mobile		4 %		0.004	0.008	0.013	0.017	0.021	0.025	0.030	0.034	0.038	0.042	0.046	0.051	0.055	0.059	0.063	0.068	0.072	0.076	0.080	0.085	0.089
% Condensing		15 %								0.010	0.052	0.093	0.134	0.175	0.216	0.258	0.299	0.340	0.381	0.422	0.464	0.505	0.546	
% Non-Condensing		71 %								0.049	0.244	0.439	0.634	0.829	1.024	1.219	1.414	1.609	1.804	1.999	2.194	2.389	2.585	
% Weatherized		10 %								0.007	0.034	0.062	0.089	0.117	0.144	0.172	0.199	0.227	0.254	0.282	0.309	0.337		
<b>Total reduction</b>		<b>100 %</b>		<b>0.004</b>	<b>0.008</b>	<b>0.013</b>	<b>0.017</b>	<b>0.021</b>	<b>0.025</b>	<b>0.030</b>	<b>0.093</b>	<b>0.340</b>	<b>0.608</b>	<b>0.880</b>	<b>1.158</b>	<b>1.432</b>	<b>1.707</b>	<b>1.982</b>	<b>2.257</b>	<b>2.532</b>	<b>2.807</b>	<b>3.082</b>	<b>3.357</b>	<b>3.632</b>

<b>Emission Delay (2014 Rule 1111 - 2017 PAR 1111) (T/d)</b>			0.000	0.000	0.000	0.000	0.000	0.000	0.080	0.264	0.284	0.2910.284	0.2910.284	0.2910.284	0.2910.284	0.2910.284	0.2910.284	0.2910.284	0.2910.284	0.2910.284	0.2910.284	0.2910.284	0.2910.284	0.2910.284
--	--	--	-------	-------	-------	-------	-------	-------	-------	-------	-------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------

Notes:

1. Source of data is from 2012 AQMP Source Category Emissions, August 2014 Rule 1111 Amendment, OEMs, SoCal Gas Inventory Data, 2010 Census Data, and Ernest Orlando Lawrence Berkeley national Laboratory

2. PAR 1111 proposes to extend the compliance option by 1.5 years for condensing units and 1 year for non-condensing, weatherized, and mobile home units

3. An equipment lifetime of 20 to 25 years was assumed

## PAR 1111 - Emissions Reductions Foregone

2016 AQMP Attainment Goal Years (8-Hour Ozone)	2014 Emissions	2017 Emissions	Emission Delay	Foregone Emissions (T/d) - 20 Years	Foregone Emissions (T/d) - 25 Years
2018	0.11	0.03	0.08	0.09	0.07
2023	1.45	1.16	0.28	0.330.32	0.26
2031	3.65	3.36	0.28	0.330.32	0.26

Note:

1. The equipment lifetime was averaged between 20 and 25 years for an average equipment lifetime of 22.5 years



## **APPENDIX C**

---

### **REFERENCES**

#### **REFERENCES**



**REFERENCES**

California Environmental Quality Act (CEQA) Guidelines, codified at Title 14 California Code of Regulations, Section 15000 et seq.

California Health and Safety Code Sections 40440(a), 40460(a), 40462, 40910, 40913, 40914, 40920.5, 41700, and 44390 et seq.

Lewis-Presley Air Quality Management Act, The, 1976 Cal. Stats., ch 324 (codified at Health and Safety Code, Sections 40400-40540).

Public Resources Code, Section 21000 et seq.

SCAQMD, 2016. Final 2016 Air Quality Management Plan. March 2017.  
<http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp>.



## **APPENDIX D**

---

### **COMMENT LETTERS RECEIVED ON THE DRAFT SEA AND RESPONSES TO COMMENTS**

**Comment Letter #1: Ray Teran/ Viejas Tribal Government**

**Comment Letter #2: Richard Vuong/ Orange County Department of Public Works**

**Comment Letter #3: Kaitlyn D. Shannon/ Beveridge and Diamond on Behalf of  
Johnson Controls Inc.**



## Comment Letter #1



PQ Box 908  
Alpine, CA 91903  
#1 Viejas Grade Road  
Alpine, CA 91901

Phone: 6194453810  
Fax: 6194455337  
viejas.com

January 8, 2018

Ryan Bañuelos  
South Coast AQMD  
21865 Copley Drive  
Diamond Bar, CA 91765

**RE: Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central  
Furnaces Project**

Dear Mr. Bañuelos,

In reviewing the above referenced project the Viejas Band of Kumeyaay Indians ("Viejas") would like to comment at this time.

The project area may contain many sacred sites to the Kumeyaay people. We request that these sacred sites be avoided with adequate buffer zones.

Additionally, Viejas is requesting, as appropriate, the following:

- All NEPA/CEQA/NAGPRA laws be followed
- Immediately contact Viejas on any changes or inadvertent discoveries.

Thank you for your collaboration and support in preserving our Tribal cultural resources. I look forward to hearing from you. Please call me at 619-659-2312 or Ernest Pingleton at 619-659-2314, or email, [rteran@viejas-nsn.gov](mailto:rteran@viejas-nsn.gov) or [epingleton@viejas-nsn.gov](mailto:epingleton@viejas-nsn.gov), for scheduling. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Ray Teran". The signature is fluid and cursive, with a long horizontal stroke at the end.

Ray Teran, Resource Management  
VIEJAS BAND OF KUMEYAAY INDIANS

1-1



**Response to Comment Letter #1****Response 1-1**

Rule 1111 regulates NOx emissions from residential and commercial gas-fired fan-type residential space heating furnaces 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. The rule applies to manufacturers, distributors, sellers, and installers of such furnaces.

If adopted, PAR 1111 would: 1) increase the mitigation fee to a two-phased mitigation fee increase that ranges between \$300 and \$450 based on the furnace type and heat input capacity for non-compliant condensing, non-condensing, and weatherized units and further extend the dates for during which the mitigation fee may be paid in lieu of complying with the NOx limit established in Rule 1111; 2) extend the mitigation fee alternative compliance option by 1.5 years for condensing furnaces, and one year for non-condensing and weatherized furnaces; 3) provide an exemption from the mitigation fee increase for units encumbered in a contractual agreement by original equipment manufacturers (OEMs) and distributors for new construction, if contracts were signed prior to January 1, 2018; and; and 4) provide an exemption of rule applicability for natural gas furnaces installed with propane conversion kits for propane firing only, with a defined labeling requirement. For mobile home units, there will be no increase in the mitigation fee or change in the mitigation fee end date. As explained in Chapter 4 of this SEA (see page 4-2), the proposed project is not expected to require construction or earth-moving activities because compliance with PAR 1111 would be achieved by the OEMs manufacturing compliant units and making them available for purchase.

After receiving Comment Letter #1, SCAQMD staff contacted Mr. Teran via telephone on Thursday, January 26, 2018, to explain that PAR 1111 would not be expected to involve construction or earth-moving activities. Mr. Teran informed staff that Comment Letter #1 was sent as an acknowledgement of receipt of the Draft SEA and that if the proposed project were to have construction, then the letter would apply. Thus, since no construction or earth moving activities would be expected, implementation of PAR 1111 would not be expected to have any impacts on tribal cultural resources and any sacred sites associated with the Viejas Band of Kumeyaay Indians.



## Comment Letter #2



February 2, 2018

NCL-2018-002

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

**Subject:** Proposed Amended Rule (PAR) 1111 – Reduction of NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces

Dear Mr. Bañuelos:

The County of Orange has reviewed the Subsequent Environmental Assessment to the September 2014 Final Environmental Assessment for Rule 1111 and has no comments at this time. We would like to be advised of any further developments on the project. Please continue to keep us on the distribution list for future notifications related to the project.

2-1

If you have any questions, please contact Ashley Brodtkin in Development Services at (714) 667-8854.

Sincerely,

Richard Vuong, Manager, Planning Division  
OC Public Works Service Area/OC Development Services  
300 North Flower Street  
Santa Ana, California 92702-4048  
Richard.Vuong@ocpw.ocgov.com



**Response to Comment Letter #2**

**Response 2-1**

Thank you for your comment. No further response is required under CEQA.



**Comment Letter #3**

Kaitlyn D. Shannon  
456 Montgomery Street, Suite 1800  
San Francisco, CA 94104-1251  
Direct: (415) 262-4020  
Fax: (415) 262-4040  
KShannon@bdlaw.com

February 9, 2018

**VIA E-MAIL**

Ryan Bañuelos  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765-4178  
[rbanuelos@aqmd.gov](mailto:rbanuelos@aqmd.gov)

**Re: Comments on Draft Subsequent Environmental Assessment for Proposed  
Amended Rule 1111**

Dear Mr. Bañuelos:

We write on behalf of Johnson Controls, Inc. ("JCI") to comment on the Draft Subsequent Environmental Assessment ("SEA") the South Coast Air Quality Management District ("District") prepared to analyze the environmental impacts for the October 2017 Proposed Amended Rule 1111 ("PAR 1111"). JCI is an original equipment manufacturer and a part of the regulated community that will be impacted by actions the District takes regarding NOx emissions from furnaces. Recently, the District released its Draft Staff Report and a January 2018 Proposed Amended Rule 1111 ("2018 PAR 1111"). These comments address both the SEA and the inconsistencies between the SEA and the Staff Report and the text of 2018 PAR 1111.

**1. Authority for Imposing a Mitigation Fee**

As an initial comment, JCI notes that the SEA does not explain how the District has authority to impose a mitigation fee and why this fee is not, in fact, an illegal tax. JCI requests the District clarify its authority for regulating NOx emissions in a manner that uses a mitigation fee paid by original equipment manufacturers.

3-1

///

Austin, TX   Baltimore, MD   Boston, MA   Englewood, NJ  
New York, NY   San Francisco, CA   Seattle, WA   Washington, DC



BEVERIDGE & DIAMOND<sub>PC</sub>

Ryan Bañuelos  
February 9, 2018  
Page 2

**2. The SEA Does Not Analyze the Impacts of the Mitigation Fee Schedule Now Proposed by the District in the Staff Report for 2018 PAR 1111**

The SEA analyzed the adverse environmental impacts of a proposed rule containing a mitigation fee schedule that is different than the fee schedule the District now discusses in the Staff Report for 2018 PAR 1111. PAR 1111 includes a mitigation fee and compliance plan period for four equipment categories: condensing, non-condensing, weatherized, and mobile home furnaces. SEA at 1111-4. However, 2018 PAR 1111 creates a different compliance plan, with a mitigation fee schedule broken into two phases with different fee amounts and varying the mitigation fee based on the size range of the four categories of furnaces. Staff Report at 1111-4. The text of 2018 PAR 1111 was not released until January 30, 2018—more than a month after the SEA was released to the public for comment. The District’s analysis in the SEA is thus for an outdated version of PAR 1111 that is significantly different than the version the District now recommends adopting.

3-2

**3. The District’s Analysis of the Amounts of the Mitigation Fees Is Conclusory and Insufficient**

In the SEA, there is no explanation or support for how the amount of the mitigation fee was chosen and why that amount will, or will not, achieve the District’s goals. The District simply states that “the proposed project provides the best balance in achieving the project objectives while minimizing the significant adverse environmental impacts to operational air quality, while not imposing an overwhelming financial burden on the [original equipment manufacturers]” without providing any analysis on this point. SEA at 5-4. Elsewhere, the District explains it proposed a “fee increase to incentivize early conversion in light of the delayed compliance date[,]” but there is no analysis as to how or why the fee amounts best achieve that stated goal. SEA at 1-8. The District has also not explained how the fee will fund a rebate program, even though the District states that at least some portion of the fee will be used for that purpose. While the Staff Report provides some additional details on the funding of rebate program, this document was released after the SEA and cannot be used to bolster the analysis in the SEA, especially here, where the Staff Report relates to a different mitigation fee schedule.

3-3

**4. The District Has Improperly Defined and Segmented the “Project” To Exclude the Rebate Program that is Currently Being Developed by the District**

The District acknowledges that PAR 1111 is a project, and that the District must comply with the California Environmental Quality Act (“CEQA”). SEA at 1-4. However, the District curtailed its definition of the project to exclude the forthcoming rebate program despite the fact that the District discusses the mitigation fee and the rebate in tandem and, as currently envisioned by the District, the two programs are linked as the rebate is funded, at least in part, by the mitigation fee.

3-4



BEVERIDGE & DIAMOND<sub>PC</sub>

Ryan Bañuelos  
February 9, 2018  
Page 3

The SEA acknowledges that the rebate program will be funded by the mitigation fee: “SCAQMD staff proposed a fee increase to incentivize early conversion in light of the delayed compliance date and pay for a rebate program, which is a separate action from the rule amendment.” SEA at 1-8. The fact that the rebate program is funded by the mitigation fee illustrates that the mitigation fee and the rebate program are related. Both the fee and the rebate are directed towards incentivizing early market activity in a similar manner by impacting the cost of selling (or purchasing) a non-compliant furnace, which shows that these two programs work in tandem to achieve the same objective. Additionally, previous text of PAR 1111 included a section titled “Rebate Incentives for Early Compliance,” but that section is now crossed-out. That text can be found in the SEA at 1111-7.

In parts of the SEA the District says the rebate program is “separate from the rule amendment.” SEA at 1-8; SEA at 4-1. Yet the District continues to discuss the mitigation fee and the rebate program together, and the District does not explain this inconsistency. For example, the documentation prepared by the District for its January 9, 2018 Working Group includes a discussion of the rebate program.<sup>1</sup>

Finally, the recently released Draft Staff Report makes clear that as proposed, the mitigation fee and the rebate program are related. The Staff Report states: “As a companion of the rule amendment, staff has also proposed to establish a rebate program for consumers who purchase and install compliant furnaces in the SCAQMD to benefit the consumers and incentivize the purchase of lower emitting complaint furnaces.” Staff Report at ES-1. Elsewhere in the Staff Report, the District explains that the mitigation fee and rebate work to addresses the difference in cost between purchasing compliant or non-compliant products by imposing a fee on manufacturers and then taking a portion of those funds and directing them to a rebate program. Similar to PAR 1111, 2018 PAR 1111 has the rebate program section stricken from the rule text.

3-4  
cont.

The fact that the District recognizes that the rebate is a “companion” of the mitigation fee and that the rebate will be funded by the mitigation fee underscores that the rebate is the next step the District intends to take to achieve its objective of encouraging the purchase of lower NOx emitting furnaces. In fact, the District has already taken action on developing the rebate program by issuing an RFP and receiving responses. As envisioned by the District, the mitigation fee and the rebate are related and directed towards achieving the same objective, but the District has claimed they are separate for its CEQA analysis.

///

<sup>1</sup> Presentation available at <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111/par1111-wg-1-9-18-final.pdf?sfvrsn=6>.



BEVERIDGE & DIAMOND<sub>PC</sub>

Ryan Bañuelos  
February 9, 2018  
Page 4

**5. The District's Changing Project Definition Undermines Informed Public Participation**

As explained above, the District is treating the mitigation fee and rebate separately, when they appear to comprise a single project. This inhibits the public's ability to comment. Also, the Staff Report contains a new proposed amendment, so the "project" is now different, but the Staff Report does not have a public comment period. The District should prepare an environmental analysis for the version of the amended rule the District proposes adopting and then provide a public comment period to allow for informed public participation.

3-5

**6. The District Did Not Develop a Range of Reasonable Alternatives**

The District is required to develop and analyze a reasonable range of alternatives. In the SEA, the District acknowledges that Rule 1111-compliant equipment are not currently available for most original equipment manufacturers, and the District states that "there are no feasible mitigation measures that would eliminate or reduce the significant adverse operational air quality impacts for NOx emissions to less than significant levels if PAR 1111 is implemented." SEA at 4-5. Based on that statement, the District admitted that it did not consider any alternatives that could have potentially mitigated the excess NOx from non-compliant furnaces because it claims that no feasible mitigation measures exist. However, there may be alternatives that could mitigate excess NOx emissions.

One potential alternative that the District did not evaluate is purchasing offsets. PAR 1111 imposes a mitigation fee that will be used to fund a rebate program, but the District could charge an offset mitigation fee on the sale of each non-conforming furnace that is sufficient to purchase NOx offsets equal to the "excess" NOx emissions over the estimated lifespan of the furnace. The amount of time for which an offset mitigation fee would be charged could be tied to original equipment manufacturers achieving market viability of ultra-low NOx furnaces. Market viability could be defined as two or more manufacturers offering for sale compliant furnaces in all the current ranges (*i.e.*, condensing, non-condensing, weatherized, and mobile home furnaces in the various size ranges identified by the District). Upon achieving an adequate market viability (*i.e.*, product offering) of ultra-low NOx furnaces in a specific category, sales of non-conforming furnaces manufactured prior to a specific cut off period would be allowed to continue so as not to strand inventory in the channel. Any furnaces manufactured after the designated cut-off date that did not meet the new Ng/J requirements would be prohibited. Until such time as full market availability is achieved and the designated cut-off period is established, non-conforming furnaces would pay the one-time, offset mitigation fee and conforming ultra-low NOx furnaces would not pay the offset mitigation fee. The District would collect the offset mitigation fee and purchase verifiable offsets that would mitigate the projected adverse environmental impacts of PAR 1111. Creating an offset program is just one example of a reasonable alternative that the District did not evaluate, and an offset program, as well as other alternatives, would benefit from the District's review.

3-6



BEVERIDGE & DIAMOND<sub>PC</sub>

Ryan Bañuelos  
February 9, 2018  
Page 5

Finally, as explained above, JCI notes that the District now proposes adopting 2018 PAR 1111, which contains a mitigation fee schedule that was not analyzed as an alternative in the SEA.

3-6  
cont.

**7. We Did Not Obtain Public Records Requested in Advance of the CEQA Comment Deadline**

Beveridge & Diamond PC submitted a California Public Records Act request to the District to obtain documents relating to the development of PAR 1111. The request was made on January 8, 2018, but no documents have yet been received. We contacted the District's Public Records Coordinator to obtain more information about the status of the request in advance of the comment deadline and request that documents be produced before this CEQA comment deadline. However, the documents have not yet been received. JCI reserves the right to submit additional CEQA comments after obtaining documents from the District.

3-7

**Conclusion**

As discussed above, there are shortcomings in the District's SEA, discrepancies between the SEA and the Staff Report, and 2018 PAR 1111 is substantially different than any alternative analyzed in the SEA. JCI urges the District not to adopt PAR 1111 or 2018 PAR 1111 at the March 2, 2018 meeting. We look forward to reviewing the District's response to these comments.

3-8

Best regards,



Kaitlyn D. Shannon



### **Response to Comment Letter #3**

#### **Response 3-1**

The mitigation fee is a voluntary component of PAR 1111 that is meant as an alternative compliance option for OEMs that do not have compliant equipment available. Because it is voluntary, it is not a tax. Moreover, it is important to note that the mitigation fee is not a new component of PAR 1111, as it was added to Rule 1111 as part of the September 2014 amendments and the SCAQMD demonstrated its authority at that time to impose the mitigation fee. PAR 1111 merely alters the mitigation fee that was previously established.

CEQA Guidelines 15131 states that economic or social information may be included in a CEQA document or may be presented in whatever form the agency desires. SCAQMD practice is to address the economic effects of proposed projects in the staff report and Socioeconomic Impact Assessment, and not in the CEQA document, because economic effects typically do not cause environmental impacts. Further, 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 15131(a).]

Thus, in the case of PAR 1111, the lack of compliant equipment meeting the NO<sub>x</sub> emission limit of 14 ng/J according to the compliance schedule, not the mitigation fee itself, is the cause of the significant environmental impacts and the NO<sub>x</sub> emission reductions foregone are the effects. As such, the mitigation fee is addressed in Chapter 2 of the Final Staff Report for PAR 1111 [see pages 2-1 through 2-5]. In addition, the Socioeconomic Impact Assessment will also analyze the economic effects of the mitigation fee. Additional information on the mitigation fee is included in the Final Staff Report, Response to Comments [see pages i through xii].

#### **Response 3-2**

It is not uncommon during the rule development process to have multiple iterations of draft rule language and staff reports. As the public and interested parties provide comments throughout the rule development process during working group meetings, public consultation meetings, and at the Public Workshop, the draft rule language and corresponding staff report are adjusted accordingly and eventually evolve into a final product that is brought before the SCAQMD Governing Board for consideration and approval. While the analysis in the Draft SEA was based on the version of PAR 1111 that was circulated with the Draft SEA identified as “PAR 1111 Preliminary Draft Rule October 2017,” the Final SEA has been updated to reflect the final version of PAR 1111; however, the analysis of the impacts have not significantly changed. In fact, the final version of PAR 1111 would result in slightly less NO<sub>x</sub> emission reductions foregone than what was analyzed in the Draft SEA. The Governing Board will consider the final version of PAR 1111 for adoption in conjunction with certification of the Final SEA on March 2, 2018.



**Response 3-3**

Response 3-1 explains why the background discussion of the mitigation fee is not analyzed in the SEA. Similarly, the funding of the rebate program is also not analyzed in the SEA because the rebate program is not a component in PAR 1111 that would cause an environmental effect. Instead, a discussion on the mitigation fee and the rebate program is included in the Final Staff Report for PAR 1111 [see Chapter 2, pages 2-1 through 2-5]. Additional information on cost and fee analysis as well as the fee increase to fund the rebate program is included in the Final Staff Report, Response to Comments [see pages iv through vi, Comments 12 and 13].

**Response 3-4**

This comment elaborates on the sentiments previously expressed on Comments 3-1 and 3-3 relative to the mitigation fee and rebate program without identifying any new environmental impacts that were not analyzed in the Draft SEA. Responses 3-1 and 3-3 explain why the mitigation fee and rebate program are not analyzed in the SEA.

A discussion on the rebate program is included in the Final Staff Report in Chapter 2 for PAR 1111, pages 2-1 through 2-5. It is important to note that while the Draft SEA contains references to the mitigation fee and rebate program for narrative purposes, the discussion neither concludes that the rebate program is part of PAR 1111 nor states that the rebate program is dependent on PAR 1111. In actuality, the rebate program is an independent action and exercises independent utility from PAR 1111; indeed, the rebate program may be implemented even if PAR 1111 is not adopted by the Board. Funding for the rebate program would come from two sources: 1) Fund 27 Rule 1121 mitigation fee program; and 2) if adopted, the incremental increased mitigation fee included in PAR 1111.

**Response 3-5**

The public has had multiple opportunities throughout the rule development process to provide comments on the mitigation fee and rebate program components of PAR 1111. Attachment C in the Board Package for PAR 1111 details the rule development process where the public had opportunities to provide comments related to the draft rule. The rule development process included a public workshop held on October 19, 2017; two task force meetings held on April 27, 2017 and March 25, 2017; four working group meetings held on July 27, 2017, September 21, 2017, November 15, 2017, and January 9, 2018; and over 40 individual meetings with stakeholders. In addition, the draft rule was released for public comment from October 19, 2017, to November 2, 2017; note, however, that the comment period was extended to November 9, 2017. In addition, comments on the draft rule were accepted after the close of the comment period. Comments received and responses to comments are included in the Final Staff Report. Describing the background of the mitigation fee and rebate program components in the Staff Report and Socioeconomic Impact Assessment, in lieu of in the SEA, has not interfered with the public's ability to comment since multiple versions of PAR 1111 and staff report have been provided to the public for review and comment. Responses 3-1 and 3-3 explain why the background discussion of the mitigation fee and rebate program is not analyzed in the SEA. Response 3-2 explains how the different versions of PAR 1111, staff report, and the SEA are reconciled. Response 3-4 explains the parallel paths of the mitigation fee and rebate program.



**Response 3-6**

The Draft SEA provides a discussion of alternatives to the proposed project as required by CEQA Guidelines Section 15126(f). However, per CEQA Guidelines Section 15126.6(a), “[a]n EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible.” In addition, the Draft SEA considered a range of alternatives sufficient to permit a reasoned choice. 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 Draft SEA provides a comparison of alternatives and a discussion on the specific reasons for selecting the proposed project as the best balance in achieving the project objectives while minimizing the significant adverse environmental impacts to operational air quality, while not imposing an overwhelming financial burden on the OEMs [see pages 5-2 through 5-6 of the SEA].

The commentator’s suggested alternative incorrectly assumes that there are NOx offsets available and that these offsets can actually be applied to address the NOx emission reductions foregone that may result from implementing PAR 1111. While it is correct that the SCAQMD has a New Source Review (NSR) program, it is not meant for providing offsets to other rule projects. The NSR program is implemented under SCAQMD Regulation XIII for non-RECLAIM sources and Regulation XX for RECLAIM sources, and emission offsets are required for emission increases from new or modified equipment or processes. Offsets may be provided by emission reduction credits (ERCs) under Regulation XIII or RECLAIM trading credits (RTCs) under Regulation XX. There are very few NOx ERCs in existence and not all of them are available for purchase as they are privately held. Similarly, the SCAQMD has initiated a process to end the RECLAIM program and migrate RECLAIM facilities back into a command-and-control structure that would be subject to NSR requirements under Regulation XIII. Ending the RECLAIM program will end the use of RTCs. For these reasons, ERCs and RTCs are not available for the purpose of offsetting the NOx emission reductions foregone that may result from implementing PAR 1111. As such, an alternative to consider the use of offsets is not feasible, and is not required to be analyzed under CEQA.

**Response 3-7**

No response is required under CEQA. Please refer to the letter issued on January 18, 2018, for a schedule on the disbursement of documents relating to the development of PAR 1111.

**Response 3-8**

The issues raised in this comment are addressed in Comments 3-1, 3-3, and 3-6. Please see Responses 3-1, 3-3, and 3-6.







# **Proposed Amended Rule (PAR) 1111**

## **NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces**

**Governing Board Meeting**

**March 2, 2018**



# Rule 1111 Background

- Applies to residential and commercial natural gas-fired fan-type central furnaces
- Regulates manufacturers, distributors, sellers, and installers
- 2009 amendment lowered the NO<sub>x</sub> limit from 40 to 14 ng/J
- 2014 amendment:
  - Delayed compliance date for 14 ng/J NO<sub>x</sub> limit; and
  - Added a 3-year mitigation fee option for manufacturers to continue selling 40 ng/J units
- Depending on the unit type, mitigation fee option ends between March 30, 2018 and September 30, 2018



# Commercialization Status of Compliant Units

- Three manufacturers have developed and certified 14 ng/J compliant furnaces (condensing and non-condensing)
- Additional certifications expected in near future for:
  - Other manufacturers
  - Additional product lines for manufacturers that have certified products
- On December 4, 2017, Lennox commercialized compliant non-condensing units (60,000, 80,000, and 100,000 btu/hr)
- Other manufacturers expected to commercialize compliant non-condensing products in October – December 2018





# PAR 1111 Proposal

- Maintain the 14 ng/J NOx limit
- Revise the mitigation fee for 40 ng/J units
  - Extend mitigation fee
    - Additional 1.5 years for condensing (high efficiency) units
    - Additional 1 year for non-condensing (standard) and weatherized units
    - No change for mobile home units
  - Increase mitigation fee for non-compliant products based on unit size and implement fee increase in two phases
    - Phase one: Fee ranges between \$225 to \$325\*
    - Phase two: Fee ranges between \$300 to \$450\*

\* Increase based on unit type and size



# Mitigation Fee and Consumer Rebate

## Mitigation Fee

(\$225- \$450)\*

- Provides an Alternative Compliance Option for manufacturers that are developing compliant units
- Ensures a range of furnaces will be available to consumers

## Consumer Rebate

(\$200- \$500)\*\*

- Provides incentive to consumers to purchase compliant units
- Encourages manufacturers to commercialize compliant units

\* Depending on unit type and size, and includes both phases of mitigation fee, excludes mobile homes

\*\* \$500 for first 6,000 units and \$200 to \$300 for non-condensing and condensing units, thereafter



# Exemptions

- No mitigation fee increase if:
  - Units identified in contractual agreement by manufacturers or distributors for future or planned construction projects
  - Agreement signed prior to January 1, 2018
- Natural gas furnaces exempt if:
  - Unit is to be installed for propane firing only with a propane conversion kit
  - Unit or box has defined labeling
  - Quantity of conversion kits is reported



# Key Remaining Issues

- Some stakeholders have commented that the mitigation fee approach is too complex
  - Phased approach encourages manufacturers to develop compliant units before the second phase of the mitigation fee is implemented
  - Tiered portion of the mitigation fee reflects requests to lower fees for smaller units and mobile home units (lower income consumers) and increase fees for condensing units
- Combination of mitigation fee and rebate should provide an incentive to commercialize and encourage purchase of compliant units
  - Staff will closely monitor compliant unit sales and recommend adjustments to help increase sales, including increasing the amount of money for the rebate program, if needed
- Some stakeholders requested a sell-through period beyond the end of the extended mitigation fee period
  - Resolution includes a commitment to report back to the Stationary Source Committee in 12 months for status and, if needed, staff can propose a 90-day sell-through provision in Rule 1111



# Staff Recommendations

## ■ Adopt Resolution

- Certifying the Final Subsequent Environmental Assessment
- Amending Rule 1111 – Reduction of NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces
- Recognizing upon receipt the incremental amount of mitigation fee as funding for the Rule 1111 rebate program



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 34

**PROPOSAL:** Approve and Adopt Technology Advancement Office Clean Fuels Program 2017 Annual Report and 2018 Plan Update and Resolution, Receive and File Revised Membership of Technology Advancement Advisory Group, and Approve and Adopt Membership Changes for Clean Fuels Advisory Group

**SYNOPSIS:** Each year by March 31, the Technology Advancement Office must submit to the California Legislative Analyst an approved Annual Report for the past year and a Plan Update for the current calendar year. Staff has reviewed the Clean Fuels Program with the Clean Fuels Advisory Group, the Technology Advancement Advisory Group and other technical experts. Additionally, the 2018 Clean Fuels Program Draft Plan Update was presented to the Technology Committee for review and comment at its October 20, 2017 meeting. This action is to approve and adopt the final Technology Advancement Clean Fuels Program Annual Report for 2017 and 2018 Plan Update as well as the Resolution finding that proposed projects do not duplicate any past or present programs. This action is to also receive and file revised membership of the Technology Advancement Advisory Group and approve and adopt membership changes to the SB 98 Clean Fuels Advisory Group.

**COMMITTEE:** Technology, February 16, 2018; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Approve and adopt the attached Technology Advancement Office Clean Fuels Program Draft 2017 Clean Fuels Annual Report and 2018 Plan Update and include it in the SCAQMD's Clean Fuels Program;
2. Approve the attached Resolution finding that the Technology Advancement Office Clean Fuels Program Plan Update for 2018 and its proposed projects do not duplicate any past or present programs of specified organizations;
3. Receive and file membership changes to the Technology Advancement Advisory Group; and



4. Approve and adopt membership changes to the SB 98 Clean Fuels Advisory Group.

Wayne Nastri  
Executive Officer

MMM:FM:NB:LCM:DAH

---

## **Background**

Achieving federal and state ambient air quality standards within the South Coast Air Basin will require emission reductions from both mobile and stationary sources beyond those available from current technologies. The 2016 AQMP includes measures relying on a mix of currently available technologies as well as the expedited development and commercialization of lower-emitting mobile and stationary advanced technologies in the Basin to achieve these standards. The 2016 AQMP projects that a 45 percent reduction in NO<sub>x</sub> is required by 2023 and an additional 55 percent reduction by 2031, the majority of which must come from mobile sources (both on- and off-road), requiring widespread deployment of current clean air technologies as well as further commercialization of advanced technologies.

This year will mark the 30<sup>th</sup> year of the Clean Fuels Program, along with establishment of the Technology Advancement Office (TAO). TAO's Clean Fuels Program is an integral part of the SCAQMD's effort to achieve the significant NO<sub>x</sub> reductions called for in the 2016 AQMP. The Clean Fuels Program, which is implemented as a public-private partnership in conjunction with private industry, technology developers, academic institutions, research institutions and government agencies, has enabled the SCAQMD to historically leverage public funds with outside investment in a ratio of about \$4 of outside funding to every dollar of Clean Fuels funding. More than ever before, the Clean Fuels Program must foster and accelerate advancement of transformative transportation, and off-road technologies where possible, with an emphasis on zero and near-zero emission vehicle and fuel technologies. This is especially true given the region's thriving goods movement industry along with the corresponding impact on environmental justice communities.

This year marks another hallmark in TAO, the 20<sup>th</sup> year of the Carl Moyer Program. The two programs produce a unique synergy, with the Carl Moyer Program providing the necessary incentives to push market penetration of the technologies developed and demonstrated by the Clean Fuels Program. This synergy enables the SCAQMD through its Clean Fuels Program, coupled with Carl Moyer and other incentive programs TAO oversees, to act as a leader in both technology development and commercialization efforts targeting reduction of criteria pollutants.



The SCAQMD is required by Health and Safety Code (H&SC) Section 40448.5.1 to adopt a plan that describes the expected cost and benefits of proposed projects prior to any Clean Fuels Program expenditures and find that the proposed projects do not duplicate programs of other organizations specified in the H&SC provision. In 1999, SB 98 amended this provision by requiring annual updates to this Plan as well as a 30-day public notice to specified interested parties and the public prior to the annual public hearing at which the Board takes action on the Clean Fuels Program. SB 98 also requires the preparation of an annual report with specified contents that include the prior year's accomplishments. This annual report requires review by an advisory group and approval by the Board, prior to submittal to specified offices of the California Legislature each year. This legislation also specifies the make-up of the 13-member Clean Fuels Advisory Group and its primary responsibility to make recommendations regarding the most cost-effective projects that advance and implement clean fuels technology and improve public health. The membership of the SB 98 Clean Fuels Advisory Group was initially approved by the Board in September 1999. Changes to the composition are reviewed by the Technology Committee on an as-needed basis, subject to full Board approval as required by the charter. Prior to the formation of the SB 98 Clean Fuels Advisory Group, the SCAQMD had formed the Technology Advancement Advisory Group (TAAG) to review and assess the Clean Fuels Program. The charter and membership of the TAAG was revised in 1999 with formation of the SB 98 Clean Fuels Advisory Group so the functions of the two advisory groups would be complementary. The TAAG's charter specifies membership changes must be approved by the Technology Committee. In fact, membership changes to both the TAAG and the SB 98 Clean Fuels Advisory Group were approved last year, concurrently with approval of the prior report.

### **Proposal**

These actions are for the Board to approve and adopt the TAO Clean Fuels Program 2017 Annual Report and 2018 Plan Update and, as part of the Board's consideration of the 2018 Plan Update, to make a finding that the update and its proposed projects do not duplicate any past or present programs of specified organizations. The review process by the two advisory groups helps ensure that SCAQMD efforts do not duplicate projects. The advisory groups provide feedback to staff on the documents during in-person biannual meetings and through subsequent correspondence. The advisors are all experts in different fields and are current or retired members of national laboratories, state or federal agencies and/or academia. Staff diligently monitors specific technologies through efforts at state and federal collaboratives, partnerships and industrial coalitions. Finally, staff also invites other technical experts to review the Annual Report and Plan Update. Through this effort, staff is confident there is no duplication of technology projects represented in the Plan Update, as required in the H&SC.



Furthermore, these actions are to also receive and file membership changes to the TAAG and approve and adopt membership changes to the SB 98 Clean Fuels Advisory Group, as required by their respective charters. This package includes a Resolution (Attachment A), proposed new advisory group members including their biographies (Attachment B), and one combined document comprising the TAO Clean Fuels Program 2017 Annual Report and 2018 Plan Update (Attachment C).

#### *Clean Fuels Program Annual Report 2017*

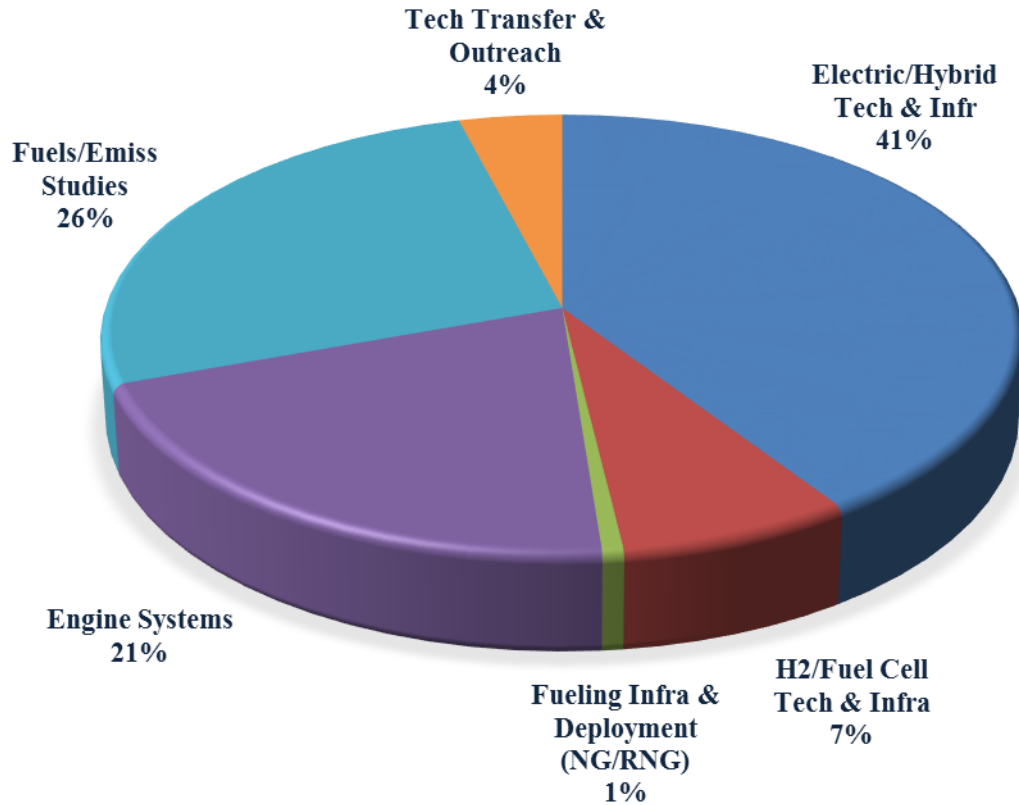
The Annual Report covers projects and progress of the Program for Calendar Year (CY) 2017. As discussed earlier, this report addresses all of the requirements specified in H&SC 40448.5.1(d). Specifically, this report includes the following required elements:

- A description of the core technologies that the SCAQMD considers critical to ensure attainment and/or maintenance of ambient air quality standards and a description of the efforts made to overcome commercialization barriers;
- Staff analysis of the impact of TAO's Clean Fuels Program on the private sector and on research, development and commercialization efforts by major automobile and energy firms;
- A description of projects funded by the SCAQMD, including a list of recipients, key subcontractors (if known), cofunders, matching state or federal funds, and expected and actual results of each project advancing and implementing clean fuels technology and improving public health;
- The title and purpose of all projects undertaken pursuant to the Clean Fuels Program, the names of the contractors and key subcontractors involved in each project, and the amount of money expended or committed for each project;
- A summary of the progress made toward the goals of the Clean Fuels Program; and
- Funding priorities identified for the next year and relevant audit information for previous, current and future years covered by the report.

During CY 2017, the Clean Fuels Program executed 59 new projects or studies and modified 8 continuing contracts adding additional dollars to sponsor research, development, demonstration and deployment (RDD&D) projects and technology assessment and transfer contracts for alternative and clean fuel technologies. The SCAQMD's contribution to these projects was approximately \$17.9 million, with total project costs exceeding \$118.7 million, which includes coordinated funding from other governmental agencies, private sector, academia and research institutions. The \$17.9 million includes \$6.2 million recognized into the Clean Fuels Fund as pass-through funds from project partners to facilitate project administration by the Clean Fuels Program. These projects address a wide range of air quality issues with a diverse mix of advanced technologies. Figure 1 shows the distribution of funding committed from the Clean Fuels Program through executed agreements in 2017. Executed agreements typically lag the Board awards due to the time necessary to negotiate contracts. During



this phase, project awards may be reduced in scope, encounter delays in execution, or may not be contracted at all due to unforeseen difficulties following Board approval. As such, the funding distribution represents a “snapshot-in-time” of the Clean Fuels Program for the CY being reported.



**Figure 1: Distribution of Executed Clean Fuels Program Contracts in CY 2017 (\$17.9 Million)**

During CY 2017, the SCAQMD supported a variety of projects and technologies, ranging from near-term to long-term RDD&D activities. This “technology portfolio” strategy provides the SCAQMD the ability and flexibility to leverage state and federal funding while also addressing the specific needs of the South Coast Air Basin. Projects executed in CY 2017 included significant electric and hybrid electric technologies and infrastructure to develop and demonstrate medium-heavy and heavy-duty vehicles in support of transitioning to a zero and near-zero emissions goods movement industry; fuels and emissions studies to conduct in-use testing and fuel characterization and usage profiles as well as evaluating strategies for reducing emissions in the goods movement sector; development, demonstration and deployment of large displacement natural gas engines; and continued demonstration and deployment of both electric charging infrastructure and natural gas and renewable natural gas deployment and support. Similar to last year, the significant project scopes of a few key contracts executed in 2017 resulted in higher than average leveraging of Clean Fuels dollars. Typical leveraging is \$3-\$4 for every \$1 in Clean Fuels funding. In 2016, leveraging was \$1:\$9;



in 2017, SCAQMD continued this upward trend with more than \$6 leveraged for every \$1 in Clean Fuels funds.

In addition to the new projects, 19 RDD&D and 24 technology assessment/transfer and outreach projects were completed in CY 2017. Summaries of each of the technical projects completed in 2017 are provided in Appendix C of the combined document.

The Clean Fuels Program in CY 2017 continued to leverage other outside opportunities with the SCAQMD securing new awards totaling \$20.5 million from federal, state and local funding for projects that have been or will be included in the Clean Fuels Program or which align well with and are complementary to the Clean Fuels Program. Staff continues to look for and aggressively pursue applicable funding opportunities that may focus on GHG reductions, energy efficiency and reductions in petroleum usage, while remaining committed to being a leader in developing advanced technologies that lower criteria and toxic pollutants. Leveraging dollars and applying for funds is more important than ever given the magnitude of required funding identified in the 2016 AQMP that is needed to achieve federal ozone air quality standards.

#### *Clean Fuels Program Plan Update 2018*

Every year, TAO staff re-evaluates the Clean Fuels Program to develop an update of the Plan which essentially serves to re-calibrate the technical direction of the Program. The attached 2018 Plan Update for the Clean Fuels Program identifies potential projects to be considered for funding during 2018 and beyond. The proposed projects reflect promising low, near-zero and zero emission technologies and applications that are emerging in the different source categories. This Plan Update includes a number of proposed projects, not all of which are expected to be funded in the current calendar year given the available budget. Some of the proposed projects for 2018 include but are not limited to: (1) development and demonstration of large-scale hydrogen refueling facilities; (2) development and demonstration of ultra-low emission liquid fuel larger displacement engines; (3) development and demonstration of zero emission heavy-duty vehicles; (4) development, demonstration and deployment of advanced natural gas engines and zero emission technologies for high horsepower applications; and (5) development and demonstration of alternative fuel production and infrastructure, especially with renewable fuels. Projects not funded in 2018 may be considered for funding in future years.

In addition to identifying proposed projects to be considered for funding, this Plan Update confirms nine key technical areas of highest priority to the SCAQMD. These high priority areas are listed below based on the proposed funding distribution shown in Figure 2:

- Hydrogen and Mobile Fuel Cell Technologies and Infrastructure (especially large-scale refueling facilities);



- Engine Systems (emphasizing heavy-duty alternative and renewable fuel engines for truck and rail applications);
- Electric and Hybrid Vehicle Technologies and Related Infrastructure (emphasizing electric and hybrid electric trucks and container transport technologies with zero-emission operation);
- Fueling Infrastructure and Deployment (predominantly natural gas and renewable fuels);
- Fuels and Emission Studies;
- Technology Transfer and Assessment/Outreach;
- Stationary Clean Fuels Technologies (including renewables);
- Emission Control Technologies; and
- Health Impacts Studies.

It should be noted that these priorities represent the areas where SCAQMD funding is thought to have the greatest impact. In keeping with the diverse and flexible “technology portfolio” approach, however, these priorities may shift during the year to: (1) capture opportunities such as cost-sharing by the state government, the federal government or other entities; (2) address specific technology issues which affect residents within the SCAQMD jurisdiction; (3) incorporate findings from recent studies; or (4) further accelerate technology development, commercialization or market acceptance of promising technologies.

These technical priorities will necessarily be balanced by funding availability and the availability of qualified projects. Revenues from several sources support SCAQMD’s Technology Advancement program. The principal revenue source is the Clean Fuels Program which, under H&SC Sections 40448.5 and 40512, and Vehicle Code Section 9250.11, establishes mechanisms to collect revenues from mobile and stationary sources to support program objectives, albeit with constraints on the use of the funds. Grants and cost-sharing revenue contracts from various government agencies, such as CARB, CEC, NREL, U.S. EPA and the U.S. Departments of Energy and Transportation, also support technology advancement efforts.

The Plan Update is the result of a comprehensive planning and review process. This process included consideration of the 2016 AQMP control measures as well as CARB’s Mobile Source Strategies, San Pedro Bay Ports’ Clean Air Action Plan and the Sustainable Freight Action Plan. It also incorporates coordination activities involving outside organizations including consideration of federal, state and local activities and proposed integrated solutions that capture the co-benefits of reduced GHG emissions and criteria pollutants. As part of this process, staff hosted two meetings in September 2017 and January 2018 to solicit input from the SB 98 Clean Fuels Advisory Group, TAAG and other technical experts. During these meetings, the participants reviewed the current Technology Advancement projects and discussed near-term and long-term technologies as potential projects. TAO staff and several Board Members toured sites



in Europe in the fall of 2017 to visit and evaluate different technology providers, and staff also attended a variety of conferences and symposiums, such as the ACT Expo in May 2017. Additionally, staff attended meetings or workshops with CARB, CEC, the California Fuel Cell Partnership, the California Stationary Fuel Cell Collaborative, California Hydrogen Business Council, and other entities to solicit and incorporate technical areas for potential leveraged funding and project coordination.

Based on communications with the organizations specified in H&SC Section 40448.5.1 and review of their programs, the projects proposed in this Plan Update do not duplicate any past or present projects. As each individual project is recommended to the Board for funding, staff will continue to coordinate with these organizations to ensure that duplication is avoided and ensure optimal expenditure of Clean Fuels Program funds.

Staff presented the Draft 2018 Clean Fuels Program Plan Update to the Technology Committee on October 20, 2017. Figure 2 graphically depicts the potential distribution of Clean Fuels Program funds, based on projected program costs of \$16.7 million, for the nine project areas discussed above.

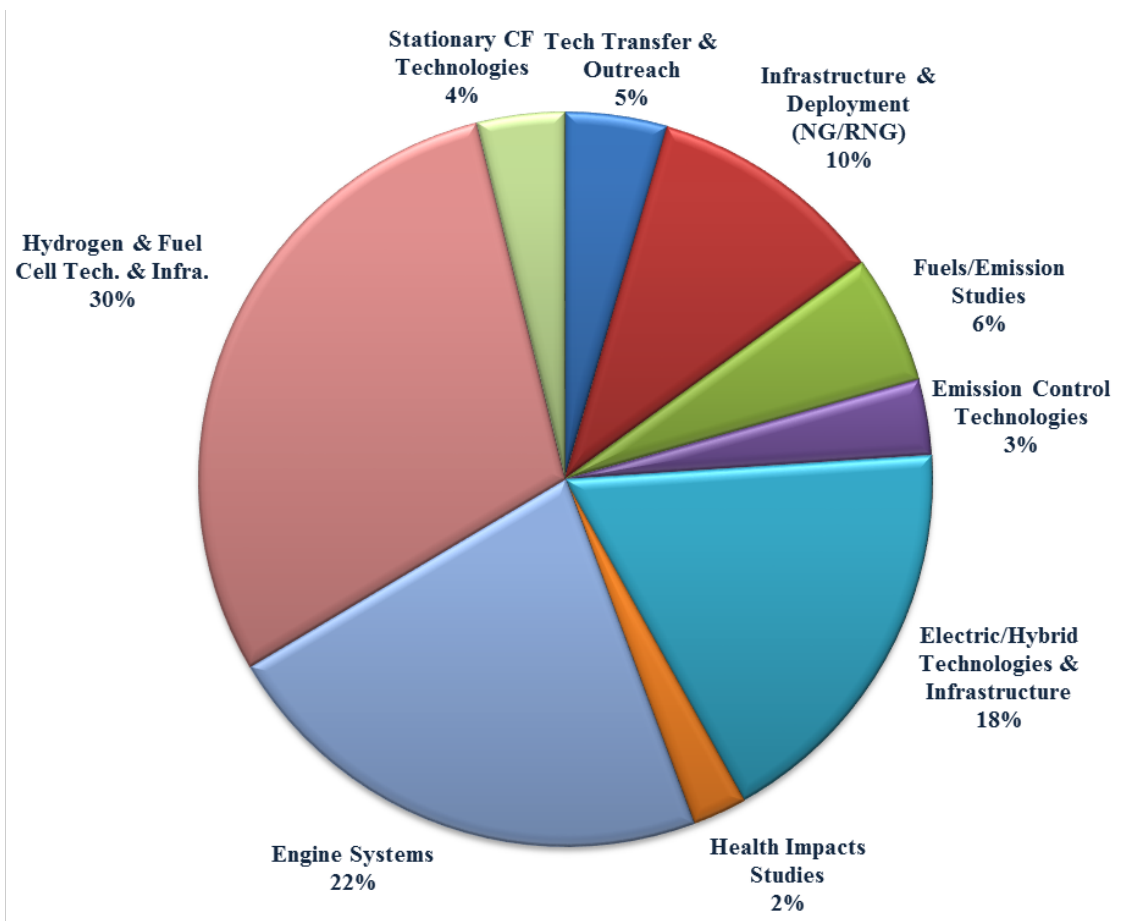


Figure 2: Projected Cost Distribution for Potential Projects in 2018 (\$16.7 million)



The expected actual program expenditures for 2018 will be much less than the total projected program cost since not all projects will materialize. The target allocations are based on balancing technology priorities, technical challenges and opportunities discussed previously and near-term versus long-term benefits with the constraints on available Clean Fuels funding. Specific contract awards throughout 2018 will be based on this proposed allocation, the quality of proposals received and evaluation of projects against standardized criteria and, ultimately, the Board's approval. At that time, additional details will be provided about the technology, its application, the specific scope of work, the project team capabilities and the project cost-sharing.

H&SC Section 40448.5.1 requires the Board approve the Clean Fuels Annual Report for 2017 and adopt the Clean Fuels Plan Update for 2018 as well as find that the proposed projects do not duplicate programs of other organizations specified in the H&SC provision. And as required, the Annual Report and Plan Update have been reviewed by the SB 98 Clean Fuels Advisory Group.

**Attachments**

- A. Resolution
- B. Qualifications and Expertise of Proposed New Advisory Group Members
- C. TAO Clean Fuels Program 2017 Annual Report and 2018 Plan Update



## **ATTACHMENT A**

### **RESOLUTION NO. 18-\_\_\_\_\_**

**A Resolution of the Governing Board of the South Coast Air Quality Management District (SCAQMD) approving the Technology Advancement Office Clean Fuels Program Annual Report for 2017 and adopting the Clean Fuels Program Plan Update for 2018.**

**WHEREAS**, the Board initiated a Clean Fuels Program in 1988 to expedite the demonstration and commercialization of advanced low emission and zero emission technologies and clean fuels; and,

**WHEREAS**, Health and Safety Code Sections 40404 and 40448.5 require the SCAQMD to coordinate and manage a Clean Fuels Program to accelerate the utilization of clean-burning fuels within the South Coast Air Basin; and,

**WHEREAS**, Health and Safety Code Section 40512 and Vehicle Code Section 9250.11 authorize funding for the SCAQMD Clean Fuels Program; and,

**WHEREAS**, SB 98 (Alarcon), chaptered into state law on June 8, 1999, extended the funding authority for the Clean Fuels Program and added administrative provisions under Health and Safety Code Section 40448.5.1 regarding program planning and reporting, including:

- Providing notice to interested parties and the public at least 30 days prior to the annual public hearing at which the Board or a committee of the Board takes action to approve the clean-burning fuels program.
- Consulting with the SB 98 Clean Fuels Advisory Group regarding approval of the required annual report. The results of that consultation shall be provided to the Board prior to its approval of the report.
- Submitting the Clean Fuels Program annual report to the office of the Legislative Analyst and to the committees of the Legislature responsible for improving air quality on or before March 31 of each year that the clean-burning fuels program is in operation; and

**WHEREAS**, SB 1646 (Padilla), chaptered into state law on September 30, 2008, reauthorized the funding authority for the Clean Fuels Program, removed the sunset of January 1, 2010, and reinstated the five percent administrative cap; and,



**WHEREAS**, the Technology Advancement Office Clean Fuels Program Plan Update has been reviewed and commented on by both the Technology Advancement Advisory Group and the SB 98 Clean Fuels Advisory Group; and,

**WHEREAS**, Health and Safety Code Section 40448.5.1 requires that the SCAQMD coordinate and ensure non-duplication of clean fuels-related projects with specified organizations, including the: CARB, CEC, California air quality management districts or air pollution control districts, a public transit district or authority within the geographic jurisdiction of the SCAQMD, San Diego Transit Corporation, North County Transit District, Sacramento Regional Transit District, Alameda-Contra Costa Transit District, San Francisco Bay Area Rapid Transit District, Santa Barbara Metropolitan Transit District, Los Angeles Department of Water and Power, Sacramento Municipal Utility District, Pacific Gas and Electric Company, Southern California Gas Company, Southern California Edison Company, San Diego Gas and Electric Company, or the Office of Mobile Sources within the U.S. Environmental Protection Agency; and

**WHEREAS**, based on communications with the organizations specified in Health and Safety Code Section 40448.5.1 and review of their programs, the proposed program and projects included in the Technology Advancement Office Clean Fuels Program Plan Update do not duplicate any other past or present program or project funded by those organizations; and,

**WHEREAS**, notice has been provided to interested parties and the public at least 30 days prior to the annual public hearing at which the Board is to consider approving the clean-burning fuels program; and,

**WHEREAS**, the SB 98 Clean Fuels Advisory Group has reviewed the Technology Advancement Office Annual Report.

**NOW, THEREFORE, BE IT RESOLVED**, that the Board finds the Technology Advancement Office Clean Fuels Program Plan Update does not duplicate any past or present programs or projects funded by the above-specified organizations.

**BE IT FURTHER RESOLVED**, that the Board approves the Technology Advancement Office Clean Fuels Program Annual Report for 2017.



**BE IT FURTHER RESOLVED**, that the Board adopts the Technology Advancement Office Clean Fuels Program Plan Update for 2018.

**BE IT FURTHER RESOLVED**, that the Board hereby directs staff to forward the Technology Advancement Office Clean Fuels Program Annual Report 2017 and Plan Update 2018 to the California Legislature and the Legislative Analyst.

---

Dated:

---

Denise Garzaro, Clerk of the Boards



## ATTACHMENT B

### Qualifications and Expertise of Proposed New Advisory Group Members

#### SB 98 Clean Fuels Advisory Group\*

<p>Dr. Stephen Charlton Independent Consultant in Combustion Technology</p>	<p>Dr. Charlton is a mechanical engineer, with over 40 years of experience in the field of internal combustion (IC) engines, specializing in diesel engine technologies. He retired from Cummins Inc. as Vice President and Chief Technical Officer of the Engine Business Unit in June 2014, after 21 years with the company. At Cummins, Dr. Charlton managed the development of new technologies and innovation and product development and support. His leadership role included managing resources and product portfolios in both mature and emerging markets. A member of the Engine Business Leadership Team from 2010-2014, he had responsibility for technology and innovation, new product development, product quality and regulatory compliance. As an independent consultant since retiring from Cummins, he has acted as technical advisor and expert witness in several product liability, regulatory compliance and patent infringement cases for both plaintiff and defendant clients in matters related to IC engines, exhaust emissions and the engine industry. Dr. Charlton holds nine patents related to IC engine technology, including diesel engine EGR cooling and control and algorithms for on-board diagnostics. His qualifications and awards include a BSc. Honors in Mechanical Engineering from North Staffordshire Polytechnic, U.K. (1975), Research Fellowship from G.E.C. Limited, London (1977), a Ph.D. in Diesel Engine Technology from the University of Aston, U.K. (1981), J Irwin Miller Award of Excellence for Innovation from Cummins Inc. (2005), SAE L. Ray Buckendale Lecture (2005), Fellow of the SAE (2008), Fellow of the Institute of Mechanical Engineers (2009), and Honorary Doctor of Engineering Honoris Causa from the University of Bath, U.K. (2008).</p>
<p>Dr. Andreas Truckenbrodt Independent Consultant in Fuel Cell Technologies</p>	<p>Dr. Truckenbrodt is a consultant for clean energy transportation and President/CEO of the Canadian Hydrogen and Fuel Cell Association. He is the former CEO for the Automotive Fuel Cell Cooperation (AFCC), a Joint Venture of Daimler AG and Ford Motor Company, based in Vancouver. Dr. Truckenbrodt brings more than 15 years of experience in the electric drive and fuel cell industry and 30 years in the transportation sector. He has been instrumental in collaborating with organizations around the world to promote the commercialization of EVs. From 2008-2014, he was responsible for Daimler's and Ford's fuel cell development as CEO of AFCC. From 2005-2007, he was leading Daimler's and Chrysler's Hybrid Development Center in Troy, MI, in cooperation with GM and BMW AG. Before that, he was responsible for DaimlerChrysler's Center for Fuel Cell and Alternative Powertrain Vehicles and had worked with fuel cell supplier Ballard Power Systems. In these functions, he was responsible for development and manufacturing of electric powertrains for passenger cars, delivery vans and transit buses. He was also driving the market strategies and respective communication and outreach activities. Previously, Dr. Truckenbrodt held various positions in the automotive aeroengine industry, among others with BMW, BMW Rolls-Royce, Daewoo and DaimlerChrysler. He was also Chairman of the CaFCP and the Canadian Hydrogen and Fuel Cell Association. Dr. Truckenbrodt holds a degree in Aeronautics and Aerospace Engineering from the Technical University of Munich, Germany, and received his Ph.D. in Mechanics and Control Systems in 1981.</p>

*\*The charter of the CFAG requires membership changes to be approved by the full SCAQMD Board.*



### **Technology Advancement Advisory Group\*\***

<p>Don Anair Non-Governmental Organization</p>	<p>Don Anair is the Research and Deputy Director for the Clean Vehicles Program, working on state and national transportation, air quality and global warming policy, at the Union of Concerned Scientists. As part of his work on heavy-duty vehicle issues, Mr. Anair analyzes the impact of diesel pollution on public health and air quality. He is the author of three reports, "Sick of Soot," "Digging Up Trouble" and "Delivering the Green," which focus on the impacts and solutions to reduce diesel emissions. He is also an advocate for groundbreaking diesel clean-up and GHG efforts in the state and around the country, including regulations, incentive programs and legislation. Based in UCS's Oakland office, Mr. Anair also evaluates hybrid and advanced vehicle technologies and is co-author of <i>State of Charge</i>—a report which evaluates the global warming emissions and fuel cost savings of electric vehicles throughout the U.S. — and the Hybrid Scorecard. Mr. Anair represents UCS on California's Plug-in Electric Vehicle Collaborative and frequently blogs on advanced vehicle technology and freight transportation issues. Mr. Anair holds a bachelor's and master's degrees in electrical engineering from Cornell University. As a member of Cornell's Formula Society of Automotive Engineers vehicle team, he helped design and manufacture an award winning alternative fuel race car.</p>
<p>Dr. Sunita Satyapal DOE</p>	<p>Dr. Satyapal is the Director of the Fuel Cell Technologies Office in the Office of Energy Efficiency and Renewable Energy (EERE) at the Department of Energy (DOE). In this capacity, she is responsible for the office's overall strategy and execution, including oversight and coordination of approximately \$100 million in research, development, demonstration and deployment activities related to hydrogen and fuel cells. After joining DOE in 2003, she served primarily as the Hydrogen Storage Team Lead until 2008. She then served as the Hydrogen Office's Chief Engineer and Deputy Director. For several years she has coordinated hydrogen and fuel cell activities across DOE, with other agencies, and with international stakeholders, including with 17 countries and the European Commission, through the International Partnership for Hydrogen and Fuel Cells in the Economy. In addition to her time at DOE, she has more than 20 years of experience in academia, industry and government, including at United Technologies Research Center and at UTC Fuel Cells in Connecticut. While in industry, she was responsible for managing research groups ranging from 15 to 50 scientists, engineers and technicians covering a broad range of chemistry and energy technologies, including hydrogen and fuel cell research and development (R&amp;D). She also served as business development manager to develop strategic R&amp;D collaborations, both for government programs and international markets. Earlier in her career, she was a visiting assistant professor at Vassar College, and a visiting scientist at Columbia University and at Hokkaido University in Japan. She has also worked in the area of laser diagnostics in photodissociation and in the combustion of chemical warfare agents. She has authored or co-authored numerous publications, including in <i>Scientific American</i>, and has 10 patents issued.</p>

**\*\*The charter of the TAAG requires membership changes to be approved by the Board's Technology Committee.**



# **ATTACHMENT C**

## **TECHNOLOGY ADVANCEMENT OFFICE CLEAN FUELS PROGRAM DRAFT 2017 CLEAN FUELS ANNUAL REPORT AND 2018 PLAN UPDATE**

**South Coast Air Quality Management District  
March 2018**



**[This Page Intentionally Left Blank]**



## **South Coast Air Quality Management District**

### **Governing Board**

#### ***Chairman***

William A. Burke, Ed.D.  
Assembly Speaker Appointee

#### ***County Representatives***

Marion Ashley  
Supervisor, Riverside County

Shawn Nelson  
Supervisor, Orange County

Janice Rutherford\*  
Supervisor, San Bernardino County

Hilda L. Solis\*  
Supervisor, Los Angeles County

#### ***State Representatives***

Joseph K. Lyou, Ph.D.  
Governor's Appointee

#### ***Vice Chairman***

Dr. Clark E. Parker, Sr.  
Senate Rules Committee Appointee

#### ***Cities Representatives***

Ben Benoit  
Mayor, City of Wildomar  
Riverside County Cities

Joe Buscaino\*\*  
Council Member, City of Los Angeles  
City of Los Angeles

Michael Cacciotti  
Council Member, City of South Pasadena  
Los Angeles County, Eastern Region  
Cities

Larry McCallon\*  
Mayor, City of Highland  
San Bernardino County Cities

Judith Mitchell\*  
Mayor Pro Tem, City of Rolling Hills  
Estates  
Los Angeles County, Western Region  
Cities

Dwight Robinson\*  
Council Member, City of Lake Forest  
Orange County Cities

#### ***Executive Officer***

Wayne Nastri

---

\*Technology Committee Members

\*\*Technology Committee Chairman



**[This Page Intentionally Left Blank]**





*This year's Annual Report and Plan Update  
are dedicated in remembrance of*

**Dr. Vernon P. Roan, Jr.**

University of Florida, Professor Emeritus

**Founding Member of the SB 98 Clean Fuels Advisory Group  
serving from 1999 to 2017,  
as a scientific and academic community representative.**



**[This Page Intentionally Left Blank]**



## **South Coast Air Quality Management District**

### **Technology Advancement Office**

Matt Miyasato, Ph.D., Deputy Executive Officer, Science & Technology Advancement

Fred Minassian, Assistant Deputy Executive Officer, Technology Advancement Office

Naveen Berry, Technology Demonstration Manager

Vicki White, Technology Implementation Manager

Lourdes Cordova Martinez, Sr. Public Affairs Manager

Al Baez, Program Supervisor

Joseph Impullitti, Program Supervisor

Lisa Mirisola, Program Supervisor

Adewale Oshinuga, Program Supervisor

Walter Shen, Program Supervisor

Mei Wang, Program Supervisor

Vasken Yardemian, Program Supervisor

Tom Lee, Sr. Air Quality Engineer

Ash Nikravan, Sr. Staff Specialist

Jack Cheng, Staff Specialist

Philip Barroca, Air Quality Specialist

Lori Berard, Air Quality Specialist

Mark Coleman, Air Quality Specialist

Seungbum Ha, Air Quality Specialist

Patricia Kwon, Air Quality Specialist

Joseph Lopat, Air Quality Specialist

Krystle Martinez, Air Quality Specialist

Henry Pourzand, Air Quality Specialist

Greg Ushijima, Air Quality Specialist

George Wa, Air Quality Specialist

Kenneth Dudash, Air Quality Inspector II

Greta Grier, Air Quality Inspector II

Drue Hargis, Sr. Public Information Specialist

Penny Shaw Cedillo, Sr. Administrative Secretary

Pat Krayser, Sr. Administrative Secretary

Jennifer de la Loza, Secretary

Marjorie Eaton, Secretary

Donna Vernon, Secretary

Michelle White, Staff Assistant

Deanna Doerr, Contracts Assistant

Liliana Garcia, Contracts Assistant

Christina Kusnandar, Contracts Assistant

Frances Maes, Contracts Assistant

Mariel Maranan, Contracts Assistant

Genette Prudhomme, Contracts Assistant

Benigna Taylor, Contracts Assistant

Ana Troccoli, Contracts Assistant

Cynthia Snyder, Sr. Office Assistant

Tribrina Brown, Office Assistant

#### **Other Staff Contributors**

Michael Krause, Planning & Rules Manager

Michael Laybourn, Air Quality Specialist

Diana Thai, Air Quality Engineer II



**[This Page Intentionally Left Blank]**



## Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>Background and Overview.....</b>	<b>1</b>
Program Background .....	1
Program Review .....	2
The Need for Advanced Technologies & Clean Fuels .....	2
Program Funding .....	4
2017 Overview.....	5
Core Technologies .....	6
Hydrogen and Mobile Fuel Cell Technologies and Infrastructure .....	7
Engine Systems/Technologies.....	8
Electric and Hybrid Vehicle Technologies and Infrastructure .....	9
Fueling Infrastructure and Deployment (NG/RNG).....	9
Health Impacts, Fuel and Emissions Studies.....	10
Stationary Clean Fuel Technologies.....	10
Emission Control Technologies .....	10
Technology Assessment and Transfer/Outreach .....	11
<b>Barriers, Scope and Impact .....</b>	<b>13</b>
Overcoming Barriers.....	13
Scope and Benefits of the Clean Fuels Program .....	13
Strategy and Impact .....	15
Research, Development and Demonstration .....	16
Technology Deployment and Commercialization.....	24
<b>2017 Funding &amp; Financial Summary .....</b>	<b>33</b>
Funding Commitments by Core Technologies.....	33
Review of Audit Findings .....	34
Project Funding Detail by Core Technologies .....	35
Project Summaries by Core Technologies.....	41
Hydrogen/Mobile Fuel Cell Technologies and Infrastructure .....	41
Engine Systems/Technologies.....	44
Electric/Hybrid Technologies and Infrastructure .....	45
Fueling Infrastructure and Deployment (NG/RNG).....	50
Fuels/Emissions Studies .....	51
Technology Assessment and Transfer/Outreach .....	55
<b>Progress and Results in 2017 .....</b>	<b>59</b>
Key Projects Completed .....	59
<b>2018 Plan Update .....</b>	<b>75</b>
Overall Strategy.....	75
Program and Funding Scope .....	77
Core Technologies.....	78
Target Allocations to Core Technology Areas .....	84
<b>Program Plan Update for 2018.....</b>	<b>87</b>
Funding Summary of Potential Projects .....	87
Technical Summaries of Potential Projects .....	91
Hydrogen and Fuel Cell Technologies & Infrastructure .....	91
Engine Systems/Technologies.....	95
Electric/Hybrid Technologies & Infrastructure.....	99
Fueling Infrastructure and Deployment (NG/RNG).....	106



Fuels/Emission Studies .....	109
Stationary Clean Fuel Technologies.....	112
Emission Control Technologies .....	115
Health Impacts Studies.....	117
Technology Assessment and Transfer/Outreach .....	120

## **Appendix A**

Technology Advancement Advisory Group .....	A-1
SB 98 Clean Fuels Advisory Group .....	A-2

## **Appendix B**

Open Clean Fuels Contracts as of January 1, 2018 .....	B-1
--	-----

## **Appendix C**

Final Reports for 2017.....	C-1
-----------------------------	-----

## **Appendix D**

Project Ranking .....	D-1
-----------------------	-----

## **Appendix E**

Acronyms .....	E-1
----------------	-----

Figure 1: Total NOx Reductions Needed .....	3
Figure 2: Sources of NOx 2012 Base Year .....	4
Figure 3: Stages of Clean Fuels Program Projects .....	14
Figure 4: BYD Battery-Electric Drayage Truck.....	18
Figure 5: Peterbilt Electric Truck .....	18
Figure 6: Kenworth CNG Hybrid Truck .....	18
Figure 7: Volvo Diesel Hybrid Drayage Truck .....	19
Figure 8: Medium-Heavy Duty Plug-in Hybrid Work Truck Applications .....	19
Figure 9: Odyne Power Take-Off (PTO) System.....	20
Figure 10: OCTA Routes in Disadvantaged Communities .....	21
Figure 11: New Flyer Xcelsior® XHE 40 Bus.....	21
Figure 12: Features of Fuel Cell Transit Bus .....	22
Figure 13: Transit Bus Hydrogen Fueling Station.....	22
Figure 14: Examples of Test Vehicles.....	23
Figure 15: Sample PAMS.....	23
Figure 16: Sample PEMS .....	23
Figure 17: Chassis Dynamometers at UCR and WVU.....	24
Figure 18: CWI's 8.9L Engine.....	25
Figure 19: CWI's 11.9L Engine.....	25
Figure 20: Electric School Bus with V2B and V2B Functionality.....	26
Figure 21: Conventional California School Buses Ready For Electrification.....	27
Figure 22: An Opportunity for Revenue in V2G Capabilities?.....	27
Figure 23: CaFCP Press Event at SCAQMD for Fuel Scenario Study (2001).....	29
Figure 24: CaFCP Road Rally started by fueling at first SCAQMD Hydrogen Station (2004).....	29
Figure 25: CaFCP Hydrogen Quality Sampling Adapter .....	30
Figure 26: CaFCP Road Rally Visits Santa Monica Pier on the way from Chula Vista, CA, to Vancouver, B.C. (2009) .....	30
Figure 27: CaFCP Member SunLine Transit Provides Fuel Cell Bus Transportation for Fuel Cell Seminar (2009) .....	30



Figure 28: CaFCP & DOE Provide LA County Fire Dept. Emergency Responder Training (2012).....	30
Figure 29: SCAQMD Board Member Clark E. Parker, Sr., at SCAQMD Retail H2 Station Event (2015).....	30
Figure 30: CaFCP SOSS .....	31
Figure 31: Southern California Hydrogen Stations (January 2018).....	32
Figure 32: Distribution of Funds for Executed Clean Fuels Projects CY 2017 (\$17.9M) .....	34
Figure 33: Certified 8.9L NG engine, below CARB's Optional Low NOx Standard .....	60
Figure 34: Full Production 2018, 8.9-L Natural Gas Engine Certified at 0.02 g/bhp-hr NOx Emissions.....	60
Figure 35: UPS P-1000 Electric Delivery Van.....	61
Figure 36: UPS Electric Van Fleet at San Bernardino Plant .....	61
Figure 37: Estimated Emission Reductions.....	62
Figure 38: Gallons of Fuel Saved.....	62
Figure 39: First Four EDD Trucks (March 2015) .....	63
Figure 40: EDD Truck Carrying a Load of Steel .....	64
Figure 41: New ESS - 5 large modules (300 Ah cells) mounted on frame rails & behind cab of EDD-2 .....	64
Figure 42: NOx Emissions by Vehicle Class and MY .....	69
Figure 43: Annual NOx Emissions by Vocation and MY .....	69
Figure 44: Average Driven Speed .....	70
Figure 45: Miles Driven Per Day .....	70
Figure 46: 2016 AQMP Components.....	75
Figure 47: NOx Reduction Comparison: No New Regulations vs Low NOx Standard in California only vs National Standard .....	76
Figure 48: Projected Cost Distribution for Potential SCAQMD Projects in 2018 (\$16.7M).....	85
Table 1: SCAQMD Major Funding Partners in CY 2017 .....	16
Table 2: Contracts Executed or Amended (w/\$) between Jan. 1 & Dec. 31, 2017 .....	36
Table 3: Supplemental Grants/Revenue Received into the Clean Fuels Fund (31) in CY 2017 .....	39
Table 4: Summary of Federal, State and Local Funding Awarded or Recognized in CY 2017.....	40
Table 5: Projects Completed between January 1 & December 31, 2017 .....	72
Table 6: Summary of Potential Projects for 2018 .....	89



**[This Page Intentionally Left Blank]**



## **EXECUTIVE SUMMARY**

### **Introduction**

The South Coast Air Quality Management District (SCAQMD) is the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties. This region, which encompasses all of the South Coast Air Basin plus small portions of the Mojave Desert and Salton Sea Air Basins, historically experiences the worst air quality in the nation due to the natural geographic and atmospheric conditions of the region, coupled with the high population density and associated mobile and stationary source emissions.

This year will mark the 30th year of the Clean Fuels Program, along with establishment of the Technology Advancement Office (TAO). It was in 1988 that SB 2297 (Rosenthal) was signed into law (Chapter 1546). It initially established a “five-year program to increase the use of clean fuels,” but subsequent legislation extended and eventually removed the sunset clause for the Program. The Clean Fuels Program affords the SCAQMD the ability to fund research, development, demonstration and accelerated deployment of clean fuels and transportation technologies.

Using funding received through a \$1 motor vehicle registration fee, the Clean Fuels Program has encouraged, fostered and supported clean fuels and transportation technologies, such as hydrogen and fuel cells, natural gas engines and infrastructure, battery electric vehicles, plug-in hybrid electric vehicles and related fueling infrastructure. A key strategy of the Program, which allows significant leveraging of the Clean Fuels funding (typically \$3-\$4 to every \$1 of Clean Fuels funds), is its public-private partnership with private industry, technology developers, academic institutions, research institutions and government agencies. Further, while SCAQMD aggressively seeks to leverage funds to accomplish more with every dollar, it also strives to be a leader in technology development and commercialization to accelerate the reduction of criteria pollutants. As a result, the TAO Clean Fuels Program has traditionally supported a portfolio of technologies, in different stages of maturity, to provide a continuum of emission reductions and health benefits over time. This approach provides the greatest flexibility and optimizes the region’s ability to achieve the National Ambient Air Quality Standards (NAAQS).

Health & Safety Code (H&SC) 40448.5.1 requires the SCAQMD to prepare, and submit to the Legislative Analyst each year, a Clean Fuels Annual Report and Plan Update. The Clean Fuels Annual Report looks at what the Program accomplished in the prior calendar year (CY) and the Clean Fuels Plan Update looks ahead at proposed projects for the next CY, essentially re-calibrating the technical emphasis of the Program. Preliminary review and comment by SCAQMD’s Governing Board, advisory groups, technical experts and other interested parties are incorporated into the final Plan Update, along with the Clean Fuels Annual Report, which are due to the Legislative Analyst by March 31 of every year.

### **Setting the Stage**

The overall strategy of TAO’s Clean Fuels Program is based, in large part, on emission reduction technology needs identified through the Air Quality Management Plan (AQMP) process and the SCAQMD Governing Board’s directives to protect the health of the approximately 17 million residents (nearly half the population of California) in the South Coast Basin. The AQMP, which is updated approximately every four years, is the long-term regional “blueprint” that relies on fair-share emission reductions from all jurisdictional levels (e.g., federal, state and local). The 2016 AQMP, which was adopted by the SCAQMD Governing Board in March 2017, is composed of stationary and mobile



source emission reductions from traditional regulatory control measures, incentive-based programs, projected co-benefits from climate change programs, mobile source strategies, and reductions from federally regulated sources (e.g., aircraft, locomotives and ocean-going vessels).

The emission reductions and control measures in the 2016 AQMP rely on a mix of currently available technologies as well as the expedited development and commercialization of lower-emitting mobile and stationary advanced technologies in the Basin to achieve health-based air quality standards. The 2016 AQMP projects that an approximate 45 percent reduction in NO<sub>x</sub> is required by 2023 and an additional 55 percent reduction by 2031. Figure 1 illustrates these needed NO<sub>x</sub> reductions in the South Coast Basin. The majority of these NO<sub>x</sub> reductions must come from mobile sources, both on- and off-road. Notably, the SCAQMD is currently only one of two regions in the nation designated as an extreme ozone nonattainment area (the other is San Joaquin Valley). Ground level ozone (a key component of smog) is created by a chemical reaction between NO<sub>x</sub> and volatile organic compound (VOC) emissions in sunlight. This is especially noteworthy because in the South Coast Air Basin the primary driver for ozone formation is NO<sub>x</sub> emissions, and mobile sources contribute approximately 88 percent of the NO<sub>x</sub> emissions in this region, as shown in Figure 2. Furthermore, NO<sub>x</sub> emissions, along with VOC emissions, also lead to the formation of PM<sub>2.5</sub> [particulate matter measuring 2.5 microns or less in size, expressed as micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )].

### Sources of NO<sub>x</sub>: Mobile and Stationary (2012)

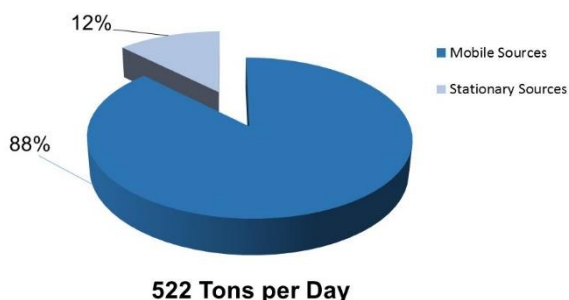


Figure 2: Sources of NO<sub>x</sub> 2012 Base Year

change policies, together with funding to incentivize the deployment of these cleaner technologies. There are significant challenges to attaining the air quality standards, however, including the need for the U.S. Environmental Protection Agency (U.S. EPA) and California Air Resources Board (CARB) to lower the heavy-duty engine exhaust NO<sub>x</sub> standard from 0.2 grams per brake horsepower-hour (g/bhp-hr) to an already commercially achievable (by natural gas powered engines) 0.02 g/bhp-hr.

## Basin Total NO<sub>x</sub> Emissions

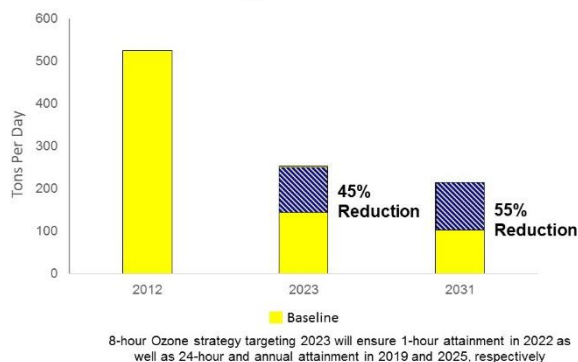


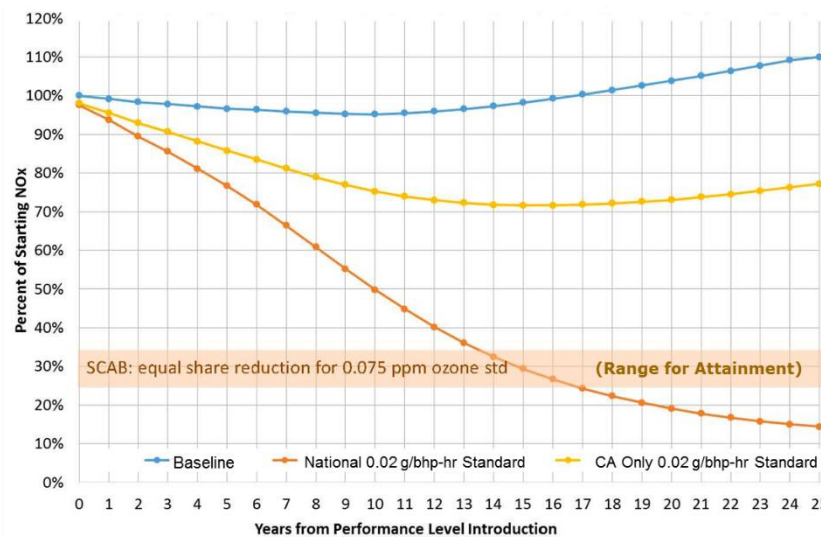
Figure 1: Total NO<sub>x</sub> Reductions Needed

On a positive note, the 2016 AQMP for the first time envisions Southern California achieving attainment through regulations and incentives and identifies the clean technologies to be deployed that were formerly undefined as “blackbox” measures. This is due, in part, because the needed zero and near-zero technologies are being commercialized or nearing commercialization, albeit with deployment pathways that still require more specificity and scalability. Also, additional NO<sub>x</sub> and VOC emission reduction co-benefits are expected from carbon dioxide (CO<sub>2</sub>) reductions resulting from California’s climate



Finally, financial resources will need to be identified that could be utilized to offset the higher procurement costs of these emerging clean technologies.

In June 2016, SCAQMD and 10 co-petitioners requested the U.S. EPA Administrator to undertake rulemaking to revise the national on-road heavy-duty engine exhaust NO<sub>x</sub> emission standard from 0.2 g/bhp-hr to 0.02 g/bhp-hr. It was recommended that the regulation be implemented by January 2022 or if not feasible, by January 2024, with a phase-in starting in January 1, 2022. A national standard (as opposed to only a California standard) is estimated to result in NO<sub>x</sub> emission reductions from this source category from 70 to 90 percent in 14 to 25 years, respectively.



Source: Presentation by Mr. Cory Palmer, CARB, at Symposium on California's Development of its Phase 2 GHG Emission Standards for On-Road Heavy-Duty Vehicles (April 22, 2015)

**Figure 3: NO<sub>x</sub> Reduction Comparison: No New Regulations vs Low NO<sub>x</sub> Standard in California only vs National Standard**

Given that the Basin must attain the 75 ppb ozone NAAQS by 2031 (within the next 13 years), a new on-road heavy-duty engine exhaust emissions standard for NO<sub>x</sub> is critical given the time needed for such standards to be adopted, for manufacturers to develop and produce compliant vehicles, and for national fleet turnover to occur.

Figure 3 (above-right) shows the difference in NO<sub>x</sub> reductions from heavy-duty trucks between baseline (i.e., no new regulations) emissions (in blue), a low NO<sub>x</sub> standard adopted only in California (yellow), and reductions if the same low NO<sub>x</sub> standard is implemented nationally (orange).

## Clean Fuels Program

Due to these daunting challenges to reduce NO<sub>x</sub> and PM<sub>2.5</sub> to meet health-based air quality standards, the Clean Fuels Program is more important than ever to encourage and accelerate the advancement and commercialization of clean fuel and transportation technologies.

Below is a brief summary of the contents of the 2017 Clean Fuels Program Annual Report and 2018 Plan Update. Every new Plan Update is reviewed by two advisory groups--the Clean Fuels Advisory Group and the Technology Advancement Advisory Group. These two groups meet approximately every six months to provide expert analysis and feedback on potential projects and areas of focus. They are also briefed and comment on the accomplishments of the prior year in the context of the annual report. The membership of these two bodies is in Appendix A. For more information on this review process, refer to Program Review (page 2). Further review of the Clean Fuels Program is detailed under Strategy and Impact (page 15).



## **2017 Annual Report**

In CY 2017, the SCAQMD Clean Fuels Program executed 59 new contracts, projects or studies and modified 8 continuing projects adding dollars toward research, development, demonstration and deployment (RDD&D) projects as well as technology assessment and transfer of alternative fuel and clean fuel technologies. An additional 8 revenue agreements totaling \$14.3 million were also executed. Table 2 (page 36) lists the 67 projects or studies, which are further described in this report. The SCAQMD Clean Fuels Program contributed nearly \$17.9 million in partnership with other governmental organizations, private industry, academia and research institutes, and interested parties, with total project costs of more than \$118.7 million. The \$17.9 million includes \$6.2 million recognized into the Clean Fuels Fund as pass-through funds from project partners to facilitate project administration by the Clean Fuels Program. Table 3 (page 39) provides information on this outside funding received into the Clean Fuels Fund. In addition, in CY 2017, the Clean Fuels Program continued to leverage other outside funding opportunities, securing new awards totaling \$20.5 million from federal, state and local funding opportunities. Table 4 (page 40) provides a comprehensive summary of these federal, state and local revenues awarded to the SCAQMD during CY 2017. Similar to the prior year, the significant project scope of a few key contracts executed in 2017 resulted in higher than average leveraging of Clean Fuels dollars. Typical leveraging is \$3-\$4 for every \$1 in Clean Fuels funding. In 2016, leveraging was \$1:\$9; in 2017, SCAQMD continued this upward trend with more than \$6 leveraged for every \$1 in Clean Fuels funds. Leveraging dollars and aggressively pursuing funding opportunities are more important than ever given the magnitude of additional funding identified in the 2016 AQMP to achieve federal ozone air quality standards.

The projects or studies executed in 2017 included a diverse mix of advanced technologies. The following core areas of technology advancement for 2017 executed contracts (in order of funding percentage) include:

1. Electric and Hybrid Vehicle Technologies and Related Infrastructure (emphasizing electric and hybrid electric trucks and container transport technologies with zero emission operations);
2. Fuels and Emission Studies;
3. Engine Systems/Technologies (emphasizing alternative and renewable fuels for truck and rail applications);
4. Hydrogen and Mobile Fuel Cell Technologies and Infrastructure;
5. Technology Assessment and Transfer/Outreach; and
6. Fueling Infrastructure and Deployment (predominantly natural gas and renewable fuels).

The pie chart on page 34 shows the distribution by percentage of executed agreements in 2017 across these core technologies.

During CY 2017, the SCAQMD supported a variety of projects and technologies, ranging from near-term to long-term RDD&D activities. This “technology portfolio” strategy provides the SCAQMD the ability and flexibility to leverage state and federal funding while also addressing the specific needs of the South Coast Air Basin (Basin). Projects included significant electric and hybrid electric technologies and infrastructure to develop and demonstrate medium- and heavy-duty vehicles in support of transitioning to a zero and near-zero emissions goods movement industry; fuels and emissions studies to conduct in-use testing and fuel characterization and usage profiles as well as evaluating strategies for reducing emissions in the goods movement sector; development, demonstration and deployment of large displacement natural gas engines; and continued demonstration and deployment of electric charging infrastructure; and natural gas and renewable natural gas deployment and support.



In addition to the 67 executed contracts and projects, 19 RDD&D projects or studies and 24 technology assessment and transfer contracts were completed in 2017, as listed in Table 5 (page 72). Appendix C comprises two-page summaries of the technical projects completed in 2017. As of January 1, 2018, there were 94 open contracts in the Clean Fuels Program; Appendix B lists these open contracts by core technology.

In accordance with California Health and Safety Code Section 40448.5.1(d), this annual report must be submitted to the state legislature by March 31, 2018, after approval by the SCAQMD Governing Board.

## **2018 Plan Update**

Every year, staff re-evaluates the Clean Fuels Program to develop a Plan Update based on a reassessment of the technology progress and direction for the agency. The Program continually seeks to support the development and deployment of lower-emitting technologies. The design and implementation of the Program Plan must balance the needs in the various technology sectors with technology readiness, emissions reduction potential and cofunding opportunities. As the state has turned a great deal of its attention to climate change and petroleum reduction goals, the SCAQMD has necessarily remained committed to developing, demonstrating and commercializing technologies that reduce criteria pollutants, specifically NO<sub>x</sub>. Fortunately many, if not the majority, of these technologies that address the Basin's need for NO<sub>x</sub> reductions also garner reductions in greenhouse gases (GHG) and petroleum use. Due to these "co-benefits," the SCAQMD has been successful in partnering with the state, which allows the Clean Fuels Program to leverage its funding extensively.

To identify technology and project opportunities where funding can make a significant difference in deploying progressively cleaner technologies in the Basin, the SCAQMD employs a number of outreach and networking activities. These activities range from close involvement with state and federal collaboratives, partnerships and industrial coalitions, to the issuance of Program Opportunity Notices to solicit project ideas and concepts as well as issuance of Requests for Information (RFI) to determine the state of various technologies and the development and commercialization challenges faced by those technologies. For example, in 2016, an RFI was released to solicit information from diesel engine manufacturers and other entities to identify ultra-low NO<sub>x</sub> emission technology strategies that will result in commercially viable diesel engine technologies, capable of using renewable diesel for on-road heavy-duty vehicles such that they can achieve emission levels 90% below the current 2010 emission standards for NO<sub>x</sub> and reduce PM emissions to the greatest extent possible. Subsequently, in partnership with CARB and the Port of Los Angeles, staff initiated a project with Southwest Research Institute to develop advanced control systems to lower emissions from large displacement diesel engines, including under low-load and low-temperature conditions. Potential follow-up development, demonstration and certification projects resulting from this RFI are included conceptually within the Draft 2018 Plan Update.

The Plan Update includes projects to develop, demonstrate and commercialize a variety of technologies, from near-term to long-term commercialization, that are intended to provide solutions to the emission control needs identified in the 2016 AQMP. Given the need for significant reductions over the next five to ten years, near-zero and zero emission technologies are emphasized. Areas of focus include:

- reducing emissions from port-related activities, such as cargo handling equipment and container movement technologies, including demonstration and deployment of cargo container movement systems with zero emission range;
- developing and demonstrating ultra-low emission liquid fuel larger displacement engines and zero emission heavy-duty vehicles;
- developing, demonstrating and deploying advanced natural gas engines and zero emission



- technologies for high horsepower applications;
- mitigating criteria pollutant increases from renewable fuels, such as renewable natural gas, diesel and hydrogen as well as other renewable fuels and waste streams;
- developing and demonstrating electric-drive (fuel cell, battery, plug-in hybrid and hybrid) technologies across light-, medium- and heavy-duty platforms;
- producing transportation fuels and energy from renewable and waste stream sources; and
- establishing large-scale hydrogen refueling and EV charging infrastructures to help accelerate the introduction zero emission vehicles into the market.

Table 6 (page 89) lists the potential projects across nine core technologies by funding priority:

1. Hydrogen and Mobile Fuel Cell Technologies and Infrastructure;
2. Engine Systems/Technologies (emphasizing alternative and renewable fuels for truck and rail applications);
3. Electric and Hybrid Vehicle Technologies and Related Infrastructure (emphasizing electric and hybrid electric trucks and container transport technologies with zero emission operations);
4. Fueling Infrastructure and Deployment (predominantly natural gas and renewable fuels);
5. Fuel and Emissions Studies;
6. Technology Assessment and Transfer/Outreach;
7. Stationary Clean Fuels Technologies (including renewables);
8. Emission Control Technologies; and
9. Health Impacts Studies.

These potential projects for 2018 total \$16.7 million, with anticipated leveraging of more than \$4 for every \$1 of Clean Fuels funding for total project costs of nearly \$70 million. Some of the proposed projects may also be funded by revenue sources other than the Clean Fuels Program, especially VOC and incentive projects.



# **CLEAN FUELS PROGRAM**

## **Background and Overview**

### **Program Background**

The South Coast Air Basin, which comprises all of Orange County and the urban portions of Los Angeles, San Bernardino and Riverside Counties, has the worst air quality in the nation due to a combination of factors, including high vehicle population, high vehicle miles traveled within the region and geographic and atmospheric conditions favorable for photochemical oxidant (smog) formation. This region, which encompasses all of the South Coast Air Basin plus small portions of the Mojave Desert and Salton Sea Air Basins, is home to approximately 17 million people (nearly half the population of California). Due to these confluence of factors which present unique challenges, the state legislature enabled the SCAQMD to implement the Clean Fuels Program to accelerate the implementation and commercialization of clean fuels and advanced mobile source technologies.

In fact, this year will mark the 30<sup>th</sup> year of the Clean Fuels Program, along with establishment of the Technology Advancement Office (TAO). It was in 1988 that SB 2297 (Rosenthal) was signed into law (Chapter 1546). It initially established a “five-year program to increase the use of clean fuels,” but subsequent legislation extended and eventually removed the sunset clause for the Program.

In 1999, further state legislation was passed which amended the Clean Fuels Program. Specifically, as stated in the California Health and Safety Code (H&SC) section 40448.5.1(d), the SCAQMD must submit to the Legislature, on or before March 31 of each year, an annual report that includes:

1. A description of the core technologies that the SCAQMD considers critical to ensure attainment and maintenance of ambient air quality standards and a description of the efforts made to overcome barriers to commercialization of those technologies;
2. An analysis of the impact of the SCAQMD’s Clean Fuels Program on the private sector and on research, development and commercialization efforts by major automotive and energy firms, as determined by the SCAQMD;
3. A description of projects funded by the SCAQMD, including a list of recipients, subcontractors, cofunding sources, matching state or federal funds and expected and actual results of each project advancing and implementing clean fuels technology and improving public health;
4. The title and purpose of all projects undertaken pursuant to the Clean Fuels Program, the names of the contractors and subcontractors involved in each project and the amount of money expended for each project;
5. A summary of the progress made toward the goals of the Clean Fuels Program; and
6. Funding priorities identified for the next year and relevant audit information for previous, current and future years covered by the project.

Furthermore, H&SC section 40448.5.1(a)(2) requires the SCAQMD to find that the proposed program and projects funded as part of the Clean Fuels Program will not duplicate any other past or present program or project funded by the state board and other government and utility entities. This finding does not prohibit funding for programs or projects jointly funded with another public or private agency where there is no duplication.

The following section describes the various panels of external experts that helps review the Clean Fuels Program every year.



## **Program Review**

In 1990, the SCAQMD initiated an annual review of its technology advancement program by an external panel of experts. That external review process has evolved, in response to SCAQMD policies and legislative mandates, into two external advisory groups. The Technology Advancement Advisory Group (one of six standing Advisory Groups that make up the SCAQMD Advisory Council) is made up of stakeholders representing industry, academia, regulatory agencies, the scientific community and environmental impacts. The Technology Advancement Advisory Group serves to:

- Coordinate the SCAQMD program with related local, state and national activities;
- Review and assess the overall direction of the program; and
- Identify new project areas and cost-sharing opportunities.

In 1999, the second advisory group was formed as required by SB 98 (Alarcon). Under H&SC Section 40448.5.1(c), this advisory group must comprise 13 members with expertise in clean fuels technology and policy or public health and appointed from the scientific, academic, entrepreneurial, environmental and public health communities. This legislation further specified conflict-of-interest guidelines prohibiting members from advocating expenditures towards projects in which they have professional or economic interests. The objectives of the SB 98 Clean Fuels Advisory Group are to make recommendations regarding projects, plans and reports, including consulting with regarding approval of the required annual report prior for submittal to the SCAQMD Governing Board. Also in 1999, in light of the formation of the SB 98 Clean Fuels Advisory Group, the SCAQMD also revisited the charter and membership of the Technology Advancement Advisory Group to ensure their functions would complement each other.

On an as-needed basis, changes to the composition of the Clean Fuels Advisory Group are reviewed by the SCAQMD Board while changes to the Technology Advancement Advisory Group are reviewed by the SCAQMD Board's Technology Committee. Current membership changes to both advisory groups, if required, will be considered by the SCAQMD Board and its Technology Committee, respectively, as part of consideration of the 2017 Annual Report and 2018 Plan Update. The current members of the SB 98 Clean Fuels Advisory Group and Technology Advancement Advisory Group are listed in Appendix A, with any proposed changes, subject to SCAQMD Board approval, duly noted.

The review process of the Clean Fuels Program now includes, at minimum: 1) two full-day retreats of the both Advisory Groups, typically in the summer and winter; 2) review by other technical experts; 3) occasional technology forums or roundtables bringing together interested parties to discuss specific technology areas; 4) review by the Technology Committee of the SCAQMD Governing Board; 5) a public hearing of the Annual Report and Plan Update before the full SCAQMD Board, along with adoption of a resolution finding that the proposed program and projects funded as part of the Clean Fuels Program will not duplicate any other past or present program or project funded by the state board and other government and utility entities, as required by the H&SC; and 6) finally submittal of the Clean Fuels Program Annual Report and Plan Update to the Legislature by March 31 of every year.

## **The Need for Advanced Technologies & Clean Fuels**

Achieving federal and state clean air standards in Southern California will require emission reductions from both mobile and stationary sources beyond those expected using current technologies. The need for advanced mobile source technologies and clean fuels is best illustrated by Figure 1 below, which identifies just how far NO<sub>x</sub> emissions must be reduced to meet federal standards by 2023 and 2031.



To fulfill long-term emission reduction targets, the 2016 AQMP relies on a mix of currently available technology as well as the expedited development and demonstration of advanced technologies that are not yet ready for commercial use. Significant reductions are anticipated from implementation of advanced control technologies for both on-road and off-road mobile sources. In addition, the air quality standards for ozone (80 ppb, 8-hour average) and fine particulate matter, promulgated by the U.S. EPA in 1997 and 2006, are projected to require additional long-term control measures for both NO<sub>x</sub> and VOC. The 2016 AQMP's estimate of needed NO<sub>x</sub> reductions will require the SCAQMD Clean Fuels Program to encourage and accelerate advancement of clean transportation technologies that are used as control strategies in the AQMP.

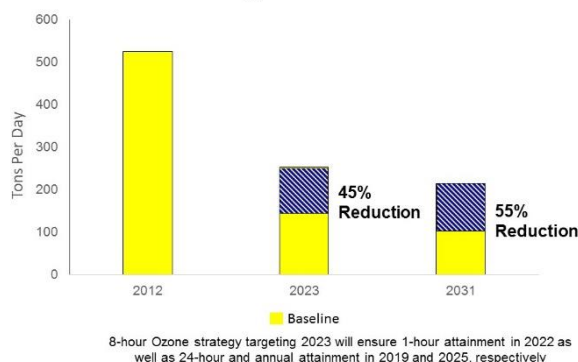
Health studies also indicate a greater need to reduce NO<sub>x</sub> emissions and toxic air contaminant emissions. For example, the goal of SCAQMD's Multiple Air Toxics Exposure Study (MATES) IV, completed in 2015, like the prior three MATES efforts, was to assess air toxic levels, update risk characterization, and determine gradients from selected sources. However, MATES IV added ultrafine PM and black carbon monitoring components as well. The study found a dramatic decrease in ambient levels of diesel particulate matter and other air toxics. Diesel PM was still the major driver of air toxics health risks. While the levels and exposures decreased, a revision to the methods used to estimate cancer risk from toxics developed by the California Office of Health Hazard Identification increased the calculated risk estimates from these exposures by a factor of up to three. In 2017, SCAQMD initiated MATES V to update the emissions inventory of toxic air contaminants and modeling to characterize risks, including measurements and analysis of ultrafine particle concentrations typically emitted or converted from vehicle exhaust.

The emission reductions needed for this region are outlined further in CARB's draft "Mobile Source Strategy" (May 2016)<sup>1</sup>, which is an integrated plan to transform California's mobile sector. Specifically, it calls for California to build upon its successful efforts to meet critical air quality and climate goals, as summarized below:

- Attaining federal health-based air quality standards for ozone in 2023 and 2031 in the South Coast and San Joaquin Valley, and fine particulate matter (PM<sub>2.5</sub>) standards in the next decade;
- Achieving GHG emission reduction targets of 40 percent below 1990 levels by 2030;
- Reducing our petroleum use by up to 50 percent by 2030;
- Minimizing health risk from exposure to toxic air contaminants; and
- Increasing energy efficiency and deriving 50 percent of our electricity from renewable sources by 2030.

The CARB document focuses on mobile sources, both on- and off-road equipment, that are responsible for approximately 80 percent of smog-forming NO<sub>x</sub> emissions, 95 percent of diesel particulate matter emissions and 50 percent of GHG emissions in California. In the South Coast Air Basin the primary

## Basin Total NO<sub>x</sub> Emissions



**Figure 1: Total NO<sub>x</sub> Reductions Needed**

<sup>1</sup> <https://www.arb.ca.gov/planning/sip/2016sip/2016mobsrc.pdf>



driver for ozone formation is NO<sub>x</sub> emissions, and mobile sources contribute approximately 88 percent of the NO<sub>x</sub> emissions in this region, as shown in Figure 2. Given this contribution, significant cuts in pollution from these sources are needed, therefore the proposed mobile source strategy calls for

### Sources of NO<sub>x</sub>: Mobile and Stationary (2012)

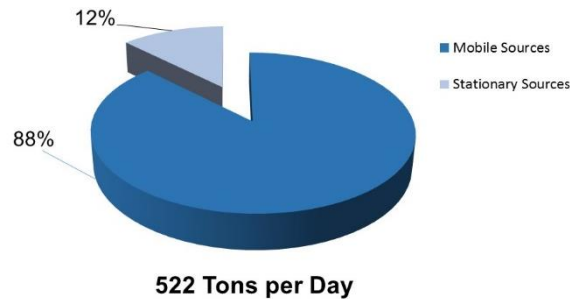


Figure 2: Sources of NO<sub>x</sub> 2012 Base Year

establishing requirements for cleaner technologies (both zero and near-zero) and deploying these technologies into the fleet, requiring cleaner and renewable fuels, and ensuring continued clean performance in use. Actions to accelerate the deployment of cleaner technologies through incentives, efficiency increases in moving people and freight, and support for the use of advanced transportation technologies such as intelligent transportation systems and autonomous vehicles, are also needed. Taken together, these actions would provide the reductions necessary from mobile sources to achieve the air

quality and climate goals outlined above.

Subsequently, in November 2016, CARB released a revised draft of the Short Lived Climate Pollutant strategy to address emissions from methane, black carbon and hydrofluorocarbons (HFCs). And in 2017, an updated California Sustainable Freight Action Plan<sup>2</sup> (CSFAP) incorporating pilot projects was released. The CSFAP outlines a transition to a more efficient, economically competitive, and cleaner freight transport system.

In summary, advanced, energy efficient and renewable technologies are needed not only for attainment, but also to protect the health of those who reside within the SCAQMD's jurisdiction; to reduce long-term dependence on petroleum-based fuels; and to support a more sustainable energy future. Conventional strategies and traditional supply and consumption need to be retooled in order to achieve the federal air quality goals. To help meet this need for advanced, clean technologies, the SCAQMD Board continues to aggressively carry out the Clean Fuels Program and promote alternative fuels through its Technology Advancement Office.

The Clean Fuels Program is intended to assist in the accelerated development and deployment of progressively lower-emitting technologies and fuels through innovative public-private partnership. Since its inception, SCAQMD's TAO has cofunded projects in cooperative partnerships with private industry, technology developers, academic and research institutions and local, state and federal agencies. The following sections describe program funding, provide a 2017 overview and describe core technologies of the Clean Fuels Program.

## Program Funding

The Clean Fuels Program is established under California H&SC Sections 40448.5 and 40512 and Vehicle Code Section 9250.11. This legislation establishes mechanisms to collect revenues from mobile and stationary sources to support the program objectives and identifies the constraints on the use of funds. In 2008, these funding mechanisms were reauthorized under SB 1646 (Padilla), which removed the funding sunset of January 1, 2010, and established the five percent administrative cap instead of the

<sup>2</sup> <http://www.casustainablefreight.org/>



previous cap of two-and-half percent.

Specifically, the Program is funded through a \$1 fee on motor vehicles registered in the SCAQMD. Revenues collected from these motor vehicles must be used to support mobile source projects. Stationary source projects are funded by an emission fee surcharge on stationary sources emitting more than 250 tons of pollutants per year within the SCAQMD. For CY 2017, the funds available through each of these mechanisms were as follows:

- Mobile sources (DMV revenues) \$13,610,601
- Stationary sources (emission fee surcharge) \$330,224

The SCAQMD Clean Fuels Program also receives grants and cost-sharing revenue contracts from various agencies, on a project-specific basis, that supplement the SCAQMD program. Historically, such cooperative project funding revenues have been received from CARB, the CEC, the U.S. EPA, the U.S. Department of Energy (DOE) and the U.S. Department of Transportation (DOT). These supplemental revenues depend in large part on the originating agency, its budgetary and planning cycle and the specific project or intended use of the revenues.

Table 3 (page 39) lists supplemental grants and revenues totaling \$6.2 million for contracts executed in CY 2017.

Table 4 (page 40) lists federal and state revenue totaling nearly \$20.5 million awarded to the SCAQMD in 2017 for projects that will be part of the Clean Fuels Program or align well and complement the Clean Fuels Program.

The final and perhaps most significant funding source can best be described as an indirect source, i.e., funding not directly received by the SCAQMD. This indirect source is the cost-sharing provided by private industry and other public and private organizations. Historically, the Technology Advancement Office has been successful in leveraging its available public funds with \$3 to \$4 of outside funding for each \$1 of SCAQMD funding. For 2017, the Clean Fuels Program leveraged each \$1 to more than \$6 of outside funding. Similar to last year, this atypical leverage was the result of a few key contracts with significant project scopes executed in 2017, such as the \$23 million award from CARB's California Climate Investment Program (see Table 2 for more information on these key projects). Through these public-private partnership, the SCAQMD has shared the investment risk of developing new technologies along with the benefits of expedited development and commercial availability, increased end-user acceptance, reduced emissions from the demonstration projects and ultimately increased use of clean technologies in the Basin. While the SCAQMD aggressively seeks leverage funds to accomplish more with every dollar, it also strives to be a leader in technology development and commercialization in an effort to accelerate the reduction of criteria pollutants. Leveraging dollars and aggressively applying for additional funds whenever funding opportunities arise is more important than ever given the magnitude of additional funding identified in the 2016 AQMP to achieve federal ozone air quality standards. The SCAQMD's Clean Fuels Program has also avoided duplicative efforts by coordinating and jointly funding projects with major funding agencies and organizations. The major funding partners for 2017 are listed in Table 1 (page 16).

## 2017 Overview

This report summarizes the progress of the SCAQMD Clean Fuels Program for CY 2017. The SCAQMD Clean Fuels Program cosponsors projects to develop and demonstrate zero, near-zero and low emission clean fuels and advanced technologies and to promote commercialization and deployment of promising or proven technologies in Southern California. These projects are conducted through public-private partnerships with industry, technology developers, academic and research institutes and local, state and federal agencies.



This report also highlights achievements and summarizes project costs of the SCAQMD Clean Fuels Program in CY 2017. During the period between January 1 and December 31, 2017, the SCAQMD executed 59 new contracts, projects or studies and modified 8 continuing projects adding dollars during CY 2017 that support clean fuels and advanced zero, near-zero and low emission technologies. The SCAQMD Clean Fuels Program contribution for these projects was approximately \$17.9 million, inclusive of \$6.2 million received into the Clean Fuels Fund as cost-share for contracts executed in this reporting period. Total project cost exceed \$118.7 million. These projects address a wide range of issues with a diverse technology mix. The report not only provides information on outside funding received into the Clean Fuels Fund as cost-share for contracts executed in this period (summarized in

Table 3, page 39), but also funds awarded to the SCAQMD for projects to be included in the Clean Fuels Program or which align well and are complementary to the Clean Fuels Program (\$20.5 million in 2017, see Table 4). More details on this financial summary can be found later in this report. The SCAQMD will continue to pursue federal, state and private funding opportunities in 2018 to amplify leverage, while acknowledging that support of a promising technology is not contingent on outside cost-sharing and affirming that SCAQMD will remain committed to being a leader in developing advanced technologies that lower criteria pollutants.

## **Core Technologies**

Given the diversity of sources that contribute to the air quality problems in the Basin, there is no single technology or “Silver Bullet” that can solve all of the problems. A number of technologies are required and these technologies represent a wide range of applications, with full emissions benefit “payoffs,” i.e., full commercialization and mass deployment occurring at different times. The broad technology areas of focus – the “Core Technologies” – for the Clean Fuels Program are as follows:

- Hydrogen and Fuel Cell Technologies and Infrastructure (especially large-scale refueling facilities)
- Engine Systems/Technologies (emphasizing heavy-duty alternative and renewable fuel engines for truck and rail applications)
- Electric and Hybrid Vehicle Technologies and Infrastructure (emphasizing electric and hybrid electric trucks and container transport technologies with zero emission operation)
- Fueling Infrastructure and Deployment (predominantly natural gas and renewable fuels)
- Fuels and Emissions Studies
- Technology Assessment and Transfer/Outreach
- Stationary Clean Fuels Technologies
- Emission Control Technologies
- Health Impacts Studies

The SCAQMD continually seeks to support the deployment of lower-emitting technologies. The Clean Fuels Program is shaped by two basic factors:

1. Low, near-zero and zero emission technologies needed to achieve clean air standards in the Basin; and
2. Available funding to support technology development within the constraints imposed by that funding.

The SCAQMD strives to maintain a flexible program to address dynamically evolving technologies and the latest progress in the state of the technology while balancing the needs in the various technology sectors with technology readiness, emissions reduction potential and cofunding opportunities. Although



the SCAQMD program is significant, national and international activities affect the direction of technology trends. As a result, the SCAQMD program must be flexible in order to leverage and accommodate these changes in state, national and international priorities. Nonetheless, while the state and federal governments have in recent years turned a great deal of their attention to climate change, SCAQMD has remained committed to developing, demonstrating and commercializing zero and near-zero emission technologies. Fortunately many, if not the majority, of technology sectors that address our need for NOx reductions also garner greenhouse gas (GHG) reductions. Due to these “co-benefits,” the SCAQMD has been successful in partnering with the state and federal government. Even with the leveraged funds, the challenge for the SCAQMD remains the need to identify project or technology opportunities in which its available funding can make a difference in achieving progressively cleaner air in the Basin.

To achieve this, the SCAQMD will need to continue to employ a number of outreach and networking activities as well as evaluate new ways to expand these activities. Typical activities range from intimate involvement with state and federal collaboratives, partnerships and industrial coalitions, to the issuance of Program Opportunity Notices to solicit project ideas and concepts as well as the issuance of Requests for Information to determine the state of various technologies and the challenges faced by those technologies for commercialization. While employing a number of creative outreach and networking activities to try to overcome these challenges, SCAQMD’s TAO annually develops a comprehensive plan to encourage and accelerate the development and demonstration of cleaner technologies. Every year TAO staff re-evaluates the Clean Fuels Program to develop a comprehensive plan (referred to as the 2017 Plan Update within this document) to essentially re-assess the technology progress and direction for the agency.

Historically, mobile source projects have targeted low-emission developments in automobiles, transit buses, medium- and heavy-duty trucks and non-road applications. These vehicle-related efforts have focused on advancements in engine design, electric power-trains and energy storage/conversion devices (e.g., fuel cells and batteries); and implementation of clean fuels (e.g., natural gas, propane and hydrogen) including their infrastructure development. Stationary source projects have included a wide array of advanced low NOx technologies and clean energy alternatives such as fuel cells, solar power and other renewable and waste energy systems. The focus on recent years has been on zero and near-zero emission technologies to reduce emissions from mobile sources, which contribute to more than 80 percent of the current NOx emissions in this region. However, while mobile sources include both on- and off-road vehicles as well as aircraft and ships, only the federal government has the authority to regulate emissions from aircraft and ships. The SCAQMD is exploring opportunities to expand its authority in ways that would allow the agency to do more to foster technology development for ship and train activities as well as locomotives as they relate to goods movement.

Specific projects are selected for cofunding from competitive solicitations, cooperative agency agreements and unsolicited proposals. Criteria considered in project selection include emissions reduction potential, technological innovation, potential to reduce costs and improve cost effectiveness, contractor experience and capabilities, overall environmental impacts or benefits, commercialization and business development potential, cost sharing and cost-sharing partners, and consistency with program goals and funding constraints. The core technologies for the SCAQMD programs that meet both the funding constraints as well as 2016 AQMP needs for achieving clean air are briefly described below.

## **Hydrogen and Mobile Fuel Cell Technologies and Infrastructure**

Toyota and Hyundai commercialized light-duty fuel cell vehicles in 2015, Honda started delivering their Fuel Cell Clarity in 2016, and numerous others have plans to commercialize their own in the near future. As automakers continue to collaborate on development efforts (e.g., Honda and GM) and



commercialize fuel cell vehicles, in the interim plug-in hybrid technology could help enable fuel cells by using larger capacity batteries until fuel cell components mature. For example, Mercedes-Benz announced production of a plug-in fuel cell model GLC for 2018, with U.S. availability approximately late 2019. However, the greatest challenge for the viability of fuel cell vehicles remains the installation and operations of hydrogen fueling stations. AB 8 requires the CEC to allocate \$20 million annually from the Alternative and Renewable Fuel and Vehicle Technology Program until there are at least 100 publicly accessible hydrogen stations in operation in California. Of the 65 stations funded by CEC and CARB by the end of 2017, partially funded by SCAQMD for those in our region, there are five non-retail and 31 retail operational in California, but most if not all 65 are expected to be operational by the end of 2019 with capacity for more than 10,000 fuel cell vehicles. AB 8 also requires CARB to annually assess current and future FCVs and hydrogen stations in the marketplace. *The Joint Agency Staff Report on Assembly Bill 8: 2017 Annual Assessment of Time and Cost Needed to Attain 100 Hydrogen Refueling Stations in California*<sup>3</sup> released in December 2017 reporting on 2017 findings states that there were 2,473 fuel cell vehicles registered in California by October 2017. However, CARB's 2017 Annual Evaluation projects 13,400 FCEVs in California by 2020 and 37,400 by the end of 2023. Clearly, the SCAQMD must continue to support the infrastructure required to refuel retail fuel cell vehicles. To that end, SCAQMD is also actively engaged in finding alternatives to reducing the cost of hydrogen (e.g., large-scale hydrogen refueling stations) and potential longer term fuel cell power plant technology.

## Engine Systems/Technologies

Medium- and heavy-duty on-road vehicles contributed approximately 33 percent of the Basin's NO<sub>x</sub> based on 2016 AQMP data. More importantly, on-road heavy-duty diesel trucks account for 33 percent of the on-road mobile source PM<sub>2.5</sub>, a known toxic air contaminant. Furthermore, according to CARB, trucks and buses are responsible for 37 percent of California's greenhouse gases and criteria emissions. These figures notably do not include the significant contribution from off-road mobile sources, which contribute significantly to NO<sub>x</sub> and PM<sub>2.5</sub> emissions in the Basin. Furthermore, while MATES IV found a dramatic decrease in ambient levels of diesel PM and other air toxics, diesel PM is still the major driver of air toxics health risks. Clearly, significant emission reductions will be required from mobile sources, especially from the heavy-duty sector, to attain the federal clean air standards.

The use of alternative fuels in heavy-duty vehicles can provide significant reductions in NO<sub>x</sub> and particulate emissions. The current NO<sub>x</sub> emissions standard for heavy-duty engines is 0.2 g/bhp-hr. The SCAQMD, along with various local, state and federal agencies, continues to support the development and demonstration of alternative-fueled low emission heavy-duty engine technologies, using natural gas, renewable natural gas or hydrogen, renewable diesel and potentially other renewable or waste stream fuels, for applications in heavy-duty transport trucks, transit and school buses, rail operations, and refuse collection and delivery vehicles to meet future federal emission standards.

In connection with the challenge to develop cleaner engine systems, on June 3, 2016, the EPA received a Petition, led by SCAQMD and joined by many other state air quality management agencies, to initiate rulemaking guidelines to create a national standard for ultra-low NO<sub>x</sub> heavy-duty engines. The EPA has since acknowledged a need for additional NO<sub>x</sub> reductions through a harmonized and comprehensive national NO<sub>x</sub> reduction program for heavy duty on-highway engines and vehicles. The EPA has initiated action towards proposed rulemaking for a revised heavy-duty NO<sub>x</sub> program, with the intent of proposing standards that could begin model year 2024, consistent with the lead-time requirements of the Clean Air Act and the AQMP goals. If EPA adopts a more stringent heavy-duty NO<sub>x</sub> standard for the nation, engine manufacturers will be required to step up further to develop cleaner

---

<sup>3</sup> <http://www.energy.ca.gov/2017publications/CEC-600-2017-011/CEC-600-2017-011.pdf>



engines, and this region will also benefit from cleaner vehicles coming into the state as part of the goods movement industry.

## **Electric and Hybrid Vehicle Technologies and Infrastructure**

There has been an increased level of activity and attention on electric and hybrid vehicles due to a confluence of factors, including the highly successful commercial introductions of hybrid passenger vehicles and more recently plug-in electric vehicles (PEVs) by almost all of the automakers and increased public attention on global warming, as well as several Executive Orders issued by Governor Brown over the last couple of years. The Governor's most recent Executive Order, which was issued on January 26, 2018, calls for 5 million ZEVs by 2030.

The growing awareness by both government and the public for the need for better air quality is leading to stricter emissions targets and a demand for greater fuel efficiency for vehicles. As a result, there is now a window of opportunity to leverage state and federal activities in the development and deployment of technologies that can accelerate advanced electric and hybrid technologies, including medium- and heavy-duty hybrid vehicle deployment, energy storage technologies and other power options, development of medium- and heavy-duty hybrid emission certification cycles, battery durability testing and establishment of driver use patterns. Such technology developments, if successful, are considered enabling because they can be applied to a variety of fuels (e.g., gasoline, natural gas, biofuels and hydrogen) and propulsion systems - e.g., internal combustion engines (ICEs), batteries and fuel cells. In particular, utilizing electric drive technologies to enable zero emission mile capable heavy-duty trucks for goods movement remains a top priority.

EV adoption surpassed a huge milestone in 2107, selling more than 360,000 cumulative electric vehicles in California, according to Veloz (formerly the PEV Collaborative), with increasingly more announcements by international automakers (e.g., Mercedes-Benz, Volkswagen-Audi-Porsche and several growing Chinese brands) on a variety of electrification plans, including some with extended zero emission range. Joining the trend with Tesla Model 3 to longer electric ranges and faster charging, the 2017 Chevy Bolt EV, with an estimated EPA range of 238 miles and an affordable price after incentives, was a best seller. However, in order to achieve the fleet penetration required for clean air, the need for charging infrastructure is significant. One sign of progress in this area is last year's California Public Utility Commission action recognizing the need for transportation electrification and approving Southern California Edison's (SCE's) \$22 million "Charge Ready" pilot program to support installation of as many as 1,500 EV charging stations in their service territory. The SCAQMD will work with SCE to identify the best strategy for EV infrastructure (e.g., destination and residential charging) to complement this new program and continue to work with CEC, other government agencies and private entities to implement installation of charging infrastructure in our region. In January 2018, SCE detailed plans for four pilot programs aimed at accelerating the electrification of the state's transportation, with half the projects focused on fleet and heavy-duty uses. SCAQMD plans to closely follow the progress of these pilot programs to determine how they might mesh with our own programs.

## **Fueling Infrastructure and Deployment (NG/RNG)**

A key element for increased use of alternative fueled vehicles and resulting widespread acceptance is the availability of the supporting refueling infrastructure. The refueling infrastructure for gasoline and diesel fuel is well established and accepted by the driving public. Alternative, clean fuels such as alcohol-based fuels, propane, hydrogen, and even electricity are much less available or accessible, whereas natural gas and renewable fuels have recently become more readily available and cost-effective. Nonetheless, to realize emissions reduction benefits, alternative fuel infrastructure, especially fuels from renewable feedstocks, must be developed in tandem with the growth in alternative fueled vehicles. While California appears to be on track to meet its Renewable Portfolio Standard targets of 33% by 2020 and 50% by 2030 as required by SB 350 (chaptered October 2015), the objectives of the



SCAQMD are to expand the infrastructure to support zero and near-zero emission vehicles through the development, demonstration and installation of alternative fuel vehicle refueling technologies. However, this category is predominantly targeted at natural gas and renewable natural gas (RNG) infrastructure and deployment (electric and hydrogen fueling are included in their respective technology categories). Changes to the Carl Moyer Program as a result of SB 513 (chaptered October 2015) may help stimulate deployment of alternative and natural gas vehicles and related infrastructure. The Clean Fuels Program will continue to examine opportunities where current incentive funding is either absent or insufficient. Market offerings such as Ford's 2016 F-150 which has the ability to run on natural gas may help further spur demand in this area.

## **Health Impacts, Fuel and Emissions Studies**

The monitoring of pollutants in the Basin is extremely important, especially when focused on (1) a particular sector of the emissions inventory (to identify the responsible technology) or (2) exposure to pollution (to assess the potential health risks). Several studies indicate that areas with high levels of air pollution can produce irreversible damage to children's lungs. This information highlights the need for further emissions and health studies to identify the emissions from high polluting sectors as well as the health effects resulting from these technologies. Considering the transition to alternative and renewable fuels, accelerated by federal and state requirements, it is important to understand the impacts that changing fuel composition will have on exhaust emissions and in turn on ambient air quality. This area focuses on exhaust emission studies, with a focus on NO<sub>x</sub> and PM<sub>2.5</sub> emissions and a detailed review of other potential toxic tailpipe emissions, for alternative fuel and diesel engines, especially in the heavy-duty sector, as well as light- and heavy-duty engines that operate on renewable fuels or higher compression spark- ignited engines. These types of in-use emissions studies have found significantly higher emissions than certification values for heavy-duty diesel engines, depending on the duty-cycle.

## **Stationary Clean Fuel Technologies**

Given the limited funding available to support low emission stationary source technology development, this area has historically been limited in scope. To gain the maximum air quality benefits in this category, higher polluting fossil fuel-fired electric power generation needs to be replaced with clean, renewable energy resources or other advanced near zero-emission technologies, such as solar, wind, geo-thermal energy, bio-mass conversion and stationary fuel cells. Although combustion sources are lumped together as stationary, the design and operating principles vary significantly and thus also the methods and technologies for control of their emissions. Included in the stationary category are boilers, heaters, gas turbines and reciprocating engines. The key technologies for this category focus on using advanced combustion processes, development of catalytic add-on controls, alternative fuels and technologies and stationary fuel cells in novel applications.

## **Emission Control Technologies**

This broad category refers to technologies that could be deployed on existing mobile sources, aircraft, locomotives, marine vessels, farm and construction equipment, cargo handling equipment, industrial equipment, and utility and lawn-and-garden equipment. The in-use fleet comprises the majority of emissions, especially the older vehicles and non-road sources, which are typically uncontrolled and unregulated, or controlled to a much lesser extent than on-road vehicles. The authority to develop and implement regulations for retrofit on-road and non-road mobile sources lies primarily with the U.S. EPA and CARB.

Low-emission and clean-fuel technologies that appear promising for on-road mobile sources should be effective at reducing emissions from a number of non-road sources. For example, immediate benefits are possible from particulate traps and selective catalytic reduction (SCR) that have been developed for diesel applications. Clean fuels such as natural gas, propane, hydrogen and hydrogen-natural gas



mixtures may also provide an effective option to reduce emissions from some non-road applications. Reformulated gasoline, ethanol and alternative diesel fuels, such as biodiesel and gas-to-liquid (GTL), also show promise when used in conjunction with advanced emissions controls and new engine technologies.

## **Technology Assessment and Transfer/Outreach**

Since the value of the Clean Fuels Program depends on the deployment and adoption of the demonstrated technologies, technology assessment and transfer efforts are essential to its success. This core area encompasses assessment of advanced technologies, including retaining outside technical assistance as needed, efforts to expedite the implementation of low emission and clean fuels technologies, and coordination of these activities with other organizations. Technology transfer efforts also include support for various clean fuel vehicle incentive programs. The other spectrum of this core technology is information dissemination to educate the end user and increase awareness. While SCAQMD's Public Affairs office oversees and carries out the majority of such education and awareness efforts on behalf of the entire agency, TAO cosponsors and occasionally hosts various technology-related events to complement their efforts. These efforts range from general outreach and partnerships to convening or cosponsoring events. Some examples include: 1) partnerships with local colleges such as Cal State Los Angeles' Hydrogen Research and Fueling Facility; 2) SCAQMD's A World We Can Change high school conferences; 3) participation in the Jet Propulsion Laboratory's Annual Climate Day for middle schoolers promoting STEM education; 4) partnerships for national events such as Drive Electric Week; and 5) hosting tours of SCAQMD's clean fuel vehicle fleet and their respective fueling platforms.



**[This Page Intentionally Left Blank]**



# CLEAN FUELS PROGRAM

## Barriers, Scope and Impact

### Overcoming Barriers

Commercialization and implementation of advanced technologies come with a variety of challenges and barriers. A combination of real-world demonstrations, education, outreach and regulatory impetus and incentives is necessary to bring new, clean technologies to market. To reap the maximum emissions benefits from any technology, widespread deployment and user acceptance must occur. The product manufacturers must overcome technical and market barriers to ensure a competitive and sustainable business. Barriers include project-specific issues as well as general technology concerns.

#### Technology Implementation Barriers

- Viable commercialization Path
- Technology price/performance parity with convention technology
- Consumer acceptance
- Fuel availability/convenience issues
- Certification, safety and regulatory barriers
- Quantifying emissions benefits
- Sustainability of market and technology

#### Project-Specific Issues

- Identifying a committed demonstration site
- Overall project cost and cost-share using public monies
- Securing the fuel
- Identifying and resolving real and perceived safety issues
- Quantifying the actual emissions benefits
- Viability of the technology provider

Other barriers include reduced or shrinking research budgets, infrastructure and energy uncertainties and risks, sensitivity to multi-media environmental impacts and the need to find balance between environmental needs and economic constraints. The SCAQMD seeks to address these barriers by establishing relationships through unique public-private partnerships with key stakeholders; e.g., industry, end-users and other government agencies with a stake in developing clean technologies. Partnerships that involve all the key stakeholders have become essential to address these challenges in bringing advanced technologies from development to commercialization.

Each of these stakeholders and partners contributes more than just funding. Industry, for example, can contribute technology production expertise as well as the experience required for compatibility with process operations. Academic and research institutes bring state-of-the- technology knowledge and testing proficiency. Governmental and regulatory agencies can provide guidance in identifying sources with the greatest potential for emissions reduction, assistance in permitting and compliance issues, coordinating of infrastructure needs and facilitation of standards setting and educational outreach. Often, there is considerable synergy in developing technologies that address multiple goals of public and private bodies regarding the environment, energy and transportation.

### Scope and Benefits of the Clean Fuels Program

Since the time needed to overcome barriers can be long and the costs high, both manufacturers and end-users tend to be discouraged from considering advanced technologies. The Clean Fuels Program addresses these needs by cofunding research, development, demonstration and deployment projects to share the risk of emerging technologies with their developers and eventual users.



Figure 3 provides a conceptual design of the wide scope of the Clean Fuels Program. As mentioned in the Core Technologies section, various stages of technology projects are funded not only to provide a portfolio of emissions technology choices but to achieve emission reduction benefits in the nearer as well as over the longer term.



**Figure 3: Stages of Clean Fuels Program Projects**

Due to the nature of these advanced technology research, development, demonstration and deployment projects, the benefits are difficult to quantify since their full emission reduction potential may not be realized until sometime in the future, or perhaps not at all if displaced by superior technologies. Nevertheless, a good indication of the impact and benefits of the Clean Fuels Program overall is provided by this selective list of sponsored projects that have resulted in commercialized products or helped to advance the state-of-the-technology.

➤ **CNG Engine Development for Heavy-Duty Vehicles**

- Cummins Westport: low-NOx natural gas ISL G 8.9L and 12L engines (0.2 & 0.02 g/bhp-hr);
- Detroit Diesel: Series 60G (CNG/LNG), Series 50G (CNG/LNG); and
- Clean Air Partners/Power Systems (Caterpillar): 3126B (Dual Fuel), C-10 (Dual Fuel), C-12 (Dual Fuel).

➤ **Fuel Cell Development and Demonstrations**

- Ballard Fuel Cell Bus (first of its kind);
- Retail light-duty passenger fuel cell vehicles (Toyota Mirai, Hyundai Tucson, Honda Clarity);
- SunLine Transit Agency Advanced Fuel Cell Bus projects;
- Commercial stationary fuel cell demonstration with UTC and SoCalGas (first of its kind);
- Orange County Sanitation District hydrogen and combined heat and power generation from biogas using molten carbonate fuel cell technology (as well as their renewable hydrogen station);
- New Flyer and El Dorado Transit Bus at OCTA;
- UPS demonstration of fuel cell delivery trucks; and
- Fuel cell Class 8 trucks under Zero Emission Cargo Transport (ZECT) II Program



- Electric and Hybrid Electric Vehicle Development and Demonstrations
  - Plug-in Hybrid Electric Van with EPRI, DaimlerChrysler and SCE;
  - Hybrid electric delivery trucks with NREL, FedEx and UPS;
  - Proterra battery electric transit bus and fast charging system;
  - Municipal battery electric utility truck;
  - South Bay City Council of Governments' electric vehicle project;
  - EVI/UPS electric truck;
  - Plug-in hybrid work truck with Odyne Systems;
  - Plug-in hybrid van and pickup with VIA Motors;
  - BYD all-electric transit bus and trucks (yard hostlers and drayage);
  - LACMTA battery electric buses;
  - Electric school buses, including V2G capability;
  - TransPower/US Hybrid battery electric heavy-duty truck and yard hostlers; and
  - PACCAR (Kenworth and Peterbilt) battery-electric and plug-in hybrid electric drayage trucks.
- Aftertreatment Technologies for Heavy-Duty Vehicles
  - Johnson Matthey and Engelhard trap demonstrations on buses and construction equipment;
  - Johnson Matthey SCRT and SCCRT NO<sub>x</sub> and PM reduction control devices on heavy-duty on-road trucks; and
  - Southwest Research Institute development of aftertreatment for medium-duty diesel engines

SCAQMD played a leading or major role in the development of these technologies, but their benefits could not have been achieved without all stakeholders (i.e., manufacturer, end-users and government) working collectively to overcome the technology, market and project-specific barriers encountered at every stage of the research, development, demonstration and deployment process.

## **Strategy and Impact**

In addition to the feedback and input detailed in Program Review (page 2), the SCAQMD actively seeks additional partners for its program through participation in various working groups, committees and task forces. This participation has resulted in coordination of the SCAQMD program with a number of state and federal government organizations, including CARB, CEC, U.S. EPA and DOE/DOT and several of the national laboratories. Coordination also includes the AB 2766 Discretionary Fund Program administered by the Mobile Source Air Pollution Reduction Review Committee (MSRC), various local air districts, National Association of Fleet Administrators (NAFA), major local transit districts and local gas and electric utilities. The list of organizations with which the SCAQMD coordinates research and development activities also includes organizations specified in H&SC Section 40448.5.1(a)(2).

In addition, the SCAQMD holds periodic meetings with several organizations specifically to review and coordinate program and project plans. For example, the SCAQMD staff meets with CARB staff to review research and development plans, discuss project areas of mutual interest, avoid duplicative efforts and identify potential opportunities for cost-sharing. Periodic meetings are also held with industry-oriented research and development organizations, including but not limited to the California Fuel Cell Partnership (CaFCP), the California Stationary Fuel Cell Collaborative, the California Natural Gas Vehicle Partnership (CNGVP), the California Hydrogen Business Council (CHBC), the Electric Power Research Institute (EPRI), the SoCalEV Collaborative and the West Coast Collaborative, which is part of the National Clean Diesel Campaign. The coordination efforts with these various stakeholders have resulted in a number of cosponsored projects.



Descriptions of some of the key contracts executed in CY 2017 are provided in the next section of this report. It is noteworthy that most of the projects are cosponsored by various funding organizations and include the active involvement of original equipment manufacturers (OEMs). Such partnerships are essential to address commercialization barriers and to help expedite the implementation of advanced low emission technologies. Table 1 below lists the major funding agency partners and manufacturers actively involved in SCAQMD projects for this reporting period. It is important to note that, although not listed, there are many other technology developers, small manufacturers and project participants who make important contributions critical to the success of the SCAQMD program. These partners are identified in the more detailed 2017 Project Summaries (beginning page 41) contained within this report.

**Table 1: SCAQMD Major Funding Partners in CY 2017**

<b>Research Funding Organizations</b>	<b>Major Manufacturers/Providers</b>
California Air Resources Board	BYD Motors Inc.
California Energy Commission	Cummins Westport, Inc.
National Renewable Energy Laboratory	Hydrogenics USA Inc.
Department of Energy	Kenworth Truck Company
Department of Transportation	North American Repower LLC
U.S. Environmental Protection Agency	Peterbilt Motors
West Virginia University Research Corporation	Ports of Los Angeles & Long Beach
<b>Local Air Districts &amp; Utilities</b>	Odyne Systems, LLC
Bay Area AQMD	Orange County Transportation Authority
San Diego APCD	University of California Riverside/ CE-CERT
San Joaquin APCD	VeRail Technologies Inc.
Southern California Edison	Volvo Technology of America LLC
Southern California Gas Company	
San Diego Gas & Electric/Sempra Energy	

The following two subsections broadly address the SCAQMD's impact and benefits by describing specific examples of accomplishments including commercial or near-commercial products supported by the Clean Fuels Program in CY 2017. Such examples are provided in the following sections on the Technology Advancement Office's Research, Development and Demonstration projects and Technology Deployment and Commercialization efforts.

## **Research, Development and Demonstration**

Important examples of the impact of the SCAQMD research and development coordination efforts in 2017 include: (a) the California Collaborative Advanced Technology Drayage Truck Demonstration (b) Development and Demonstration of Medium-Duty (Class 5-7) Plug-In Hybrid Electric Vehicles (PHEVs) for Work Truck Applications; (c) Development and Demonstration of Ten Transit Fuel Cell Buses; and (d) Development of Retrofit Technology for Natural Gas Engines and In-Use Emissions Testing of On-Road Heavy-Duty Trucks.



### **California Collaborative Advanced Technology Drayage Truck Demonstration**

The SCAQMD and the other four large air districts in the state<sup>4</sup> jointly partnered to develop the most commercially promising zero and near-zero emissions drayage truck technologies. Guided by extensive commercialization research, the partnership successfully engaged three major U.S. original equipment manufacturers' (OEMs), an international OEM leader in heavy-duty electrification, and two of the foremost zero emission technology integrators in order to leverage past success to drive true product development stages in a targeted portfolio of zero emission and near-zero emission technologies and increased efficiency solutions. These vehicles will support the diverse geographic and operational challenges across the state's interconnected goods movement system and include: 1) plug-in battery-electric trucks (BYD and Peterbilt-TransPower), 2) natural gas range-extended electric with plug-in charging trucks (Kenworth-BAE), and 3) plug-in diesel hybrid electric with ITS (Volvo). This exceptional portfolio features demonstrations of truly commercial pathway trucks with some of the largest goods movement service providers. This is significant because major OEMs can bring necessary engineering resources, manufacturing capability and a distribution-service network to support the future commercialization of these demonstration vehicles. The partnership also includes Los Angeles County Metro's participation with ITS efficiency integration, electric utility participation, and 13 confirmed end-user fleets experienced with the specific challenges and opportunities associated with early technology integration efforts. Each air district is committing staffing, significant cost-share, and fleet demonstration oversight to support this groundbreaking commercialization initiative, as everyone collectively pools resources to validate and drive to market economically viable solutions to the criteria pollutant and GHGs associated with drayage truck and goods movement operations throughout the state.

The collective experience has shown that there is no "silver-bullet" zero emission technology solution, and each air district faces highly individualized drayage economies and operational challenges. The SCAQMD needs drayage technologies capable of meeting the localized work in the Ports of Long Beach and Los Angeles and also technologies that can complete roundtrips to the warehousing centers throughout the Inland Empire. The BAAQMD needs technologies to support operations in and around the Port of Oakland, and also operations that connect the Port with the Central Valley. The SDAPCD is targeting demonstration efforts on port-specific and highly localized local operations, though these same fleets operate throughout Southern California. The SJVAPCD supports operations in and around the Port of Stockton, in addition to significant goods movement traffic that connects to other air districts along the I-5 corridor, with approximately 45% of all of the truck traffic within the state's four major trade corridors occurring within the San Joaquin Valley. For both SJVAPCD and SMAQMD, unique circumstances, such as distances and bordering mountain passes, pose challenges for the adoption of pure zero emission technologies.

In order to rapidly commercialize a commercially viable mix of the most promising Class 8 drayage technologies for the California marketplace, this collaborative project will: 1) build class 8 products based on existing battery-electric, plug-in hybrid and range-extender truck technologies; 2) integrate cooperative intelligent transportation system (C-ITS) and efficiency innovations into a near-zero emission truck product; 3) work with experienced, confirmed early-adopter fleets throughout the state to demonstrate and optimize product offerings; and 4) facilitate large-scale knowledge and technology transfer via new and expanded partnerships with the nation's foremost heavy-duty OEMs and zero emission technology developers:

---

<sup>4</sup>Bay Area Air Quality Management District (BAAQMD), Sacramento Metropolitan Air Quality Management District (SMAQMD), San Diego Air Pollution Control District (SDAQMD) and San Joaquin Valley Air Pollution Control District (SJVAPCD)



- BYD will develop a 100% battery-electric drayage truck that is optimized to serve near-dock and short regional drayage routes. BYD is a global company with over \$9 billion in revenue and 180,000 employees, including manufacturing in Lancaster, CA. BYD's clean energy division produces battery storage stations, solar panels and LED lights. In 2003, BYD entered the automotive market and is now the largest selling domestic car manufacturer in China. Their global market strategy is focused on electric transportation, and BYD is the global leader in electric bus and taxi sales, with 5,000 orders in each segment, and trucks are its emerging segment. BYD will develop 25 vehicles under this project.



**Figure 4: BYD Battery-Electric Drayage Truck**

- Peterbilt, part of the PACCAR Group, has partnered with TransPower to develop two 100% battery-electric drayage truck products for this project, one with an 80-mile range focused on near-dock drayage routes (eight trucks) and an extended-range battery electric truck with a 200 mile range (four trucks) to help serve longer drayage routes, such as Southern California's Inland Empire and routes from the Port of Oakland into Sacramento and the San Joaquin Valley. In 2013, PACCAR achieved 28% of the Class 8 retail market share in the U.S. and Canada. And over the past five years, TransPower has established itself as a zero emission leader, successfully deploying more working, zero emission drayage trucks into actual real-world service in California than any other company.



**Figure 5: Peterbilt Electric Truck**

- Kenworth, also part of the PACCAR Group, expands its BAE Systems partnership to develop four natural gas range-extended electric trucks that leverage the prototype development under the SCAQMD and DOE ZECT II Program. These vehicles will target longer regional drayage routes, which Kenworth believes will include other regional heavy-haul markets. Kenworth ended 2014 with 14.5% heavy-duty market share for the U.S. and Canada, and BAE systems is a global defense and security company with approximately 100,000 employees worldwide. Its HybriDrive® Systems is a world leader in hybrid electric propulsion technology solutions for the transit bus industry.



**Figure 6: Kenworth CNG Hybrid Truck**

- Volvo is building on their PHEV diesel hybrid Class 8 truck developed under a SCAQMD and DOE grant. Volvo will continue refinement towards commercialization, including integration of innovative and significant C-ITS efficiency measures, in cooperation with Los Angeles





**Figure 7: Volvo Diesel Hybrid Drayage Truck**

County Metro. The Volvo Group's combined market share for North American heavy-duty trucks amounts to more than 20%. Volvo will develop two trucks under this project but move through several critical internal product development "gates."

The foundation of this project is formalizing the partnership connecting OEMs that have significant engineering, distribution and service and customer resources with the most promising zero and near-zero technology developers. The stateside district partners leveraged their expertise in successful drayage grant and advanced technology rollouts to

engage fleet partners who can demonstrate these technologies in a range of drayage operations. This uniquely collaborative project also welcomes stakeholders such as Los Angeles County Metro to help demonstrate innovative approaches to efficiency with traffic management using C-ITS. Two utilities - Southern California Edison and San Diego Gas & Electric (SDG&E) - are committed to the EVSE planning and implementation efforts to support plug-in charging needs, with SDG&E providing direct cost-share to demonstrate and assess scalable EVSE support. Another partner, Calstart Inc., will help assess expanded markets and next stage deployments to help assist the move to full production.

### **Development and Demonstration of Medium-Heavy Duty (Class 5-7) PHEVs for Work Truck Applications**

The work-truck segment is almost exclusively made up of medium- and heavy-duty vehicles, and is responsible for creating a disproportionate amount of emissions in the South Coast region since they represent a relatively small percentage of the vehicle population, yet are responsible for significant NOx and PM emissions, especially localized emissions within residential neighborhoods. The hybridization and electrification of vehicles in this segment provides one such opportunity to reduce criteria pollutant and greenhouse gas emissions. Additionally, eliminating the need for idling, especially in residential communities, minimizes localized exposure and noise issues.



**Figure 8: Medium-Heavy Duty Plug-in Hybrid Work Truck Applications**

Earlier development efforts funded by the American Recovery and Reinvestment Act have yielded the first generation modular PHEV system that can be installed on new and retrofit vehicles. In an effort to further lower emissions and improve performance via system optimization, Odyne was awarded \$2.9 million from the Department of Energy for further development of existing technology. Odyne partnered with the SCAQMD, Freightliner Trucks, Allison Transmission, National Renewable Energy Laboratory (NREL), Oak Ridge National Laboratory (ORNL), Duke Energy, Sempra Energy, AVL and LG Chem to design, develop and demonstrate a new generation of medium-heavy duty (Class 5-7) PHEV work truck that achieves a significant reduction in fuel consumption versus a conventional vehicle baseline. The plug-in hybrid technology includes idle reduction, launch assist, regenerative



braking, in-cab climate controls and exportable power, improving vehicle efficiency while driving and eliminating idling and emissions during operation at a jobsite. This project will address significant improvements in powertrain integration and adaptive control, a higher level of hybridization, fully electric jobsite operation and low cost modular battery pack solution through integrated three development streams into a final vehicle.

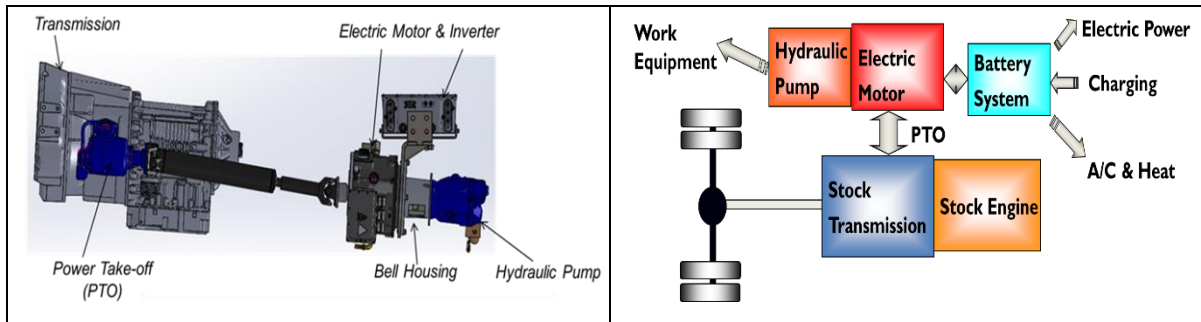


Figure 9: Odyne Power Take-Off (PTO) System

The primary objectives of this project are:

- To improve the hybrid driving mode of the existing Odyne's PHEV system with a targeted improvement of 50% fuel economy gain when compared to a conventional work truck.
- To improve the base cost of the existing system through the development and integration of a modular lithium-ion battery pack based on automotive light duty cells.
- To optimize the system and selected powertrain components for high volume production to enhance commercial appeal through lower-cost products and components.
- To quantify improvements in fuel economy and emissions. The project will gather vehicle and component performance data during deployment that will enable the operating cost and environmental impact of the vehicle to be assessed.

This hybridization of transportation technologies has the potential to lower criteria pollutant emissions and reduce GHGs. This can provide substantial air quality benefits to communities, neighborhoods and schools where these vehicles operate.

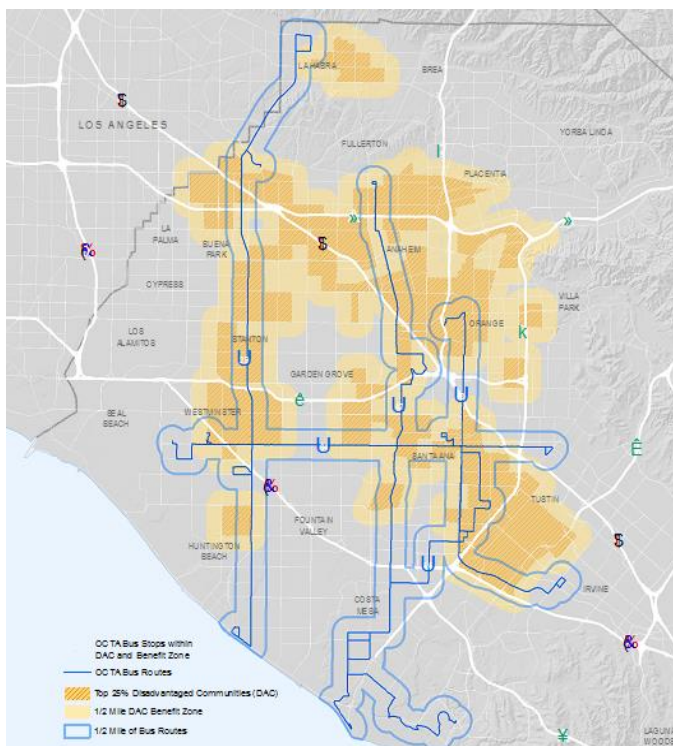
### Development and Demonstration of Ten Fuel Cell Transit Buses

The SCAQMD has identified the development and deployment of zero emission transit buses as one of the key strategies towards attaining the federal air quality standards, as well as the technology transfer potential to other heavy-duty vehicles including drayage trucks. This is consistent with the goods movement strategy for zero emission technologies and infrastructure in heavy-duty vehicle categories proposed in SCAQMD's 2016 Air Quality Management Plan, SCAG's 2016 *Regional Transportation Plan* as well as the joint CARB, SCAQMD and SJVAPCD *Vision for Clean Air: A Framework for Air Quality and Climate Planning*. Zero emission transit bus deployment is proposed through the year 2040 to meet goals outlined in the 2016 *Regional Transportation Plan/Sustainable Communities Strategy*.



As part of a \$45 million development and demonstration project, the Center for Transportation and the Environment (CTE) was awarded a \$22 million grant from CARB through its Low Carbon Transportation Greenhouse Gas Reduction Fund (GGRF) Investments Grant Program. Project partners

include CARB, SCAQMD, BAAQMD, CTE, New Flyer and Ballard Power Systems. SCAQMD provided \$1 million in cost-share to develop and demonstrate 10 zero emission fuel cell transit buses for the Orange County Transportation Authority (OCTA). As a part of this project, Trillium CNG working with Air Products and Chemicals Inc. will also construct and maintain a hydrogen refueling station. The fuel cell buses will be on a New Flyer Xcelsior® XHE40 platform with a Ballard Power Systems fuel cell. CTE anticipates that these fuel cell buses will be in service at the transit agencies by December 2018. Ten fuel cell buses and an upgraded hydrogen refueling station will also be demonstrated at AC Transit in Northern California. The New Flyer 40-foot transit bus will be assigned to five OCTA routes serving disadvantaged communities near its bus depot in Santa Ana. These routes are shown in Figure 10.



**Figure 10: OCTA Routes in Disadvantaged Communities**

The New Flyer 40-foot XHE 40 platform builds upon a weight reduced Xcelsior® platform, with more than 6,000 buses sold in 35-foot, 40-foot and 60-foot versions. This ensures that transit agencies can count on reliability and expect a 12-year, 500,000-mile equipment life typical for an urban transit bus.

New Flyer will be the primary integrator of battery electric and fuel cell technology, utilizing a combination of batteries, fuel cell and hydrogen storage. The electric drive system enables the fuel cell to operate at a relative steady state, while the batteries will feature regenerative braking and power for acceleration. Technology advancements for this version of the New Flyer fuel cell transit bus include a Siemens modular electric hybrid traction system with the highest degree of flexibility, inverters and system controls which has been deployed on over 3,000 vehicles worldwide, and an efficient permanent magnet electric traction motor that has been deployed since 2008. For the battery pack, New Flyer customizes its own 80 kWh lithium-iron-phosphate battery pack with a proprietary liquid cooled system to maintain ideal battery temperatures. The battery electric version of the New Flyer XHE 40 bus passed all Federal Transit Administration's Altoona testing, designed to ensure better reliability and in-service performance of transit buses by providing an unbiased and accurate comparison of bus models through the use of an established set of test procedures.



**Figure 11: New Flyer Xcelsior® XHE 40 Bus**



New Flyer will be partnering with Ballard Fuel Cells to integrate Ballard's proton exchange membrane (PEM) fuel cell technology into the XHE 40 bus to incorporate a commercially available Ballard FCveloCity® HD 85 kW fuel cell, which has a proven durability of over 20,000 hours of operation in the field without failure. Hydrogen storage will be roof-mounted as on the CNG fueled Xcelior® XN40 model with 38 kg of hydrogen fuel tanks at 350 bar pressure. The hydrogen storage system is compatible with fast-fill requirements using SAE's J2601-2 and J2578 fueling and safety protocols. The bus is expected to have a range of up to 300 miles. The features of New Flyer's XHE 40 fuel cell transit bus are shown below in Figure 12.

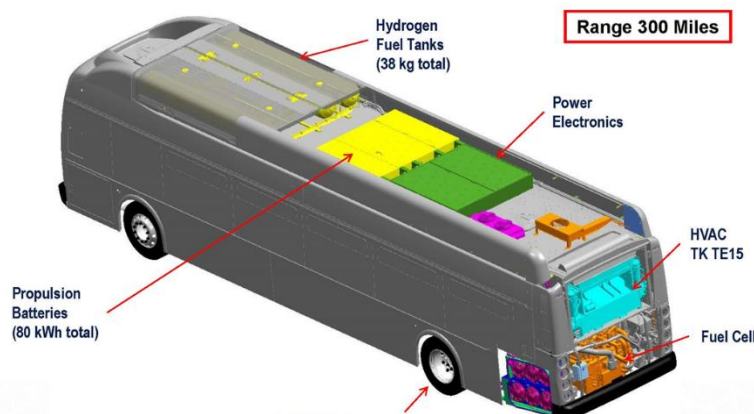


Figure 12: Features of Fuel Cell Transit Bus

approved the execution of a contract with Trillium CNG, Inc., to construct a new hydrogen fueling station at OCTA's headquarters. This will be a fast-fill hydrogen station with 310 kg of high pressure storage capacity at 450 bar, capable of over six back-to-back fills per hour and an average fill time of six minutes.



Figure 13: Transit Bus Hydrogen Fueling Station

Technical specifications, Altoona testing and integration of battery and fuel cell components will occur in 2018. It is anticipated that fuel cell bus deliveries to the transit agencies will be initiated by December 2018, with staggered deployment occurring through 2020; data collection activities and final reporting will be completed by spring 2020.

In November 2017, OCTA approved the execution of a contract with Trillium CNG, Inc., to construct a new hydrogen fueling station at OCTA's headquarters. This will be a fast-fill hydrogen station with 310 kg of high pressure storage capacity at 450 bar, capable of over six back-to-back fills per hour and an average fill time of six minutes. In preparation for construction of the new hydrogen fueling station, the OCTA site will have electrical, water, communication, ventilation and gas detection system upgrades. It is anticipated that OCTA's new hydrogen fueling station should be operational by the end of 2018, in time for the first two fuel cell buses to be delivered to OCTA for the beginning of the one year demonstration period. This project will leverage past efforts by AC Transit to demonstrate fuel cell transit buses and infrastructure and OCTA's first demonstration of fuel cell transit buses and infrastructure.

### Development of Retrofit Technology for Natural Gas Engines and In-Use Emissions Testing of On-Road Heavy-Duty Trucks

On-road heavy-duty engines are now subject to the 2010 U.S. EPA emissions standards of 0.2 g/bhp-hr NOx and 0.01 g/bhp-hr PM. However, engine manufacturers are still using emission credits which allow them to produce a mixture of engines certified at or below the 2010 NOx emission standard of 0.2 g/bhp-hr NOx and engines certified at a level higher than 0.2 g NOx to comply with emission standards on an average basis. While recent studies have shown NOx and PM emissions are reduced from heavy-duty vehicles powered by modern technology engines, emissions from heavy-duty vehicles still dominate the total basin-wide NOx and PM emissions. In addition, a new heavy-duty natural gas



engines recently certified by CARB achieves a 90% lower NO<sub>x</sub> emissions level than the current 2010 engine emission standard. Therefore, additional assessment of in-use vehicle emissions remains a critical component for measuring the effectiveness of engine, fuel and aftertreatment technologies and improving emission inventories for air quality modeling and planning as well as developing effective strategies toward achieving the federal ambient air quality standards.

In 2016, the SCAQMD decided to conduct in-use emissions testing, including fuel usage profile characterization as well as an assessment of the impact of current technology and alternative fuels on fuel consumption. The in-use emissions testing would be conducted on heavy-duty vehicles with a gross weight rating greater than 14,000 pounds. The project was designed to involve up to 200 on-road heavy-duty vehicles used in transit, school bus, refuse, delivery and goods movement applications and powered by engines fueled with alternative fuels, conventional and alternative diesel fuels, and a combination of diesel and natural gas (dual) fuels. The engines will be categorized into six groups including natural gas engines certified at or below 0.2 g/bhp-hr NO<sub>x</sub>, engines certified at or below 0.02 g/bhp-hr NO<sub>x</sub>, diesel engines certified at or below 0.2 g/bhp-hr NO<sub>x</sub>, diesel engines without selective catalytic reduction, dual fuel engines and alternative fuel engines (hybrid and fully electric technology). Because of the complexity and breadth of the project, two contractors will complete the project, ensuring reliability and quality assurance of the test results.



**Figure 14: Examples of Test Vehicles**

West Virginia University (WVU) and the University of California Riverside/College of Engineering-Center for Environmental Research & Technology (UCR/CE-CERT) will be required to instrument test vehicles with portable emissions measurement systems (PEMS), portable vehicle activity measurement systems (PAMS), and other hardware to monitor daily vehicle activities, fuel usage profile and emissions. Both contractors will then use the PEMS' and PAMS' results to recommend whether to develop new and improved or retain existing vocation-based heavy-duty drive cycles.

In addition, they will be required to: 1) perform chassis dynamometer tests of a number of selected test vehicles, 2) instrument a number of test vehicles used in delivery and good movement applications with



**Figure 15: Sample PAMS**

laboratory-grade test equipment to assess real-world in-use emissions, fuel usage profile and engine aftertreatment technology performance as the vehicles are driven over typical vocation routes, 3) match vehicle technologies to vocations for which technology benefits can be maximized, and 4) provide recommendations on how to prioritize staff and financial



**Figure 16: Sample PEMS**

resources to support advanced engine and aftertreatment technology research and demonstration programs.



Emissions analysis will include total hydrocarbon, methane and non-methane hydrocarbon, nitrogen monoxide, nitrous oxide, nitrogen dioxide, carbon monoxide, carbon dioxide, ammonia, particulate matter, and ultrafine emissions at engine-out, tailpipe, and pre and post aftertreatment devices. Additionally, emissions of benzene, toluene, ethylbenzene, xylene, formaldehyde, acetaldehyde, and carbonyl will be assessed. Complementary to the in-use emissions study, UCR/CE-CERT will investigate the physical and chemical composition of secondary organic aerosol formation formed by the reaction of gaseous and particulate emissions from two natural and two diesel heavy-duty vehicles. The in-use emissions study will be used to measure the effectiveness of engine, fuel, and aftertreatment technologies, improve emission inventories for air quality modeling and planning, and match vehicle technologies to vocations for which technology benefits can be maximized as well as develop effective strategies toward achieving the federal ambient air quality standards. The result of the SOA study will provide valuable information on primary and secondary particulate emissions including SOA from in-use heavy-duty diesel and natural gas vehicles and facilitate a discussion on potential mitigation strategies.



Figure 17: Chassis Dynamometers at UCR and WVU

## Technology Deployment and Commercialization

One function of the Clean Fuels Program is to help expedite the deployment and commercialization of low and zero emission technologies and fuels needed to meet the requirements of the AQMP control measures. In many cases, new technologies, although considered “commercially available,” require assistance to fully demonstrate the technical viability to end-users and decision-makers.

It is important to note here that SCAQMD’s Technology Advancement Office (TAO) administers not only the Clean Fuels Program but also the Carl Moyer Program. While the Clean Fuels Program will mark its 30<sup>th</sup> year in 2018, so too does the Carl Moyer Program<sup>5</sup> achieve a hallmark in 2018. Specifically, it is the 20<sup>th</sup> year of the Carl Moyer Program. These two programs produce a unique synergy, with the Carl Moyer Program providing the necessary incentives to push market penetration of the technologies developed and demonstrated by the Clean Fuels Program. This synergy enables the SCAQMD through its Clean Fuels Program, coupled with Carl Moyer and other incentive programs TAO oversees, to act as a leader in both technology development and commercialization efforts targeting reduction of criteria pollutants.

This report, however, is required to detail the accomplishments and achievements of the Clean Fuels Program. Therefore, the following projects contracted during CY 2017 illustrate the impact of the SCAQMD’s technology deployment and commercialization efforts under the Clean Fuels Program and include: (a) Production and Commercialization of CNG Engines Certified at 0.02 NO<sub>x</sub> g/bhp-hr; (b) Development, Demonstration and Commercialization of Vehicle-to-Grid Electric School Buses; and

---

<sup>5</sup>For more information about the Carl Moyer Program and other SCAQMD incentive programs, visit this link: <http://www.aqmd.gov/home/programs/business/business-detail?title=heavy-duty-engines&parent=vehicle-engine-upgrades>



(c) he California Fuel Cell Partnership and Strides in Fuel Cell Vehicles and Hydrogen Infrastructure.

### **Production and Commercialization of CNG Engines Certified at 0.02 NOx g/bhp-hr**

The development of CNG engines certified 90% below the existing CARB heavy-duty engine NOx standard, under the optional low-NOx standard, has led to successful development, production and commercialization of two CNG engines - an 8.9L and an 11.9L. These commercialized near-zero CNG engines provide additional and vital support towards California's efforts on lowering heavy-duty engine standards, as well as the SCAQMD's petition to the U.S. EPA for a similar national standard.

Cummins Westport, Inc. (CWI), using cost-sharing from SCAQMD, the California Energy Commission, Clean Energy and the Southern California Gas Company, was able to obtain CARB and U.S. EPA certification for both engines at 0.02 g/ bhp-hr for NOx. The intended pathway to commercialization was successful and both engines are now in production. More than a million miles of successful demonstration proved the engines are ready for commercialization, with the 8.9L engine in refuse and other vocational trucks as well as transit and school buses, and the 11.9L in Class 8 drayage trucks and 60-foot articulated transit buses.



**Figure 18: CWI's 8.9L Engine**

The 11.9L commercialization path is even more significant, since it provides an important alternative to diesel engines, especially for near-term 90% reduction in NOx emissions; and incentive funds, combined with the Clean Air Action Plan adopted by local ports and California's Sustainable Freight Action Plan, are anticipated to accelerate the fleet turnover for drayage trucks. Of the 260,000 diesel trucks operating throughout the South Coast region, approximately 10,000 are drayage trucks operating in and around the Ports. The use of RNG, combined with

The 8.9L has been offered in bus applications and refuse trucks throughout the region and has been eligible for incentive funding, including SCAQMD's Carl Moyer Program, with significant market penetration in the SCAQMD. The use of renewable natural gas (RNG) in the 8.9L engine, considering the funding available through the Low Carbon Fuel Standard Program and shared by the suppliers with the end users, has been a cost-effective option for local transit authorities to reduce criteria pollutant emissions and achieve the GHG reduction goals.



**Figure 19: CWI's 11.9L Engine**



the 11.9L near-zero emission engine in the drayage truck market is anticipated to be a more cost-effective pathway in the near-term to achieve significant NOx and GHG reduction goals included in the 2016 Air Quality Management Plan. Whilst other alternative technologies, including battery electric and fuel cells, have been announced by OEMS as viable alternatives to ICEs, significant implementation is not anticipated for the next ten years, mainly due to the greater incremental cost and lack of charging/refueling infrastructure.

### **Development, Demonstration and Commercialization of Vehicle-to-Grid Electric School Buses**

The V2G Electric School Bus Demonstration Project was to demonstrate that vehicle-to-grid (V2G) capable school buses can overcome the capital cost barriers associated with EV technology and be financially viable on a total cost-of-ownership basis. In October 2013, the CEC awarded National Strategies, LLC (NSI), a \$1,473,488 grant to develop and demonstrate six electric school buses with vehicle-to-grid and vehicle-to-building functionality (V2G/B) in school districts across California. School buses are ideal for V2G/B operation since they typically operate in the morning and afternoon for a few hours but remain parked most of the day. In this project, two of the zero emission school buses were demonstrated in the South Coast Air Basin with Torrance Unified School District (TUSD). The TUSD was awarded \$456,552 by SCAQMD for two diesel school buses that were converted to electric buses with vehicle-to-grid (V2G) capability. National Strategies, LLC, was awarded \$250,000 from the Clean Fuels Fund to develop and demonstrate V2G technology with TUSD. TUSD's contract closed in 2017, while the contract with NSI closes in 2018.

In collaboration with the V2G School Bus Management Team, comprising TransPower, University of Delaware, the National Renewable Energy Laboratory (NREL) and TUSD, the project has successfully demonstrated a path towards V2G capabilities using the stored battery energy of the TransPower electric school bus to safely and efficiently feed the test grid at NREL's Energy Systems Integration Facility. This project has laid the groundwork for follow on V2G capabilities of the electric school buses, as well as TransPower's entire product line. The project also supported SAE's J3072 (Interconnection Requirements for Onboard, Utility-Interactive Inverter Systems), as well as supported future industry standards for heavy-duty vehicle onboard high power charging systems. The resulting test data from this project has been shared with all our project partners, including Southern California Edison and will support the interconnection agreement at TUSD, enabling real-world demonstration of V2G capabilities and direct monetary benefits to V2G enabled school districts.



**Figure 20: Electric School Bus with V2B and V2B Functionality**

Because of the encouraging results of V2G Electric School Bus Demonstration, which is ongoing, SCAQMD decided to continue efforts to assist the commercialization of electric school buses and further the development of V2G technology. Blue Bird Body Company (Blue Bird) is one of the largest suppliers of school buses in the South Coast and has previously developed and commercialized alternative fuel buses. Blue Bird has been investigating methods of introducing electric vehicles into the national school bus market for the last decade. In 2010, Blue Bird hired consulting firm NSI to conduct an independent evaluation of market entry strategies. In 2015, Blue Bird reengaged with NSI and in parallel conducted its own independent evaluation of potential electric drivetrain suppliers. DOE recently awarded the Blue Bird Body Company a \$4,902,237 grant to develop and demonstrate electric



school buses with V2G capability. SCAQMD is providing \$1.9 million towards this follow-up effort.

A unifying, higher-level objective for Blue Bird's targeted technologies is to create a compelling value proposition for electric school buses, mainly by improving performance and efficiency, thereby reducing operating costs, and to create new opportunities for generating revenues through the export of battery power. This strategy led the Blue Bird Team to select three critical powertrain technologies for refinement: automated manual transmission (AMT), battery management system (BMS), and inverter-charger unit (ICU). The first critical success factor for achieving the project goal is leverage – leveraging Blue Bird's position as a leading bus OEM and its capabilities to put an electric bus through a complete OEM safety certification process for the first time; leveraging the millions of dollars their partners have invested and are continuing to invest in AMT technology to drive EVs to new levels of efficiency. Eventually, Blue Bird believes its V2G/V2B focus will leverage the interest of utilities in maintaining the efficiency and stability of the grid and society's need for portable energy sources to provide disaster resiliency, further enhancing the overall value of the project.

The current state of existing programs for full-size electric EV school buses is represented by a handful of vehicle models that have been introduced to the market over the last year. These buses have reported energy efficiency of 1.4 to 1.5 kWh per mile on a defined duty cycle, but most do not include V2G capability. At \$325,000 for the entry-level model, the buses are about \$215,000 more expensive than

conventional California-ready diesel school buses.



**Figure 21: Conventional California School Buses Ready For Electrification**

magnitude will enable commensurate reductions in the amount of battery energy storage. Blue Bird expects that once the manufacturing innovations and economies of scale being pursued by the Blue Bird Team hit their stride, battery subsystem costs could be reduced by 50% or more versus the current state.

The second level of impact will be on the competitive economics of the EV school bus versus conventional diesel buses. The nature and importance of this impact will be documented in a market transformation study and analysis.

The third level of impact will be the displacement of diesel fuel. The national fleet of 500,000 school buses burns an estimated 750 million gallons of diesel fuel per year. Notably, this is 15-20% more than the national fleet of transit buses. Blue Bird believes that under the right circumstances, EV school buses will be taken up rapidly and help meet DOE's 2020 petroleum reduction goal, with growing impacts throughout the ensuing two decades. In addition, each EV bus will have a GHG footprint that is 70-80% smaller than a diesel bus, depending on the carbon intensity of local electricity generation.

The ultimate impacts from the proposed project will unfold at four levels. The first level of impact is the direct technical improvements to the AMT and BMS. The Blue Bird Team is targeting energy efficiency of 1.1 kWh per mile for an improvement around 20-30%. An efficiency gain of this



**Figure 22: An Opportunity for Revenue in V2G Capabilities?**



The final level of impact will be the acceleration of the entrance of V2G technology into the commercial market. School buses represent an optimal use-case for V2G across all types of vehicles because of their significant energy storage capacity and usage patterns that allow them to be plugged in for 85% of the hours in a year. Once V2G technology and systems appropriate for heavy-duty fleets have been developed for school buses – and revenue benchmarks have been established (projected by the Blue Bird to be \$4,000-\$6,000 per year per vehicle) – a wide range of other medium- and heavy-duty fleet vehicles could be encouraged to follow the school buses' lead.

As a part of this effort, substantial work will be devoted to each of the three technical innovation modules listed above. All three components have been successfully developed through the proof-of-concept phase. The proposed project will focus on refining their configurations to production-ready designs and component certification and durability testing, including NREL export power testing and UL certification of the bi-directional inverter. Subsequently, the focus of effort shifts to powertrain integration. Blue Bird will build four electric school buses that will be subjected to usual safety and durability test program. This includes crash testing of one-to-two buses and durability testing of another. This will be followed by integration of eight additional buses to be deployed by the Rialto Unified School District (RUSD). The eight production buses, upon receipt of certification from the California Highway Patrol, will be placed into service with RUSD. The final task will be development of a Market Transformation Plan describing in detail how Blue Bird, with the assistance of its team members, will commercialize electric school buses using the demonstrated drive system.

In 2017, incentive funding available for electric school buses has initiated significant interest in this technology, with four OEMs registered under the Hybrid and Zero Emission Truck and Bus Voucher Incentive Project (HVIP) program, and SCAQMD has awarded numerous school districts funds towards this commercialization effort.

### **The California Fuel Cell Partnership and Strides in Fuel Cell Vehicles (FCVs) and Hydrogen Infrastructure**

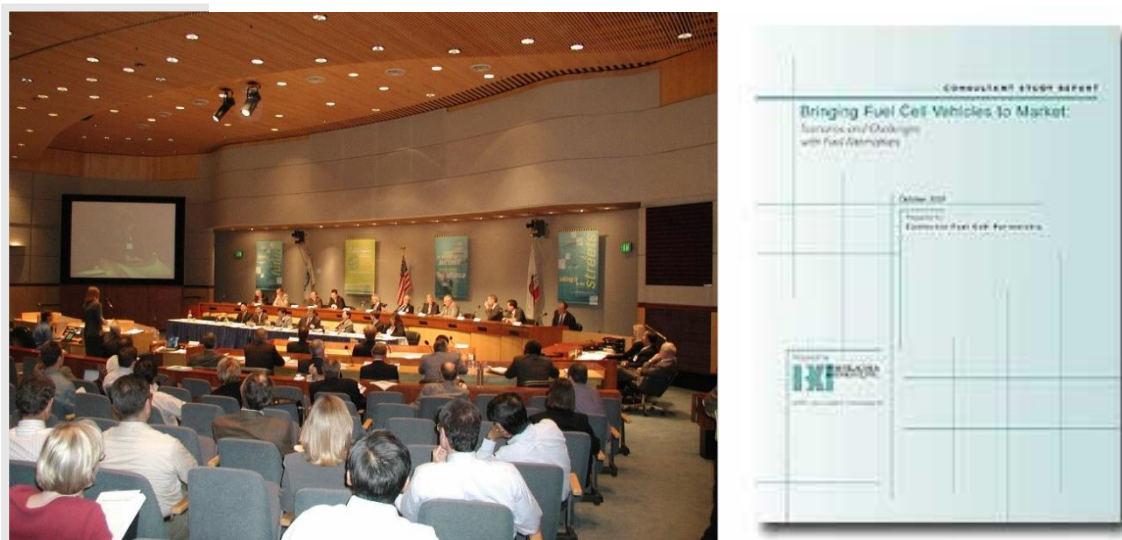
The California Fuel Cell Partnership (CaFCP) was initiated in 1999 with public and private entities as a means to accelerate response to CARB's ZEV regulations. Because of the alignment of CARB, SCAQMD and CaFCP goals for accelerated fuel cell vehicle commercialization, the SCAQMD Board accepted the CaFCP's formal invitation to join as a full member in March 2000.

Initially, the CaFCP focused on development of vehicles, infrastructure and outreach plans for future projects. Leveraging resources from members including vehicle OEMs, energy providers and government, CaFCP established a goal to accelerate and improve the commercialization process for all categories of vehicles: passenger, bus, truck, etc. The members have a shared vision, refined over time, about the potential of fuel cells as a practical solution to many of California's environmental issues and similar issues around the world. The CaFCP provides a unique forum where infrastructure, technical and interface challenges can be identified early, discussed and potentially resolved through cooperative efforts. The CaFCP has been involved in the demonstration of cars and buses using gaseous and liquid hydrogen and methanol since its inception.



A CaFCP Fuel Scenarios Study resulted in the coordinated demonstration of fuel cell passenger vehicles, and then a limited number of fleet customer placements began in 2002. The CaFCP and

**Figure 23: CaFCP Press Event at SCAQMD for Fuel Scenario Study (2001)**



members demonstrated several generations of fuel cell cars and buses focused on using increasingly standardized gaseous hydrogen fuel at 350 bar and 700 bar pressures.

Next, several automakers started retail placement of fuel cell vehicles near hydrogen stations in early market communities. The CaFCP staff, with member support, developed a “Roadmap” for the introduction of fuel cell passenger vehicles with sufficient hydrogen fueling stations in California, followed by a “Bus Roadmap” and, most recently, a Medium- & Heavy-Duty Fuel Cell Electric Vehicle Action Plan. These roadmaps and other studies provided technical support for public funding of hydrogen fueling stations.



**Figure 24: CaFCP Road Rally started by fueling at first SCAQMD Hydrogen Station (2004)**

In January 2012, CARB approved advanced clean car regulations, which harmonized California requirements with federal requirements from 2017–2025 and incorporated GHG emission reductions. The SCAQMD’s 2016 AQMP and Clean Fuels Program 2018 Plan Update identify fuel cells for on- and off-road applications as a core technology for attaining and maintaining cleaner air quality.

With the commitment of funding under AB 8 to develop and operate approximately 100 hydrogen retail fueling stations in California through 2023, and the collaboration of California with other states to support ZEVs, automakers are continuing to announce market launches. Some automakers are combining efforts to share intellectual property, build

component supply chains and leverage resources - Daimler with Ford and Nissan, Toyota with BMW, and General Motors with Honda. Germany, Japan and South Korea have also committed funding to build more hydrogen stations, and international momentum is building with establishment of the Hydrogen Council in 2017. More recently, California Governor Jerry Brown issued an executive order (#B-48-18 issued 1/16/18) calling for increasing the deployment of zero emission vehicles and developing 200 hydrogen refueling stations.





**Figure 25: CaFCP Hydrogen Quality Sampling Adapter**



**Figure 26: CaFCP Road Rally Visits Santa Monica Pier on the way from Chula Vista, CA, to Vancouver, B.C. (2009)**



**Figure 27: CaFCP Member SunLine Transit Provides Fuel Cell Bus Transportation for Fuel Cell Seminar (2009)**



**Figure 28: CaFCP & DOE Provide LA County Fire Dept. Emergency Responder Training (2012)**

At the request of SCAQMD, the CaFCP expanded its presence in Southern California due to the increased deployment of vehicles, the largest number of fueling stations and the greatest air quality need in this region. A CaFCP Regional Coordinator based in the South Coast region supports member activities and outreach and an Infrastructure Specialist facilitates hydrogen station development.

**Figure 29: SCAQMD Board Member Clark E. Parker, Sr., at SCAQMD Retail H2 Station Event (2015)**





Major accomplishments for 2017 include:

- More than 3,000 consumers and fleets have purchased or leased passenger category FCEVs from Hyundai, Toyota and Honda since they entered the commercial market starting in 2015.
- Transit agency members have 20 fuel cell electric buses currently in operation and more than 30 additional funded and to be deployed. Now operating five fuel cell electric buses in regular service, SunLine Transit is planning to add 12 fuel cell transit buses and two shuttle buses by the end of 2018 and is upgrading its hydrogen station.
- There are 31 retail and four other non-retail hydrogen fueling stations in operation in California, with an additional 34 in development, with the majority in the Southern California area.
- CaFCP staff and members continue to conduct outreach and education in communities throughout California.
- CaFCP, the Governor's Office of Business and Economic Development (GO-Biz) and the California Energy Commission, continue advising and responding to city staff across the state of California to optimize station permitting.
- CaFCP created and maintains the Station Operational Status System (SOSS) that more than 30 hydrogen stations in the U.S. use to report status. This data, in turn, feeds real-time information (address, availability, etc.) to consumers through a CaFCP mobile-friendly website and several other apps and systems that support consumers.

While research by multiple entities will be needed to reduce the cost of fuel cells and improve fuel storage and infrastructure, the CaFCP has played a vital role in demonstrating fuel cell vehicle reliability and durability, fueling infrastructure and storage options and increasing public knowledge and acceptance of the vehicles and fueling.

CaFCP's goals relate to preparing for and supporting market launch through coordinated individual and collective effort. CaFCP members, individually or in groups, are focusing on the following important goals:

- Prepare for larger-scale manufacturing, which encompasses cost reduction, supply chain and production.
- Reduce costs of station equipment, increase supply of renewable hydrogen at lower cost, and develop new retail station approaches.
- Support cost reduction through incentives and targeted RDD&D projects.
- Continue research, development and demonstration of advanced concepts in renewable and other low-carbon hydrogen.
- Provide education and outreach to the public and community stakeholders on the role of FCEVs and hydrogen in the evolution to electric drive. With additional support from some CaFCP members to facilitate the foundational work required for the growth of medium- and heavy-duty fuel cell truck and bus deployments, additional tasks for fuel cell truck and bus codes and standards coordination are proposed for 2018:
- Sponsor revision of SAE J2600, Compressed Hydrogen Surface Vehicle Fueling Connection Devices, to include high flow interface geometries and align with ISO 17268.

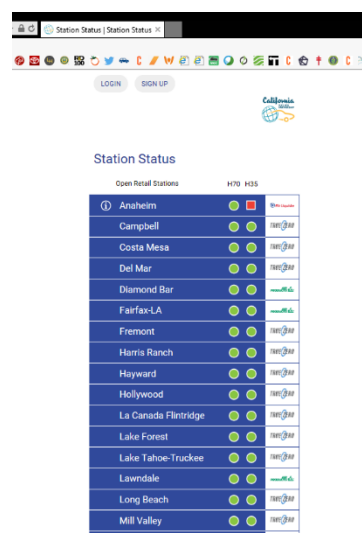


Figure 30: CaFCP SOSS



- Sponsor SAE J2601-2, Fueling Protocol for Gaseous Hydrogen Powered Heavy Duty Vehicles, from Technical Information Report (TIR 2014) to Surface Vehicle Standard & align with J2600 & ISO.
- Update general medium-duty/heavy-duty vehicle and infrastructure safety, codes and standards, and update first responder training.
- Facilitate task forces (truck and bus) and outreach and coordinate a 2018 Fuel Cell Electric Truck (FCET) Action Plan, building on the Project Portal demonstration by Toyota designed to support Class 8 port drayage operations at the Port of Los Angeles.

The next couple of years should continue to achieve huge strides in fuel cell vehicle technology and hydrogen infrastructure growth, supporting a variety of vehicles. SCAQMD plans to continue to be a leader in this core technology area.

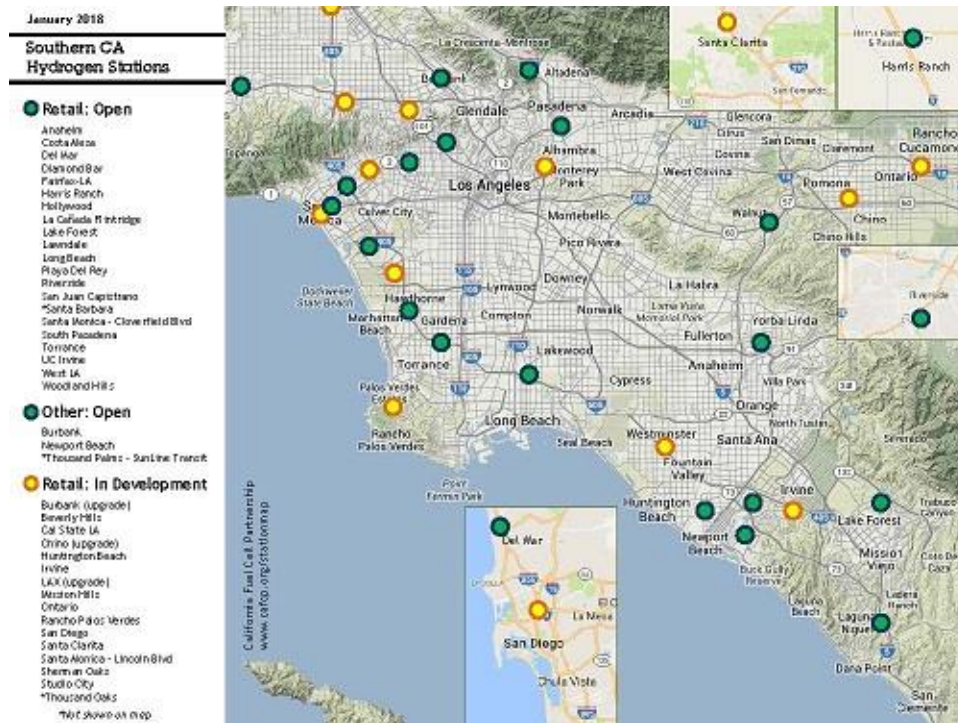


Figure 31: Southern California Hydrogen Stations (January 2018)

(Photo Credit: Photos and images above courtesy of CaFCP)



## CLEAN FUELS PROGRAM

### 2017 Funding & Financial Summary

The SCAQMD Clean Fuels Program supports clean fuels and technologies that appear to offer the most promise in reducing emissions, promoting energy diversity, and in the long-term, providing cost-effective alternatives to current technologies. In order to address the wide variety of pollution sources in the Basin and the need for reductions now and in the future, using revenue from a \$1 motor vehicle registration fee (see Program Funding on page 4), the SCAQMD seeks to fund a wide variety of projects to establish a diversified technology portfolio to proliferate choices with the potential for different commercial maturity timing. Given the evolving nature of technology and changing market conditions, such a representation is only a “snapshot-in-time,” as reflected by the projects approved by the SCAQMD Governing Board.

As projects are approved by the SCAQMD Governing Board and executed into contracts throughout the year, the finances may change to reflect updated information provided during the contract negotiation process. As such, the following represents the status of the Clean Fuels Fund as of December 31, 2017.

### Funding Commitments by Core Technologies

The SCAQMD continued its successful leveraging of public funds with outside investment to support the development of advanced clean air technologies. During the period from January 1 through December 31, 2017, a total of 67 contracts, projects or studies that support clean fuels were executed or amended, as shown in Table 2 (page 36). The major technology areas summarized are (listed in order of funding priority). The distribution of funds based on technology area is shown graphically in Figure 32 (page 34). This wide array of technology support represents the SCAQMD’s commitment to researching, developing, demonstrating and deploying potential near-term and longer-term technology solutions.

The project commitments that were contracted or purchased for the 2017 reporting period are shown below with the total projected project costs:

- |  |               |
|--|---------------|
| • SCAQMD Clean Fuels Fund Contribution | \$17,855,039  |
| • Total Cost of Clean Fuels Projects   | \$118,710,080 |

Traditionally every year, the SCAQMD Governing Board approves funds to be transferred to the General Fund Budget for Clean Fuels administration. For 2017, the fund transfer from Clean Fuels to the General Fund was handled through the annual budget process. Thus, when the Board approved the SCAQMD’s FY 2017-18 Budget on June 2, 2017, it included \$1 million from Clean Fuels recognized in TAO’s budget for workshops, conferences, cosponsorships and outreach activities as well as postage, supplies and miscellaneous costs. Only the funds committed by December 31, 2017, are included within this report. Any portion of the Clean Fuels Funds not spent by the end of Fiscal Year 2017-18 ending June 30, 2018, will be returned to the Clean Fuels Fund.

Partially included within the SCAQMD contribution are supplemental sponsorship revenues from various organizations that support these technology advancement projects. This supplemental revenue for pass-through contracts executed in 2017 totaling \$6.2 million is listed within Table 3 (page 39).

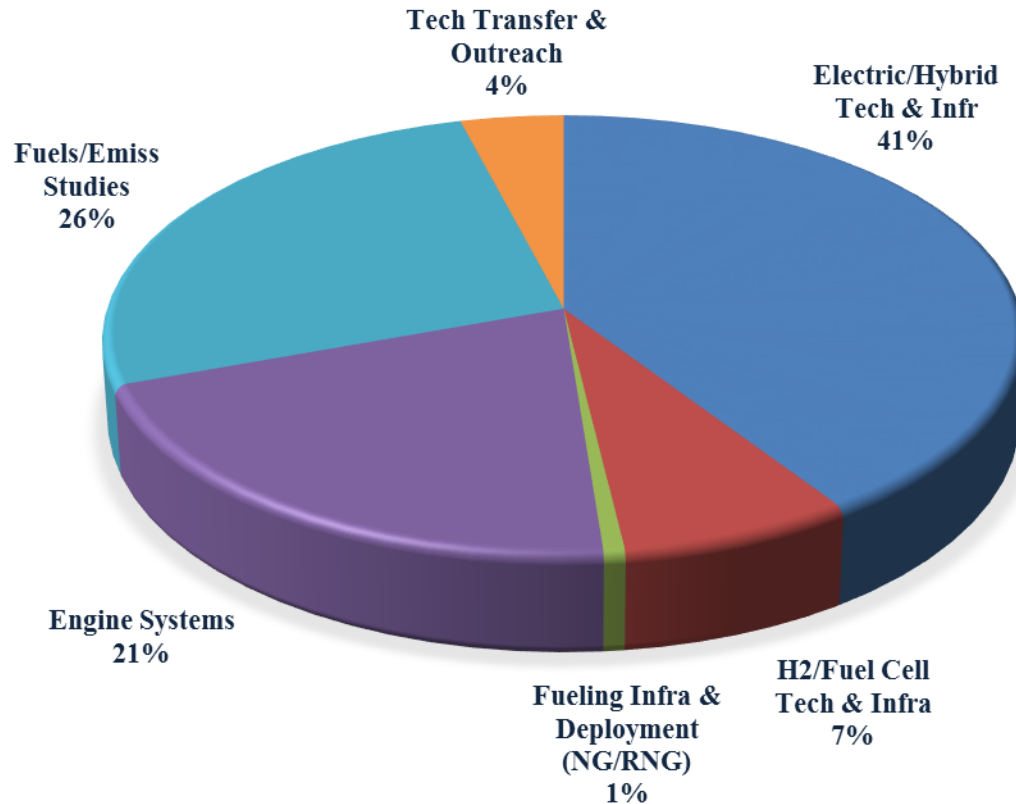
Appendix B lists the 94 Clean Fuels Fund contracts that were open and active as of January 1, 2018.

For Clean Fuels executed and amended contracts, projects and studies in 2017, the average SCAQMD contribution is approximately 16.5 percent of the total cost of the projects, identifying that



each dollar from the SCAQMD was leveraged with more than \$6 of outside investment. The typical leverage amount is \$3-\$4 for every \$1 of SCAQMD Clean Fuels funds, but both 2016 and 2017 notably had several significant contracts, significant both in funding and in the impact they hopefully will make in strides toward developing and commercializing clean transportation technologies.

During 2017, the distribution of funds for SCAQMD executed contracts, purchases and contract amendments with additional funding for the Clean Fuels Program totaling approximately \$17.9 million are shown below in Figure 32.



**Figure 32: Distribution of Funds for Executed Clean Fuels Projects CY 2017 (\$17.9M)**

Table 2 (page 36) provides a breakdown of this \$17.9 million in executed contracts.

Table 3 (page 39) provides information on outside funding recognized and received into the Clean Fuels Fund (\$6.2 million) for contracts executed in CY 2017. Additionally, the SCAQMD continued to seek funding opportunities and

Table 4 (page 40) lists the additional \$20.5 awarded in 2017 for projects that will be implemented as part of the Clean Fuels Program or which align well and complement the Clean Fuels Program but were recognized in another special revenue fund for fiduciary reasons.

## Review of Audit Findings

State law requires an annual financial audit after the closing of each SCAQMD's fiscal year. The financial audit is performed by an independent Certified Public Accountant selected through a competitive bid process. For the fiscal year ended June 30, 2017, the firm of BCA Watson Rice, LLP, conducted the financial audit. As a result of this financial audit, a Comprehensive Annual Financial Report (CAFR) was issued. There were no adverse internal control weaknesses with regard to SCAQMD financial statements, which include the Clean Fuels Program revenue and expenditures.



BCA Watson Rice, LLP, gave the SCAQMD an “unmodified opinion,” the highest obtainable. Notably, the SCAQMD has achieved this rating on all prior annual financial audits.

## **Project Funding Detail by Core Technologies**

The 67 new and continuing contracts, projects and studies that received SCAQMD funding in 2017 are summarized in Table 2, together with the funding authorized by the SCAQMD and by the collaborating project partners.



**Table 2: Contracts Executed or Amended (w/\$) between Jan. 1 & Dec. 31, 2017**

<b>Contract</b>	<b>Contractor</b>	<b>Project Title</b>	<b>Start Term</b>	<b>End Term</b>	<b>SCAQMD \$</b>	<b>Project Total \$</b>
-----------------	-------------------	----------------------	-------------------	-----------------	------------------	-------------------------

**Hydrogen/Mobile Fuel Cell Technologies and Infrastructure**

17312	Hydrogenics USA Inc.	ZECT II: Develop Fuel Cell Range-Extended Drayage Truck	11/20/17	05/19/21	125,995	2,433,553
17316	Center for Transportation and the Environment	Develop and Demonstrate Ten Zero Emission Fuel Cell Electric Buses	06/09/17	04/30/20	1,000,000	45,328,859
17317	American Honda Motor Company, Inc.	Three Year Lease of One Honda 2017 Clarity Fuel Cell Vehicle for TAO's Fleet Demonstration Program	03/22/17	03/21/20	17,304	17,304
17343	American Honda Motor Company, Inc.	Three Year Lease of One Honda 2017 Clarity Fuel Cell Vehicle for TAO's Fleet Demonstration Program	02/21/17	02/20/20	17,328	17,328
17385	American Honda Motor Company, Inc.	Three Year Lease of One Honda 2017 Clarity Fuel Cell Vehicle for TAO's Fleet Demonstration Program	05/17/17	05/16/20	17,304	17,304
17394	Energy Independence Now	Provide Analysis of Renewable Hydrogen Pathways, Economics and Incentives	10/20/17	03/19/18	25,000	140,000
18118	Frontier Energy, Inc. (formerly BKi)	Participate in California Fuel Cell Partnership in CY 2017 and Provide Support for Regional Coordinator	01/01/17	12/31/17	120,000	1,520,000

**Engine Systems/Technologies**

16205	Cummins Westport, Inc.	Develop, Integrate and Demonstrate Ultra-Low Emission 12L Natural Gas Engines for On-Road Heavy-Duty Vehicles	06/03/16	06/30/18	2,500,000	2,500,000
17197	VeRail Technologies Inc.	Develop and Demonstrate Ultra-Low Emission Natural Gas Switcher Locomotive	03/03/17	09/02/19	1,000,000	5,100,000
18018	North American Repower LLC	Develop High Efficiency Near-Zero Natural Gas Engines for Heavy-Duty Vehicles	12/14/17	12/12/19	200,000	1,958,096

**Electric/Hybrid Technologies and Infrastructure**

15610	Goss Engineering, Inc.	Conduct Engineering Services at SCAQMD Headquarters	06/02/15	12/31/17	10,000	10,000
17029	University of California Irvine	Demonstrate and Evaluate Plug-In Smart Charging at Multiple Electric Grid Scales	06/29/17	06/28/20	250,000	750,000
17105	BYD Motors Inc.	Develop and Demonstrate Up to 25 Class 8 Battery Electric Drayage Trucks	04/14/17	10/13/23	794,436	8,942,400



**Table 2: Contracts Executed or Amended (w/\$) between Jan. 1 & Dec. 31, 2017 (cont'd)**

<b>Contract</b>	<b>Contractor</b>	<b>Project Title</b>	<b>Start Term</b>	<b>End Term</b>	<b>SCAQMD \$</b>	<b>Project Total \$</b>
-----------------	-------------------	----------------------	-------------------	-----------------	------------------	-------------------------

**Electric/Hybrid Technologies and Infrastructure (cont'd)**

17207	Peterbilt Motors	Develop and Demonstrate Up to 12 Class 8 Battery Electric Drayage Trucks	04/07/17	10/06/23	642,436	11,006,340
17225	Volvo Technology of America LLC	Develop and Demonstrate Up to Two Class 8 Battery Electric Drayage Trucks	06/09/17	06/08/20	1,741,184	9,458,446
17244	Kenworth Truck Company	Develop and Demonstrate Up to Two Class 8 Battery Electric Drayage Trucks	09/08/17	01/08/20	2,823,475	9,743,739
17353	Odyne Systems, LLC	Develop and Demonstrate Medium-Heavy-Duty (Class 5-7) Plug-In Hybrid Electric Vehicles for Work Truck Applications	06/09/17	09/08/20	900,000	6,955,281
18075	Selman Chevrolet Company	Lease Two 2017 Chevrolet Bolt All-Electric Vehicles for Three Years for TAO's Fleet Demonstration Program	08/18/17	08/17/20	26,824	26,824
Direct Pay	Clean Fuel Connection Inc.	Install Electric Vehicle Supply Equipment	01/03/17	08/15/17	20,614	20,614
Direct Pay	Various	Conduct Work for EVSE Upgrade at SCAQMD Headquarters	01/24/17	08/11/17	14,143	14,143
Direct Pay	Selman Chevrolet Company	Purchase One 2017 Chevrolet Volt EV for TAO's Fleet Demonstration Program	09/06/17	09/06/17	38,653	38,563

**Fueling Infrastructure and Deployment (NG/RNG)**

15541	Foundation for California Community Colleges	Implement Enhanced Fleet Modernization Program	05/07/15	01/30/19	21,270	30,000
17349	University of California Riverside/CE-CERT	Establish Renewable Natural Gas Center	08/03/17	08/02/18	100,000	261,110

**Fuels/Emissions Studies**

15680	National Renewable Energy Laboratory	ComZEV: Develop Detailed Technology and Economics-Based Assessment for Heavy-Duty Advanced Technology Development	08/25/15	06/30/18	20,000	40,000
17245	West Virginia University Research Corporation	Conduct In-Use Emissions Testing and Fuel Usage Profile of On-Road Heavy-Duty Vehicles	04/14/17	10/31/18	1,625,000	1,625,000
17276	University of California Riverside/CE-CERT	Develop ECO-ITS Strategies for Cargo Containers	08/03/17	08/02/20	543,000	2,190,233
17277	University of Southern California	Conduct Market Analysis for Zero Emission Heavy-Duty Trucks in Goods Movement	11/03/17	11/02/19	350,000	524,000



**Table 2: Contracts Executed or Amended (w/\$) between Jan. 1 & Dec. 31, 2017 (cont'd)**

<b>Contract</b>	<b>Contractor</b>	<b>Project Title</b>	<b>Start Term</b>	<b>End Term</b>	<b>SCAQMD \$</b>	<b>Project Total \$</b>
-----------------	-------------------	----------------------	-------------------	-----------------	------------------	-------------------------

**Fuels/Emissions Studies (cont'd)**

17278	University of Southern California	Develop Freight Loading Strategies for Zero Emissions Heavy-Duty Trucks in Goods Movement	11/03/17	11/02/19	200,000	1,001,000
17286	University of California Riverside/CE-CERT	Conduct In-Use Emissions Testing and Fuel Usage Profile of On-Road Heavy-Duty Vehicles	06/09/17	06/08/21	1,625,000	1,625,000
17331	University of California Riverside/CE-CERT	Conduct In-Use PM Emissions Study for Gasoline Direct Injection Vehicles	07/14/17	07/31/18	222,000	273,000
17352	California State University Maritime Academy	Develop and Demonstrate Vessel Performance Management Software and Equipment	06/09/17	06/08/21	50,086	195,195
18090	University of California Riverside/CE-CERT	Study Secondary Organic Aerosol Formation from Heavy-Duty Diesel and Natural Gas Vehicles	12/05/17	12/04/18	85,000	85,000

**Technology Assessment/Transfer and Outreach**

17037	Clean Fuel Connection Inc.	Technical Assistance with Alternative Fuels, Electric Vehicles, Charging and Fueling Infrastructure and Renewable Energy	11/18/16	11/17/18	50,000	50,000
17097	Gladstein, Neandross & Associates LLC	Technical Assistance with Alternative Fuels and Fueling Infrastructure, Emissions Analysis and On-Road Sources	11/04/16	11/03/18	100,000	100,000
17336	Three Squares Inc.	Conduct Education Outreach for the Basin DC Fast Charging Network Project	05/12/17	06/30/18	64,183	64,183
17358	AEE Solutions, LLC	Technical Assistance with Heavy-Duty Vehicle Emissions Testing, Analysis and Engine Development	06/09/17	09/08/19	100,000	100,000
18019	Ricardo Inc.	Technical Assistance with Heavy-Duty Vehicle Emissions Testing, Analysis, and Engine Development and Applications	09/01/17	08/31/19	50,000	50,000
Direct Pay	Hartford/Alliant Insurance	Insurance for Alternative Fuel Vehicles in TAO's Fleet Demonstration Program	01/01/17	12/31/17	40,000	40,000
Direct Pay	Various	Cosponsor 22 Conferences, Workshops & Events plus 5 Memberships	01/01/17	12/31/17	324,804	4,456,755
<b>GRANDTOTAL – ALL CORE TECHNOLOGIES</b>					<b>\$17,855,039</b>	<b>\$118,710,080</b>



**Table 3: Supplemental Grants/Revenue Received into the Clean Fuels Fund (31) in CY 2017**

<b>Revenue Agreement #</b>	<b>Revenue Source</b>	<b>Project Title</b>	<b>Contractor</b>	<b>SCAQMD Contract #</b>	<b>Award Total \$</b>
15022 Mod2	California Energy Commission	Develop, Integrate and Demonstrate Ultra-Low Emission 12L Natural Gas Engines for On-Road Heavy-Duty Vehicles	Cummins Westport Inc.	16205	1,000,000
17039	Clean Energy	Develop, Integrate and Demonstrate Ultra-Low Emission 12L Natural Gas Engines for On-Road Heavy-Duty Vehicles	Cummins Westport Inc.	16205	500,000
17096	California Energy Commission	Develop, Integrate and Demonstrate Ultra-Low Emission 12L Natural Gas Engines for On-Road Heavy-Duty Vehicles	Cummins Westport Inc.	16205	1,000,000
16220	California Energy Commission	On-Road In-Use Emissions Testing and (Fuel) Usage	University of California Riverside/ West Virginia University	17286/ 17245	2,000,000
17209	California Air Resources Board	On-Road In-Use Emissions Testing and (Fuel) Usage	University of California Riverside/ West Virginia University	17286/ 17245	150,000
17281	Southern California Gas Company	On-Road In-Use Emissions Testing and (Fuel) Usage	University of California Riverside/ West Virginia University	17286/ 17245	500,000
17038	Southern California Gas Company	Develop and Demonstrate Ultra-Low Emission Natural Gas Switcher Locomotive	VeRail Technologies, Inc.	17197	500,000
17055	U.S. Environmental Protection Agency	Develop and Demonstrate Ultra-Low Emission Natural Gas Switcher Locomotive	VeRail Technologies, Inc.	17197	500,000
Transfer	BP ARCO Settlement Fund 46	Design and Demonstrate Vessel Performance Management Software and Equipment	Cal State University Maritime Academy	17352	50,086
<i>Table 3 lists revenue <u>recognized</u> by SCAQMD into the Clean Fuels Fund (31) <u>only</u> if the pass-through contract was executed during the reporting CY (2017).</i>					<b>\$6,200,086</b>



**Table 4: Summary of Federal, State and Local Funding Awarded or Recognized in CY 2017**

<b>Awarding Entity or Program</b>	<b>Award or Board Date</b>	<b>Purpose</b>	<b>Contractors</b>	<b>Award Total \$/Fund</b>
CARB	02/03/17	FY 2016-17 Implementation of the Retire and Replace Component of Enhanced Fleet Modernization Program (EFMP) Plus-Up	Various	\$5,000,000 Fund 56
Port of Los Angeles	10/31/17	Develop Ultra-Low Emission Diesel Engine for On-Road Heavy-Duty Vehicles	Southwest Research Institute	\$287,500 Fund 31
2016 U.S. EPA Targeted Air Shed Grant	03/15/17	Commercial Electric Lawn and Garden Equipment Package Program	TBD	\$2,477,250 Fund 17
BNSF	03/03/17	Install Air Filtration systems at Schools	IQAir North America	\$625,000 Fund 75
Southern California Gas Company	02/07/17	Conduct RNG Commercial Field Test Project	KORE Infrastructure, Inc.	\$1,000,000 Fund 76
California Energy Commission	02/22/17	Demonstrate Zero and Near-Zero Emission Drayage Trucks and Cargo Handling Equipment	Clean Energy/ Hyster-Yale Nederland BV/ Velocity Vehicle Group	8,395,000 Fund 31
U.S. EPA/ CATI	7/27/17	Develop Ultra-Low NOx Aftertreatment System for Large Displacement Engines	Southwest Research Institute/Rail Propulsion Systems	500,000 Fund 31
Port of Long Beach	07/07/17	Develop and Demonstrate Zero Emission Drayage Trucks	Hydrogenics USA Inc.	157,500 Fund 61
SSA Terminals	07/07/17	Install Air Filtration Systems at Schools	IQ Air North America	1,250,000 Fund 75
Wal-Mart Transportation, LLC/ Murillo's Trucking	10/06/17	Install and Maintain Air Filtration Systems at Schools	IQ Air North America	327,000 Fund 75
Ports of Los Angeles and Long Beach	10/06/17	Electric Yard Tractor Replacements at San Pedro Bay Ports	West Basin Container Terminal/Total Terminals International	500,000 Fund 17
U.S. EPA/ FY 2017 DERA	09/27/17	On-Road Heavy-Duty Diesel Drayage Truck Replacement Projects	Puget Sound Clean Air Agency/Others (TBD)	1,050,00 Fund 17
<i>Table 4 provides a comprehensive summary of revenue awarded to SCAQMD during the reporting CY (2017) if it will be considered part of, or complementary to, the Clean Fuels Program, regardless of whether the pass-through contract has been executed.</i>				<b>\$20,519,250</b>



## Project Summaries by Core Technologies

The following represents summaries of the contracts, projects and studies executed, or amended with additional dollars, in CY 2017. They are listed in the order found in Table 2 by category and contract number. As required by H&SC Section 40448.5.1(d), the following project summaries provide the project title; contractors and if known at the time of writing key subcontractors or project partners; SCAQMD cost-share, cosponsors and their respective contributions; contract term; and a description of the project.

### *Hydrogen/Mobile Fuel Cell Technologies and Infrastructure*

#### **17312: ZECT II: Develop Fuel Cell Range-Extended Drayage Truck**

Contractor: Hydrogenics USA Inc.	SCAQMD Cost-Share	\$ 125,995
	Cosponsors	
	Department of Energy (received as pass-through funds into Fund 61)	825,784
	California Energy Commission (received as pass-through funds into Fund 61)	983,858
	Port of Long Beach (received as pass-through funds into Fund 61)	157,500
	Hydrogenics USA Inc. (in-kind)	340,416
Term: 11/20/17 – 05/19/21	Total Cost:	\$ 2,433,553

Hydrogenics USA Inc. and their OEM partners propose to build and demonstrate a fuel cell range extended Class 8 truck for the DOE Zero Emission Cargo Transport (ZECT) project. The drayage truck will be identical to the CEC drayage truck that Hydrogenics is currently designing under a CEC funded project. The truck design and development effort is fully funded under the CEC truck project, the electric drive system design of the truck will be duplicated for the ZECT Project. The fuel cell drayage truck will be demonstrated for 24 months in the Ports of LA and Ports of Long Beach. Hydrogenics will provide necessary support throughout the demonstration period, quarterly performance reports to SCAQMD, and one final report at the end of the project. The project is expected to be three years in duration, including one year of truck production and two years of demonstration.

#### **17316: Develop and Demonstrate Ten Zero Emission Fuel Cell Electric Buses**

Contractor: Center for Transportation and the Environment	SCAQMD Cost-Share	\$ 1,000,000
	Cosponsors	
	California Air Resources Board	22,347,502
	Orange County Transportation Authority	9,334,772
	AC Transit	8,710,000
	Other Partners & In-Kind	2,936,585



	Bay Area Air Quality Management District	1,000,000
Term: 06/09/17 – 04/30/20	Total Cost:	\$ 45,328,859

As part of a \$45 million project and a \$22 million CARB grant to Center for Transportation and the Environment (CTE), SCAQMD provided \$1 million in cost-share to develop and demonstrate 10 zero emission fuel cell transit buses and a hydrogen fueling station at Orange County Transportation Authority. These fuel cell buses will be on a New Flyer platform with a Ballard Power Systems fuel cell. CTE anticipates that these fuel cell buses will be in service at the transit agencies by December 2018. Ten fuel cell buses and a hydrogen fueling station will also be demonstrated at AC Transit in a similar demonstration in Northern California.

**17317: Three Year Lease of One Honda 2017 Clarity Fuel Cell Vehicle for TAO's Fleet Demonstration Program**

Contractor: American Honda Motor Company, Inc.	SCAQMD Cost-Share	\$ 17,304
Term: 03/22/17 – 03/21/20	Total Cost:	\$ 17,304

SCAQMD has been working with American Honda and has participated in on-road testing of their fuel cell electric vehicles starting with research programs since 2004 when SCAQMD's first hydrogen station in Diamond Bar started fueling the first fuel cell car – the Honda FCX - in our fleet. Several fuel cell vehicle generations have resulted in the 2017 Honda Clarity Fuel Cell for retail lease through 12 specially trained dealerships near retail hydrogen fueling stations in California. The Honda Clarity fuel cell vehicle is a five-passenger sedan that travels 366 miles before refueling with 70 MPa gaseous hydrogen and has U.S. EPA estimated fuel economy of 67 mpge. The vehicle will be placed into SCAQMD's alternative fuel vehicle fleet to demonstrate new fuel cell vehicles to public and private organizations to promote zero emission technologies.

**17343: Three Year Lease of One Honda 2017 Clarity Fuel Cell Vehicle for TAO's Fleet Demonstration Program**

Contractor: American Honda Motor Company, Inc.	SCAQMD Cost-Share	\$ 17,328
Term: 02/21/17 – 02/20/20	Total Cost:	\$ 17,328

As noted, SCAQMD has been working with American Honda and has participated in on-road testing of their fuel cell electric vehicles starting with research programs since 2004 when SCAQMD's first hydrogen station in Diamond Bar started fueling the first fuel cell car – the Honda FCX - in our fleet. Several fuel cell vehicle generations have resulted in the 2017 Honda Clarity Fuel Cell for retail lease through 12 specially trained dealerships near retail hydrogen fueling stations in California. This second vehicle will also be placed into SCAQMD's alternative fuel vehicle fleet to demonstrate new fuel cell vehicles to public and private organizations to promote zero emission technologies.

**17385: Three Year Lease of One Honda 2017 Clarity Fuel Cell Vehicle for TAO's Fleet Demonstration Program**

Contractor: American Honda Motor Company, Inc.	SCAQMD Cost-Share	\$ 17,304
Term: 05/17/17 – 05/16/20	Total Cost:	\$ 17,304



This third Honda 2017 Clarity Fuel Cell will also be placed into SCAQMD's alternative fuel vehicle fleet to demonstrate new fuel cell vehicles to public and private organizations to promote zero emission technologies. Given the number of events the SCAQMD cosponsors and attends throughout the South Coast Air Basin, three of these vehicles were added to the Fleet Demonstration Program in 2017.

**17394: Provide Analysis of Renewable Hydrogen Pathways, Economics and Incentives**

Contractor: Energy Independence Now	SCAQMD Cost-Share	\$ 25,000
	Cosponsors	
	Automakers: American Honda Motor Company, Toyota Motor Corporation	50,000
	Fuel Providers: Southern California Gas Company, Linde, Air Liquid and Hydrogenics USA Inc.	65,000
Term: 10/20/17 – 03/19/18	Total Cost:	\$ 140,000

Energy Independence Now (EIN) will perform an analysis of renewable hydrogen pathways, economics and incentives. EIN will also develop a white paper and presentation to engage the broader stakeholder community to support renewable hydrogen education and outreach. This project will be cost-shared by automakers and fuel providers.

**18118: Participate in California Fuel Cell Partnership in CY 2017 and Provide Support for Regional Coordinator**

Contractor: Frontier Energy, Inc. (formerly BKi)	SCAQMD Cost-Share	\$ 120,000
	Cosponsors	
	7 automakers, 6 public agencies, 2 industry stakeholders, 28 Full & Associate Members	1,400,000
Term: 01/01/17 – 12/31/17	Total Cost:	\$ 1,520,000

In April 1999, the California Fuel Cell Partnership (CaFCP) was formed with eight members; SCAQMD joined and has participated since 2000. The CaFCP and its members are demonstrating and deploying fuel cell passenger cars and transit buses with associated hydrogen fueling infrastructure in California. Since the CaFCP is a voluntary collaboration, each participant contracts with Frontier Energy Inc. (previously Bevilacqua-Knight, Inc. or BKi) for their portion of the CaFCP's administration. In 2017, SCAQMD contributed \$70,000 for Executive membership and up to \$50,000, along with four cubicles at SCAQMD Headquarters, to provide support for the CaFCP Regional Coordinator.



## Engine Systems/Technologies

### 16205: Develop, Integrate and Demonstrate Ultra-Low Emission 12L Natural Gas Engines for On-Road Heavy-Duty Vehicles

Contractor: Cummins Westport, Inc.	SCAQMD Cost-Share (all received as pass-through funds)	\$ 2,500,000
Term: 06/03/16 – 06/30/18	Total Cost:	\$ 2,500,000

This contract was amended to add cost-share from two project partners, specifically \$2,000,000 from the California Energy Commission and \$500,000 from Clean Energy, which had been recognized into the Clean Fuels Fund (31). The objective of this project is to apply the ultra-low emission engine and after-treatment technologies developed for an 8.9-liter ISL-G Z engine to the 11.9-liter ISX12-G Cummins Westport engine. The project includes 1) engine and after-treatment system design, development, and emission testing; 2) integration of the engine and after-treatment system into multiple vehicle chassis; and 3) on-road demonstrations including chassis dynamometer testing. Development targets are 1) power and torque suitable for heavy-heavy duty Class 8 vehicles; 2) a technology pathway to commercial production; 3) certification to the CARB Optional NOx standard of 0.02 g/bhp-hr, and 4) ammonia emissions and fuel economy penalties as low as possible. Development of ultra-low emission engines that emit 90% lower NOx than the 2010 0.2 g/bhp-hr NOx standard would significantly reduce their emissions and assist the region in meeting federal ambient air quality standards in future years. The Cummins Westport ISL-G NZ 8.9-liter natural gas engines, developed with the funding from the SCAQMD, the California Energy Commission and Southern California Gas Company, was certified by CARB to the Optional 0.02 g/bhp-hr NOx standard and is now being commercially used in refuse trucks and buses. However, the 8.9-liter engine is too small for heavy-heavy duty vehicles in Class 8, which requires development of larger displacement engines such as this 12L engine.

### 17197: Develop and Demonstrate Ultra-Low Emission Natural Gas Switcher Locomotive

Contractor: VeRail Technologies Inc.	SCAQMD Cost-Share (all received as pass-through funds)	\$ 1,000,000
	Cosponsors	
	Port of Long Beach	300,000
	Port of Los Angeles	300,000
	VeRail Technologies Inc.	3,100,000
	PHL (in-kind)	400,000
Term: 03/03/17 – 09/02/19	Total Cost:	\$ 5,100,000

This project will develop and demonstrate a 2,100 horsepower CNG-powered locomotive capable of operation in the San Pedro Bay Ports while producing near-zero emissions. CARB Tier 4 locomotive standards require a reduction in NOx and PM by 70 %. The VeRail engine is expected to be 90% below current and with a 23% reduction in GHG. The project is expected to take place over two years with the objective of achieving a commercial ready product which can replace all 25 locomotives eventually in the Ports of Los Angeles and Long Beach. The goal is to develop an engine capable of operating at the San Pedro Bay Ports required duty cycle and certified at the CARB low NOx standard of 0.02 g/bhp-hr. The engine must also be fuel efficient and only be re-fueled once per week. The U.S. EPA and the Southern California Gas Company each provided \$500,000 as pass-through funding, recognized into the Clean Fuels Fund (31), for this project.



### 18018: Develop High Efficiency Near-Zero Emission Natural Gas Engines for Heavy-Duty Vehicles

Contractor: North American Repower LLC	SCAQMD Cost-Share	\$ 200,000
	Cosponsors	
	California Energy Commission	900,000
	Southern California Gas Company	150,000
	North American Repower LLC (in kind)	708,096
Term: 12/14/17 – 12/12/19	Total Cost:	\$ 1,958,096

North American Repower LLC converts engines to CNG power for class 5-8 vehicles. The demand for more power and higher efficiency from CNG engines has led to a developmental project sponsored by the California Energy Commission and Southern California Gas Company. The objectives are to use a commercially available 13-liter diesel engine and convert it to CNG. The requirements will be to create more power and efficiency while achieving near-zero emissions. The engine is scheduled for production readiness in 2019.

### *Electric/Hybrid Technologies and Infrastructure*

#### 15610: Conduct Engineering Services at SCAQMD Headquarters

Contractor: Goss Engineering, Inc.	SCAQMD Cost-Share	\$ 10,000
Term: 06/02/2015 – 12/31/17	Total Cost:	\$ 10,000

In June 2015, SCAQMD executed a contract with Goss Engineering Services in the amount of \$50,000 in response to RFP #P2015-21 to perform all necessary engineering services for the upgrade and expansion of SCAQMD's electric vehicle charging (EVC) infrastructure, to develop plans and diagrams for the installation of a separate electric utility line, transformer and meter for the CNG station, and to prepare as-built drawings. Due to the numerous pieces involved with the upgrade and expansion of SCAQMD's EVC infrastructure and electric demands, this contract was amended to add an additional \$10,000. These additional funds were added to cover unanticipated site plan and permitting expenses. Specifically, permitting requirements which were not anticipated included a site survey to address American with Disabilities Act requirements and a short circuit study to address National Electrical Code requirements.

#### 17029: Demonstrate and Evaluate Plug-In Smart Charging at Multiple Electric Grid Scales

Contractor: University of California Irvine	SCAQMD Cost-Share	\$ 250,000
	Cosponsors	
	Department of Energy	100,000
	Southern California Edison	100,000
	Hyundai (in-kind)	300,000
Term: 06/29/17 – 06/28/20	Total Cost:	\$ 750,000



The University of California Irvine's Advanced Power and Energy Program will develop and demonstrate a software algorithm for coordinating the charging of plug-in electric vehicles (PEVs) to support grid resource operation without compromising the ability of PEV drivers to meet their transportation needs. This project will simulate the deployment of the PEV Smart Charging algorithm at two different grid scales using ten Kia Soul EVs with smart charging capability.

#### **17105: Develop and Demonstrate Up to 25 Class 8 Battery Electric Drayage Trucks**

Contractor: BYD Motors Inc.	SCAQMD Cost-Share	\$ 794,436
	Cosponsors	
	California Air Resources Board (received as pass-through funds into Fund 67)	5,657,564
	Bay Area Air Quality Management District (received as pass-through funds into Fund 67)	1,200,000
	San Joaquin Air Pollution Control District (received as pass-through funds into Fund 67)	100,000
	San Diego Air Pollution Control District/San Diego Gas & Electric (received as pass-through funds into Fund 67)	200,000
	BYD Motors Inc.	990,400
Term: 04/14/17 – 10/13/23	Total Cost:	\$ 8,942,400

BYD will be developing a 100% battery-electric drayage truck that is optimized to serve near-dock and short regional drayage routes. BYD is a global company with over \$9 billion in revenue and 180,000 employees, including manufacturing in Lancaster, CA. BYD's clean energy division produces battery storage stations, solar panels and LED lights. In 2003, BYD entered the automotive market and is now the largest selling domestic car manufacturer in China. Their global market strategy is focused on electric transportation, and BYD is the global leader in electric bus and taxi sales, with 5,000 orders in each segment, and trucks are its emerging segment. BYD will develop 25 vehicles under this project.

#### **17207: Develop and Demonstrate Up to 12 Class 8 Battery Electric Drayage Trucks**

Contractor: Peterbilt Motors	SCAQMD Cost-Share	\$ 642,436
	Cosponsors	
	California Air Resources Board (received as pass-through funds into Fund 67)	5,657,564
	Bay Area Air Quality Management District	1,200,000



	(received as pass-through funds into Fund 67)	
	San Joaquin Air Pollution Control District (received as pass-through funds into Fund 67)	300,000
	San Diego Air Pollution Control District/San Diego Gas & Electric (received as pass-through funds into Fund 67)	200,000
	Peterbilt Motors	3,006,340
Term: 04/04/17 – 10/06/23	Total Cost:	\$ 11,006,340

Peterbilt will develop 12 Class 8 battery electric trucks, which will be placed into demonstration in real-world drayage service with fleet operation in port regions throughout California. The drive system of the demonstration vehicles will be powered by an innovative dual-motor combination rated at 300kW and equipped with Inverter-Charger Units that combine the functions of the vehicle inverter and battery charger, reducing capital costs and simplifying charging logistics. The battery packs in eight of the trucks will have approximately 215kWh in total capacity, providing an estimated 70-80 miles of all-electric range under normal conditions. The remaining trucks will have increased capacity of battery packs up to 320kWh and extended total operating range to approximately 100-120 miles. A proprietary vehicle control system will optimize vehicle efficiency, maximize battery life and protect key components, such as batteries and power electronics from excessive temperatures, voltage spikes or current surges.

#### **17225: Develop and Demonstrate Up to Two Class 8 Battery Electric Drayage Trucks**

Contractor: Volvo Technology of America LLC	SCAQMD Cost-Share	\$ 1,741,184
	Cosponsors	
	California Air Resources Board (received as pass-through funds into Fund 67)	5,657,564
	Bay Area Air Quality Management District (received as pass-through funds into Fund 67)	300,000
	San Diego Air Pollution Control District/San Diego Gas & Electric (received as pass-through funds into Fund 67)	300,000
	Volvo Technology of America LLC	1,459,698
Term: 06/09/17 – 06/08/20	Total Cost:	\$ 9,458,446

Volvo is building on their PHEV diesel hybrid Class 8 truck developed under a SCAQMD/DOE grant. Volvo proposes to continue refinement towards commercialization, including integration of innovative and significant C-ITS efficiency measures, in cooperation with LA Metro. The Volvo Group's



combined market share for North American heavy-duty trucks is over 20%. Volvo will develop two trucks under this project but move through several critical internal product development “gates.”

#### **17224: Develop and Demonstrate Up to Two Class 8 Battery Electric Drayage Trucks**

Contractor: Kenworth Truck Company	SCAQMD Cost-Share	\$ 2,823,475
	Cosponsors	
	California Air Resources Board (received as pass-through funds into Fund 67)	5,714,264
	Bay Area Air Quality Management District (received as pass-through funds into Fund 67)	300,000
	San Joaquin Air Pollution Control District (received as pass-through funds into Fund 67)	300,000
	Kenworth Truck Company	606,000
Term: 09/08/17 – 01/08/20	Total Cost:	\$ 9,743,739

Kenworth will develop four Class 8 plug-in hybrid electric trucks with zero emission operation capability for demonstration in revenue drayage service. The proposed fleet is intended to operate in all-electric and in conventional hybrid electric mode using a CNG engine. This fleet provides an opportunity to test the manufacturing processes for repeatability, optimize an architecture developed for this application and re-introduce field operations to this type of product. The power output of the electric drivetrain is comparable to standard Class 8 vehicles, but it will have a greater operating efficiency and improved fuel economy.

#### **17353: Develop and Demonstrate Medium-Heavy Duty (Class 5-7) Plug-In Hybrid Electric Vehicles for Work Truck Applications**

Contractor: Odyne Systems, LLC	SCAQMD Cost-Share	\$ 900,000
	Cosponsors	
	Department of Energy	2,932,193
	Odyne Systems, LLC	1,033,088
	Freightliner	65,000
	Allison Transmission	25,000
	Sempra Energy (in-kind)	1,000,000
	Duke Energy (in-kind)	1,000,000
Term: 06/09/17 – 09/08/20	Total Cost:	\$ 6,955,281

Odyne partners with the Freightliner Trucks, Allison Transmission, National Renewable Energy Laboratory (NREL), Oak Ridge National Laboratory (ORNL), Duke Energy, Sempra Energy, AVL, LG Chem and SCAQMD to design, develop and demonstrate a new generation of medium-heavy duty (Class 5-7) PHEV work truck that achieves a significant reduction in fuel consumption versus a conventional vehicle baseline. The plug-in hybrid technology will include idle reduction, launch assist,



regenerative braking, in-cab climate controls and exportable power, improving vehicle efficiency while driving and eliminating idling and emissions during operation at a jobsite. This project will address significant improvements in powertrain integration and adaptive control, a higher level of hybridization, fully electric jobsite operation and a low cost modular battery pack solution through integrated three development streams into a final vehicle.

**18075: Lease Two 2017 Chevrolet Bolt All-Electric Vehicles for Three Years for TAO's Fleet Demonstration Program**

Contractor: Selman Chevrolet Company	SCAQMD Cost-Share	\$ 26,824
Term: 08/18/17 – 08/17/20	Total Cost:	\$ 26,824

The SCAQMD operates a number of alternative fuel vehicles (AFVs) in its Fleet Demonstration Program to support the use of zero emission vehicles and bring awareness to the public of their viability. The all-new 2017 Chevrolet Bolt EV is available in all 50 states and was selected as the Green Car Journal 2017 Green Car of the Year. It uses a 60 kWh LG Chem lithium ion (nickel-manganese-cobalt) low-profile battery pack for this five-passenger crossover, providing 238 miles U.S. EPA-estimated all-electric range, with improved passenger and cargo capacity. Increased safety technology includes a rear camera mirror with wide-angle rearview and overhead view. Use of DC fast chargers to replenish the battery up to an estimated 90 miles of range in 30 minutes will be demonstrated and evaluated during lease for broader fleet implementation. Carpool lane solo-access with white carpool sticker will be utilized when out in the community.

**Direct Pay: Install Electric Vehicle Supply Equipment**

Contractor: Clean Fuel Connection Inc.	SCAQMD Cost-Share	\$ 20,614
Term: 01/03/17 – 08/15/17	Total Cost:	\$ 20,614

This project provides for the demonstration of Level 2 chargers from several manufacturers including Clipper Creek and BTC Power, Inc. Clean Fuel Connection Inc. purchased and installed one Level 2 charger at a Board Member residence to allow for demonstration of a plug-in electric vehicle and four Level 2 chargers for fleet charging at SCAQMD headquarters as part of a larger EV infrastructure installation project. These chargers have been utilized extensively by SCAQMD Board members, staff and the general public.

**Direct Pay: Conduct Work for EVSE Upgrade at SCAQMD Headquarters**

Contractor: Various	SCAQMD Cost-Share	\$ 14,143
Term: 01/24/17 – 08/11/17	Total Cost:	\$ 14,143

In support of a larger project to install 92 new Level 2 charging ports at SCAQMD headquarters for workplace, public and fleet charging, SCAQMD engaged multiple contractors for smaller tasks connected to this upgrade. These tasks included breaker certification for the replacement of a transformer in the main electrical room; restorative landscaping in several areas of the parking lot due to trenching to install electrical conduit feeding the EV chargers; purchase of several TMobile SIM cards for multiple routers to create a WiFi network to allow the EV chargers to communicate with the Greenlots network for data collection, payment transactions and future demand response capabilities; resubmittal of the construction plans to the City of Diamond Bar due to necessary changes to accommodate transformer and electrical panel changes that occurred during the project; and additional



costs for the installer Clean Fuel Connection Inc. due to scope changes in the installation phase of the project.

**Direct Pay: Purchase One 2017 Chevrolet Volt EV for TAO's Fleet Demonstration Program**

Contractor: Selman Chevrolet Company	SCAQMD Cost-Share	\$ 38,653
Term: 09/06/17 – 09/06/17	Total Cost:	\$ 38,653

As noted, the SCAQMD operates a number of AFVs including electric vehicles, fuel cell vehicles and plug-in hybrid electric vehicles. The primary objective of having these vehicles as part of the SCAQMD's Fleet Demonstration Program is to continue to support the use of zero emission vehicles and bring awareness to the public of their viability. Due to the large area covered by SCAQMD, and the trend of purchasing Chevy Volts at end-of-lease anyway, one 2017 Chevrolet Volt was purchased in order to add it permanently to the Fleet Demonstration Program and ensure the green carpool stickers could continue to be utilized when out in the community.

**Fueling Infrastructure and Deployment (NG/RNG)**

**15541: Implement Enhanced Fleet Modernization Program**

Contractor: Foundation for California Community Colleges	SCAQMD Cost-Share	\$ 21,270
	Cosponsor	
	HEROS II Revenue Fund (56)	8,730
Term: 05/07/15 – 01/30/19	Total Cost:	\$ 30,000

This contract was amended in 2017 to add additional funding to provide for continued contractor assistance for the implementation of SCAQMD's Enhanced Fleet Modernization Program, which is branded by SCAQMD as "Replace Your Ride". The Replace Your Ride Program provides low- and moderate-income participants with incentives up to \$9,500 to replace their older, higher-emitting vehicles with cleaner, more fuel efficient vehicles. The Foundation for California Community Colleges provides direct assistance to program participants and evaluates participant applications for SCAQMD approval. More than 90% of program participants reside in disadvantaged communities and more than 85% of participants have incomes at less than 225% of the Federal Poverty Level. More than 85% of the replacement vehicles deployed through this program are advanced technology vehicles, such as hybrids, plug-in hybrids and battery-electric vehicles. The impact on NOx emission reductions is significant since the zero and near-zero vehicles being deployed replace very dirty older vehicles. In fact, the average age of the vehicles being replaced is 18 years while the average age of the replacement vehicles being deployed is 2 years.

**17349: Establish Renewable Natural Gas Center**

Contractor: University of California Riverside/CE-CERT	SCAQMD Cost-Share	\$ 100,000
	Cosponsors	
	Southern California Gas Company	100,000
	Department of Transportation	25,000



	University of California Riverside/CE-CERT	36,110
Term: 08/03/17 – 08/02/18	Total Cost:	\$ 261,110

This project supports the establishment of a Center for Renewable Natural Gas (CRNG) to study and research key renewable natural gas (RNG) production technologies in demonstration-scale testbeds to help address challenges to commercial implementation of such technologies in California and beyond. The University of California Riverside/College of Engineering–Center for Environmental Research and Technology (CE-CERT) will evaluate RNG production potentials via thermochemical conversion and power-to-gas (P2G) technologies; conduct technological and economic evaluations of high viability projects, including wells-to-wheels analyses of GHG and criteria pollutant emissions and energy use; develop a basis for the design of demonstration-scale projects; develop a roadmap that details the most feasible path towards commercialization, including technology choices, policy and regulatory barriers, timeline and financing strategies; and conduct education and outreach to the public, policymakers and other stakeholders through conferences, communications and media outlets, as well as technology demonstrations and publications.

### ***Fuels/Emissions Studies***

#### **15680: ComZEV: Develop Detailed Technology and Economics-Based Assessment for Heavy-Duty Advanced Technology Development**

Contractor: National Renewable Energy Laboratory	SCAQMD Cost-Share	\$ 20,000
	Cosponsor	
	Southern California Gas Company	20,000
Term: 08/28/15 – 06/30/18	Total Cost:	\$ 40,000

The objective of the Commercial Zero Emission Vehicle (ComZEV) project is to facilitate the reduction of NO<sub>x</sub> and GHG emissions through 2050 through development of a plan for the commercialization of advanced vehicle technologies in the SCAQMD's jurisdiction. Specifically, a detailed technology and economics based roadmap will be developed, focusing on identifying barriers and opportunities to match advanced technology options to key commercial medium- and heavy-duty vehicle vocations. The original scope of the ComZEV project is near to completion, analyzing five technologies: battery electric vehicles, fuel cell vehicles, ultra-low NO<sub>x</sub> compressed natural gas spark-ignited engines, ultra-low NO<sub>x</sub> diesel engines and conventional diesel (baseline) engines for four vehicle vocations - Class 5-6 medium-duty delivery vehicles and Class 8 port drayage, short haul and long haul trucks. The Southern California Gas Company (SoCalGas) approached the SCAQMD to expand the scope of the ComZEV project to add two more vehicle vocations - Class 8 refuse and transit vehicles, and one technology - the near-zero heavy-duty CNG engine with electric range extension. The additional cost of the expanded scope is \$40,000, which is being shared equally by SoCalGas and SCAQMD. SoCalGas is providing its cost-share for the expanded project directly to NREL. This amendment also provided additional time through June 30, 2018, to complete the expanded scope of work.

#### **17245: Conduct In-Use Emissions Testing and Fuel Usage Profile of On-Road Heavy-Duty Vehicles**

Contractor: West Virginia University Research Corporation	SCAQMD Cost-Share (partially received as pass-through funds)	\$ 1,625,000
--	---	--------------



Term: 04/14/17 – 10/31/18	Total Cost: \$ 1,625,000
---------------------------	--------------------------

On-road heavy-duty engines are now subject to the 2010 U.S. EPA emissions standards of 0.2 g/bhp-hr NO<sub>x</sub> and 0.01 g/bhp-hr PM. However, engine manufacturers are still using emission credits which allow them to produce a mixture of engines certified at or below the 2010 NO<sub>x</sub> emission standard of 0.2 g/bhp-hr NO<sub>x</sub> and engines certified at a level higher than 0.2 g NO<sub>x</sub> to comply with emission standards on an average basis. While recent studies have shown NO<sub>x</sub> and PM emissions are reduced from heavy-duty vehicles powered by modern technology engines, emissions from heavy-duty vehicles still dominate the total basinwide NO<sub>x</sub> and PM emissions. In addition, a new heavy-duty natural gas engine recently certified by CARB achieves a 90% lower NO<sub>x</sub> emissions level than the current 2010 engine emission standard. Therefore, additional assessment of in-use vehicle emissions remains a critical component for measuring the effectiveness of engine, fuel and aftertreatment technologies and improving emission inventories for air quality modeling and planning as well as developing effective strategies toward achieving the federal ambient air quality standards. This project is to conduct in-use emissions testing, characterize fuel usage profiles, develop new or improve existing heavy-duty vehicle drive cycles, and assess the impact of current technology and alternative fuels on fuel consumption and in-use emissions from on-road heavy-duty vehicles with a gross vehicle weight rating of greater than 14,000 lb. To achieve this objective, the proposed project is designed to involve up to 200 on-road heavy-duty vehicles used in transit, school bus, refuse, delivery and goods movement applications and powered by engines fueled with alternative fuels, conventional and alternative diesel fuels, and a combination of diesel and natural gas (dual) fuels. The engines will be categorized into six groups including natural gas engines certified at or below 0.2 g/bhp-hr NO<sub>x</sub>, engines certified at or below 0.02 g/bhp-hr NO<sub>x</sub>, diesel engines certified at or below 0.2 g/bhp-hr NO<sub>x</sub>, diesel engines without selective catalytic reduction, dual fuel engines and alternative fuel engines (hybrid and fully electric technology). Because of the complexity and breadth of the proposed project, West Virginia University and the University of California Riverside/CE-CERT were selected to complete the project in a timely manner. Using two contractors also provides redundancy needed in such projects to measure reliability of the test results and guarantee quality assurance. SCAQMD's cost-share from the Clean Fuels Fund (31) was \$300,000. Additionally, pass through funding for this project was received into the Clean Fuels Fund (31) from the following cost-share partners: California Energy Commission - \$1,000,000; Southern California Gas Company - \$250,000; and California Air Resources Board - \$75,000.

#### **17276: Develop ECO-ITS Strategies for Cargo Containers**

Contractor: University of California Riverside/CE-CERT	SCAQMD Cost-Share	\$ 543,000
	Cosponsor	
	California Energy Commission	1,647,233
Term: 08/03/17 – 08/02/20	Total Cost:	\$ 2,190,233

This project is to develop and demonstrate more comprehensive ECO-ITS freight strategies, complementing the CEC-funded ECO-FRATIS Program. Specifically, UCR/CE-CERT will design and evaluate the user interface of a truck eco-approach and departure application for real-world implementation along goods movement corridors. The ECO-ITS strategies will investigate how advanced truck technologies, such as electric and hybrid trucks, can be integrated into a dynamic routing system by integrating eco-routing algorithms into a truck scheduling and routing system. Based on the evaluation results, UCR/CE-CERT will provide recommendations on the effective use of the ECO-ITS freight strategies to reduce fuel consumption as well as GHGs and criteria pollutant emissions from goods movement operations.



**17277: Conduct Market Analysis for Zero Emission Heavy-Duty Trucks in Goods Movement**

Contractor: University of Southern California	SCAQMD Cost-Share	\$ 350,000
	Cosponsor	
	California Energy Commission	174,000
Term: 11/03/17 – 11/02/19	Total Cost:	\$ 524,000

The University of Southern California (USC) will develop strategies to improve urban freight system efficiency by incorporating a centrally coordinated load-balancing system. In the proposed system, a central coordinator with access to information from all parties involved, including port terminals, trucking fleets and railyards, will be responsible for coordinating freight assignments across routes, time periods and transport modes to achieve optimum load-balancing strategies. The system will take advantage of computational capabilities and high fidelity simulation models of the road and rail networks in order to make more reliable decisions than those offered by traditional approaches. USC will also investigate the impact of new technologies, such as electric and hybrid electric trucks, on load balancing and management. This project aims to identify the best use of these trucks in combination with conventional trucks to achieve desired energy efficiency and reductions in criteria pollutants and GHGs.

**17278: Develop Freight Loading Strategies for Zero Emissions Heavy-Duty Trucks in Goods Movement**

Contractor: University of Southern California	SCAQMD Cost-Share	\$ 200,000
	Cosponsor	
	California Energy Commission	801,000
Term: 11/03/17 – 11/02/19	Total Cost:	\$ 1,001,000

USC proposes to examine the potential for zero emission and near-zero emission truck technologies from both economic and environmental perspectives, focusing on their use in short-haul drayage service. This research will take place in two parts. The first part will be to analyze potential markets; the second part, to examine effective incentives to accelerate market penetration. The simulation models will be used to estimate the impacts of using zero emission vehicles relative to conventional diesel trucks and estimate the purchase and operation costs for various scenarios to identify the best potential markets. USC will use demonstration vehicles from current SCAQMD projects, involving collectively over 60 electric and hybrid-electric drayage trucks as the vehicle and service types for this research, providing directly relevant analysis and strategies for the SCAQMD-funded trucks.

**17286: Conduct In-Use Emissions Testing and Fuel Usage Profile of On-Road Heavy-Duty Vehicles**

Contractor: University of California Riverside/CE-CERT	SCAQMD Cost-Share <i>(partially received as pass-through funds)</i>	\$ 1,625,000
Term: 06/09/17 – 12/08/18	Total Cost:	\$ 1,625,000



As noted in the project summary for West Virginia University Contract # 07245 above, this project, which involves up to 200 on-road heavy-duty vehicles used in transit, school bus, refuse, delivery and goods movement applications and powered by engines fueled with alternative fuels, conventional and alternative diesel fuels, is to conduct in-use emissions testing, characterize fuel usage profiles, develop new or improve existing heavy-duty vehicle drive cycles, and assess the impact of current technology and alternative fuels on fuel consumption and in-use emissions from on-road heavy-duty vehicles with a gross vehicle weight rating of greater than 14,000 lb. Using both West Virginia University and the University of California Riverside/CE-CERT provides redundancy needed in such projects to measure reliability of the test results and guarantee quality assurance. And just like West Virginia University's contract, SCAQMD's cost-share from the Clean Fuels Fund (31) was \$300,000, with pass through funding received into the Clean Fuels Fund (31) from the following cost-share partners: California Energy Commission - \$1,000,000; Southern California Gas Company - \$250,000; and California Air Resources Board - \$75,000.

### **17331: Conduct In-Use PM Emissions Study for Gasoline Direct Injection Vehicles**

Contractor: University of California/CE-CERT	SCAQMD Cost-Share	\$ 222,000
	Cosponsor	
	Manufacturers of Emission Controls Association (MECA)	51,000
Term: 07/14/17 – 07/31/18	Total Cost:	\$ 273,000

Currently, there is an increased concern about the degradation of the actual atmospheric pollution levels of NO<sub>x</sub> and PM in spite of the stricter vehicle emission limits in recent years. Differences between conditions for chassis or engine test cycles defined by vehicle emission regulations and real driving can contribute to the differences between expected and actual pollution. SCAQMD, in partnership with the University of California Riverside and MECA, will conduct this in-use real-world driving test study using three light-duty GDI vehicles - two GDI vehicles complying with the 2017 PM mass emissions standards of three mg/mile and one 'Tier 3-like' vehicle with an older model year. Specifically, the vehicles will be tested on routes representing many different driving requirements using the latest PEMS technology. A baseline test will be performed and then an external PM filter will also be added and tested under the same driving route. The results should yield a better understanding of in-use emissions during real-time driving conditions.

### **17352: Develop and Demonstrate Vessel Performance Management Software and Equipment**

Contractor: California State University Maritime Academy	SCAQMD Cost-Share <i>(all transferred from BP ARCO Settlement Projects Fund 46)</i>	\$ 50,086
	Cosponsors	
	Bay Area Air Quality Management District (cash and in-kind)	66,518
	Federal Maritime Administration (MARAD)	79,311
Term: 06/09/17 – 06/08/21	Total Cost:	\$ 195,915



Ocean Going Vessels (OGVs) are very large vessels designed for deep water navigation. OGVs include large cargo vessels such as container vessels, tankers, bulk carriers and car carriers, as well as passenger cruise vessels. These vessels transport containerized cargo; bulk items such as vehicles, cement, and coke; liquids such as oil and petrochemicals; and passengers. OGVs travel internationally and may be registered by the U.S. Coast Guard (U.S.-flagged), or under the flag of another country (foreign-flagged). The majority of vessels that visit California ports are foreign-flagged vessels, and local ports are considering various approaches to incentivizing cleaner OGVs. This project proposes to demonstrate a technology capable of harvesting high altitude wind energy while employing a vessel performance optimization system. The first phase of the project includes the design and installation of the performance management software and equipment followed by demonstration of the equipment with performance evaluation of its fuel and emissions reductions capabilities. The installation of this system is designed to enable smarter decisions while at sea, by providing real-time data point-related fuel consumption, engine performance along with external information, such as weather, to optimize ship speed, route plan, trim and energy management. The results of this study will quantify lower fuel use by the Training Ship Golden Bear on its summer cruises and help to improve air quality in coastal communities by increasing efficiency of OGVs.

**18090: Study Secondary Organic Aerosol Formation from Heavy-Duty Diesel and Natural Gas Vehicles**

Contractor: University of California Riverside/CE-CERT	SCAQMD Cost-Share	\$ 85,000
Term: 12/05/17 – 12/04/18	Total Cost:	\$ 85,000

On-road heavy-duty vehicles are currently one of the largest sources of NO<sub>x</sub> and PM emissions, which are major contributors to secondary organic aerosol (SOA) formation, along with some volatile and semi-volatile organic compounds. SOA formed from atmospheric reactions of organic compounds in the presence of NO<sub>x</sub> constitutes an important component of suspended fine atmospheric PM with significant environmental risks, such as respiratory and heart diseases as well as visibility degradation. Design of an effective emission control strategy to reduce SOA emissions and associated risks necessitates further understanding of the formation of SOA in the atmosphere. Complementary to the ongoing emissions study to assess in-use emissions from heavy duty vehicles, this project will investigate the physical and chemical composition of SOA formed by the reaction of gaseous and particulate emissions from heavy-duty diesel and natural gas vehicles. During the vehicle in-use emissions testing, the University of California Riverside/CE-CERT will collect samples of exhaust gases in a mobile chamber and transport the chamber to an atmospheric processes laboratory where the samples will be photochemically aged and characterized. During the aging process, the University of California Riverside/CE-CERT will also classify the aerosol and measure the size, mass and composition distribution of the non-refractory aerosol as well as gaseous, particulate size distribution and black carbon emissions. The results of this study will provide valuable information on primary and secondary particulate emissions including SOA from in-use heavy-duty diesel and natural gas vehicles and facilitate a discussion on potential mitigation strategies.

***Technology Assessment and Transfer/Outreach***

**17037: Technical Assistance with Alternative Fuels, Electric Vehicles, Charging and Fueling Infrastructure and Renewable Energy**

Contractor: Clean Fuel Connection Inc.	SCAQMD Cost-Share	\$ 50,000
Term: 11/18/16 – 11/17/18	Total Cost:	\$ 50,000



This level-of-effort contract was amended in 2017 to add an additional \$50,000 for Clean Fuel Connection Inc. (CFCI) to continue to provide technical assistance with alternative fuels, electric vehicles, charging and fueling infrastructure and renewable energy. Ms. Enid Joffe (principal) has more than 15 years of experience with low and zero emission technologies, electric vehicles and charging infrastructure and renewable energy.

**17097: Technical Assistance with Alternative Fuels and Fueling Infrastructure, Emissions Analysis and On-Road Sources**

Contractor: Gladstein, Neandross & Associates LLC	SCAQMD Cost-Share	\$ 100,000
Term: 11/04/16 – 11/03/18	Total Cost:	\$ 100,000

This level-of-effort contract leverages staff resources with specialized outside expertise. Gladstein, Neandross & Associates LLC (GNA) has previously assisted SCAQMD with implementing a wide-array of incentive programs to deploy lower-emitting heavy-duty vehicles and advanced transportation technologies. Under this contract, GNA will provide technical expertise across a broad spectrum of emission reduction technologies, including alternative and renewable fuels and fueling infrastructure, emissions analysis and heavy-duty on-road sources on an-as-needed basis. On 8/14/17, this contract was amended adding \$50,000 to augment resources working on an in-use emissions study being conducted by SCAQMD. Similar to AEE Solutions (Contract #17358), GNA will be assisting with: 1) development of test vehicle selection, activity and emissions protocols, 2) recruitment of 200 heavy-duty test vehicles, 3) preparation of a technology assessment plan to identify the impact of current and near-future technology on engine performance, emissions and fuel usage, 4) identification of engine and aftertreatment issues and how to mitigate them, and 5) matching of vehicle technologies to vocations for which technology benefits can be maximized. On 10/5/17, this contract was amended for a second time adding another \$50,000 to continue this work as well as to continue to provide specialized outside expertise on an as-needed basis.

**17336: Conduct Education Outreach for the Basin DC Fast Charging Network Project**

Contractor: Three Squares Inc.	SCAQMD Cost-Share	\$ 64,183
Term: 05/12/17 – 06/30/18	Total Cost:	\$ 64,183

Three Squares Inc. (TSI) was selected through an RFP process to conduct a DC fast charger education outreach campaign as part of SCAQMD's cost-share for two CEC-funded grants to install a DC fast charging network. The education outreach campaign educated EV drivers and the general public on the differences between Level 1, Level 2 and DC fast charging, benefits of public charging to increase electric vehicle miles traveled, availability of public charging to supplement residential and/or workplace charging, environmental benefits associated with the use of plug-in electric vehicles and electric vehicle infrastructure, and charging etiquette. TSI created a SoCalFast website to collect information on charging and make it easily accessible to mainstream consumers and reached out and coordinated with local governments, utilities, OEMs, advocacy group, and event organizers to publicize installation of DC fast chargers. These include a traditional press event and ribbon cutting at Calabasas City Hall and EV awareness events in conjunction with the Coachella Music Festival weekends for the fast chargers in Palm Springs and Palm Desert as well as an online EV awareness event for Mel's Diner in West Hollywood. Under this contract, TSI will continue to organize EV awareness events as future fast chargers are installed, both separately and as part of an overall traditional and online social media campaign. This work was initially started under Contract #14185.



**17358: Technical Assistance with Heavy-Duty Vehicle Emissions Testing, Analysis and Engine Development**

Contractor: AEE Solutions, LLC	SCAQMD Cost-Share	\$ 100,000
Term: 06/09/17 – 06/08/19	Total Cost:	\$ 100,000

This contract leverages staff resources with specialized outside expertise. Under this contract, AEE Solutions, LLC, will provide technical assistance for the in-use emissions study under this existing Board-approved technical assistance contract. Specifically, AEE Solutions will assist in the: 1) development of test vehicle selection, activity and emissions protocols, 2) recruitment of 200 heavy-duty test vehicles, 3) preparation of a technology assessment plan to identify the impact of current and near-future technology on engine performance, emissions and fuel usage, 4) identification of engine and aftertreatment issues and how to mitigate them, and 5) matching of vehicle technologies to vocations for which technology benefits can be maximized. This level-of-effort contract was initially executed on 6/9/17 for \$50,000. In light of the additional work needed, a subsequent amendment was executed on 9/13/17 for an additional \$50,000.

**18019: Technical Assistance with Heavy-Duty Vehicle Emissions Testing, Analysis and Engine Development and Applications**

Contractor: Ricardo Inc.	SCAQMD Cost-Share	\$ 50,000
Term: 09/01/07 – 08/31/19	Total Cost:	\$ 50,000

Mobile sources emit the majority of air pollution in the South Coast Air Basin (Basin). In particular, heavy-duty diesel vehicles emit high levels of nitrogen oxides (NO<sub>x</sub>), a precursor to photochemical smog, as well as diesel particulate exhaust, which has been categorized by CARB as a toxic air contaminant. The 2106 AQMP identifies the application of clean burning alternative fuels (e.g., natural gas, ethanol and hydrogen), advanced vehicle technologies (e.g., fuel cells, hybrid electric and plug-in hybrid electric vehicles) and advanced stationary source pollution control technologies to meet the national ambient air quality standards. These air quality gains, however, may only be realized if programs are in place to develop, commercialize and implement these technologies. As a result, SCAQMD seeks to implement aggressive programs to develop and demonstrate pre-commercial technologies as well as incentivize early-commercial technologies. Due to the rapid pace at which technologies are evolving, additional assistance is required for advanced, pre-commercial technology demonstration programs. To promote, fund, manage and expedite the development and demonstration of such advanced technology projects, SCAQMD relies on expert input and consultation. Ricardo Inc. has expertise in the areas of alternative fuels, low and zero emission technologies, emission controls, federal policies and state regulations. Under this contract, Ricardo Inc. will provide technical expertise across a broad spectrum of emission reduction technologies, including alternative and renewable fuels and fueling infrastructure, emissions analysis, and on- and off-road heavy-duty sources on an-as-needed basis.

**Direct Pay: Insurance for Alternative Fuel Vehicles in TAO's Fleet Demonstration Program**

Contractor: Hartford/Alliant Insurance	SCAQMD Cost-Share	\$ 40,000
Term: 01/01/17- 12/3/17	Total Cost:	\$ 40,000

In order to showcase and demonstrate advanced, low emission technologies, the SCAQMD often leases and/or purchases clean alternative fuel vehicles to educate public and private organizations on the



benefits of advanced technologies, as well as provide valuable in-use test data to the manufacturers. These vehicles are displayed at outreach events and conferences, used in Ride-and-Drive demonstrations, and are part of the SCAQMD carpool fleet. Private insurance is obtained for these advanced technology vehicles to ensure proper coverage.

**Direct Pay: Cosponsor 22 Conferences, Workshops & Events plus 5 Memberships**

Contractor: Various	SCAQMD Cost-Share	\$ 324,804
	Cosponsors	0
	Various	4,131,951
Term: 01/01/17 – 12/31/17	Total Cost:	\$ 4,456,755

The SCAQMD regularly participates in and hosts or cosponsors conferences, workshops and miscellaneous events. These funds provide support for the 22 conferences, workshops and events sponsored throughout 2017 as follows: Coordinating Research Council's 2017 Mobile Source Air Toxics Workshop in February and their Real World Emissions Workshop in March; University of California Irvine's ICEPAG Conference & Expo in March; University of California Riverside's 2017 Portable Emissions Measurement Systems (PEMS) Conference & Workshop in March; California Science Fair Awards in April; Transportation Research Board's Minority Student Fellow; Clean Fuels Advisory Group retreats in September 2016 and January and September 2017; Whittier Uptown Association's Whittier Earth Day in April; the Emerging Technologies Summit in April; CAPCOA's 2017 Grants 7 Mobile Sources Conference in April; GNA's Act Expo in May; California Hydrogen Business Council's Hydrogen and Fuel Cell On-Road Freight Workshop in May; FuturePorts Annual Conference 2017 in June; University of California Davis/ITS' The Asilomar 2017 Conference on Transportation & Energy Policy in August; Southern California Chinese American Environmental Protection Association's 2017 Los Angeles Environmental Forum in August; 2017 Women in Green Forum; Plug-In America's Los Angeles National Drive Electric Week; Platia Productions' 2017 Santa Monica AltCar Expo & Conference in September; SustainOC's 2017 Advanced Transportation Symposium and Expo in September; Calstart's 25<sup>th</sup> Anniversary Symposium in October; CalETC's 2017 Los Angeles Auto Show panel; and BRC's Southern California Energy Water & Green Living Summit in January 2018. Additionally, for 2017 four memberships were renewed for participation in the Plug-In Electric Vehicle (PEV) Collaborative, California Hydrogen Business Council, Fuel Cell Hydrogen Energy Association, Calstart and the California Stationary Fuel Cell Collaborative.



## **CLEAN FUELS PROGRAM**

### **Progress and Results in 2017**

#### **Key Projects Completed**

A large number of emission sources contribute to the air quality problems in the South Coast Air Basin. Given the diversity of these sources, there is no single technology or “silver bullet” that can solve all of the region’s problems. Accordingly, the SCAQMD continues to support a wide range of advanced technologies, addressing not only the diversity of emissions sources, but also the time frame to commercialization of these technologies. Projects cofunded by the SCAQMD’s Clean Fuels Program include emission reduction demonstrations for both mobile and stationary sources, although legislative requirements limit the use of available funds primarily to on-road mobile sources.

Historically, mobile source projects have targeted low-emission technology developments in automobiles, transit buses, medium- and heavy-duty trucks and off-road applications. These vehicle-related efforts have focused on: 1) Development, Integration and Demonstration of Ultra-Low Emission Natural Gas Engines Certified for Production; 2) Replacement and Demonstration of UPS Diesel Delivery Trucks with Zero Emission Medium-Duty Trucks; 3) Zero Emission Cargo Transport Demonstration; and 4) .

Table 5 (page 72) provides a list of 43 projects and contracts completed in 2017. Summaries of the completed technical projects are included in Appendix C. Selected projects which represent a range of key technologies from near-term to long-term are highlighted below.

#### **Development, Integration and Demonstration of Ultra-Low Emission Natural Gas Engines Certified for Production**

Heavy-duty on-road vehicles represent one of the largest sources of NO<sub>x</sub> emissions and fuel consumption in North America. Heavy-duty vehicles are predominantly diesels. As emissions and greenhouse gas regulations continue to tighten, new opportunities for advanced fleet specific heavy-duty vehicles are becoming available with improved fuel economy. NO<sub>x</sub> emissions have dropped significantly from heavy-duty vehicles with the 2010 heavy-duty engine standard; however, additional NO<sub>x</sub> reductions of another 90% are necessary for the South Coast Air Basin to meet goals in the 2016 AQMP.

Although the 2010 certification standards were designed to reduce NO<sub>x</sub> emissions, subsequent studies have shown that in-use NO<sub>x</sub> emissions are actually much higher than standard. The main reason is a result of the poor performance of aftertreatment systems for diesel vehicles during low temperature and load operation. Recent studies by UCR suggest 99% of the operation within 10 miles of the ports represents up to 1 g/bhp-hr NO<sub>x</sub> for some diesel trucks. Thus, a real NO<sub>x</sub> success will not only be providing a solution that is independent of duty cycle, but one that also reduces the emissions an additional 90%. It is expected natural gas vehicles could play a role in the reduction of the South Coast NO<sub>x</sub> inventory problem.

In July 2015, the Board awarded a contract to Cummins Westport Inc. (CWI) to develop and demonstrate an ultra-low NO<sub>x</sub> emission 8.9L natural gas engine. The objectives of this project were to:

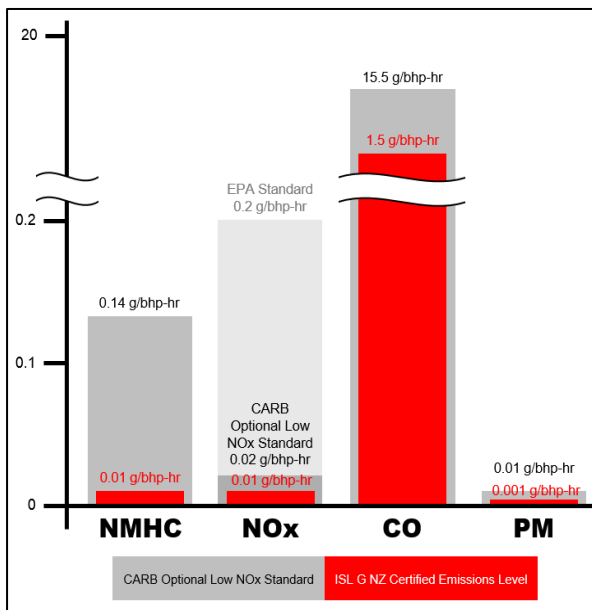
- Design, develop and demonstrate an ultra-low emissions, commercially viable natural gas engine suitable for on-road heavy duty vehicle applications;
- Achieve emissions targets of 0.02 g/bhp-hr NO<sub>x</sub>, 0.01 g/bhp-hr PM, 0.14 g/bhp hr NMHC, and 15.5 g/bhp-hr CO or lower as determined by the heavy-duty engine FTP;



- Keep exhaust NH<sub>3</sub> emissions as low as achievable while targeting NH<sub>3</sub> emissions at 10 ppm or lower;
- Achieve thermal efficiency and incorporate methods to achieve minimal (or zero) fuel economy penalties relative to 2010 U.S. EPA and CARB-certified diesel engines in similar duty cycles; and
- Obtain certification by the U.S. EPA and CARB.

The project was completed in July 2017 with a cumulative log of 581,963 miles. The ISL G NZ 8.9L natural gas engine met and exceeded the target NO<sub>x</sub> emissions of 0.02 g/bhp-hr and maintained those emissions during a full ration of duty cycles found in the South Coast Air Basin.

- A peak rating of 320 horsepower and 1,000 feet per pound of torque.
- Fuel consumption and mileage data from San Diego Transit indicated they were achieving 3.39 to 3.83 MPGde in a transit application. UCR's testing indicated the MPG on a diesel gallon equivalent (DGE) - assuming 2,863 gram NG/gallon diesel ranges - from 4.5 MPGde for the regional port cycle (DPT3) to 2.5 MPGde for CBD cycle.
- In late 2015, CWI obtained certification of the 8.9L engine from both CARB and U.S. EPA. While the certification is at CARB's Optional Low NO<sub>x</sub> 0.02 gram standard, actual results were lower than CARB's optional low NO<sub>x</sub> standard, and the resulting engine has a reduction of over 90% NO<sub>x</sub> from current federal standards.



**Figure 33: Certified 8.9L NG engine, below CARB's Optional Low NO<sub>x</sub> Standard**

chassis resulting in commercial availability of vehicles powered by the ISL G near-zero engine.

Furthermore, on a related note, in May 2013, SCAQMD released a RFP to develop and demonstrate certified ultra-low NO<sub>x</sub> natural gas engines for on-road use. Since then, an 8.9L engine was certified and is in full production. Other technologies and engines were also investigated at this time leading to future potential projects.

Following the development work and in parallel with the demonstration work conducted as part of this project, full commercialization tasks were undertaken and completed resulting in the ISL G ultra-low NO<sub>x</sub> engine entering production in the spring of 2016. The engine was then integrated into vehicles, such as refuse trucks and transit buses, and demonstrated until July 2017. The vehicles were existing OEM customers who integrated the ISL G near-zero in their vehicle



**Figure 34: Full Production 2018, 8.9-L Natural Gas Engine Certified at 0.02 g/bhp-hr NO<sub>x</sub> Emissions**



Success in ultra-low NOx engine development and demonstration is continuing with CWI in a follow-on project to develop a 12L natural gas engine for heavy-duty trucks. The 12L has received CARB and U.S. EPA certification at 0.02 g/bhp-hr NOx and is currently being demonstrated in the ports and other truck applications. The 12L engine is expected to go into full production early 2018 when it will be commercially available for drayage trucks and 60-foot articulated transit buses. SCAQMD has various incentive programs (e.g., Carl Moyer Program) to assist in pushing penetration of these engines into the marketplace including into large fleet service. These incentives, which help accelerate fleet turnover, offer an opportunity for greater emissions reductions sooner and, as noted earlier, together with the Clean Fuels Program create a unique synergy.

### **Replacement and Demonstration of UPS Diesel Delivery Trucks with Zero Emission Medium-Duty Trucks**

In 2011, Electric Vehicle International (EVI) and UPS began working with the SCAQMD to identify a partnership that would provide incentive funding for UPS and in return put clean, zero emission vehicles on the road. The SCAQMD Board approved a \$1.4 million grant to help UPS replace diesel trucks with all electric vehicles in San Bernardino. The Zero Emission Community-Level Goods Movement and Delivery Demonstration was a five-year project that replaced older UPS vehicles with 40 of EVI's clean medium-duty vehicles and provided vehicle and environmental savings data to the SCAQMD. The Zero Emission Community-Level Goods Movement and Delivery Demonstration was a collaborative funding effort including the SCAQMD, CARB's Resource Board Hybrid Truck and

Bus Voucher Incentive Project (HVIP), the California Energy Commission through its Diesel Emissions Reduction Act (DERA) Program, UPS and EVI.



**Figure 35: UPS P-1000 Electric Delivery Van**

One of the main objectives of this project was to decrease the localized and regional emissions created by door-to-door goods movement services. As part of this project, the emission reductions were calculated for at least five years, although the benefits to the San Bernardino community will continue for many years after the demonstration project is over. Replacing harmful diesel vehicles with similar zero emission vehicles also provided direct NOx and PM emission reductions.



**Figure 36: UPS Electric Van Fleet at San Bernardino Plant**

As part of this project, EVI delivered two different types of clean vehicles to UPS in San Bernardino. The P1000 was equipped with 1,000 square feet of package space and the P70 had 700 square feet of package space. UPS received their first vehicle in November 2012, and in June 2013, EVI delivered the final of 40 vehicles, creating the largest, single Class 6 electric vehicle deployment in California.



As part of the initial agreement with the SCAQMD, UPS was asked to de-commission one diesel vehicle for every new zero emission vehicle received. UPS chose to de-commission 40 diesel vehicles that were built in the early 1990s.

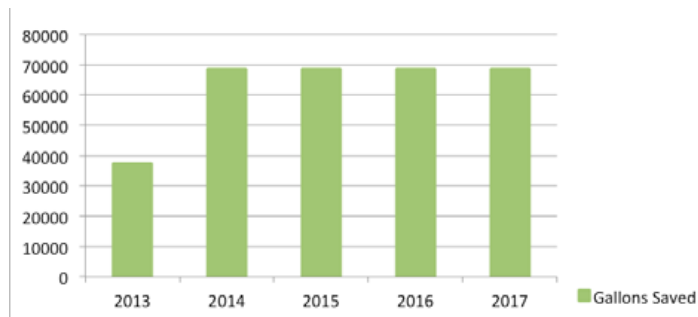
The chart below illustrates additional emission reductions in NO<sub>x</sub>, PM<sub>2.5</sub>, HC, CO and CO<sub>2</sub>. Over the life of the vehicles in this project, the SCAQMD will have saved over 40 tons of NO<sub>x</sub>, 1.5 tons of PM<sub>2.5</sub>, 2.35 tons of HC, over 12 tons of CO and 2,110 tons of CO<sub>2</sub>.

Annual	NO <sub>x</sub> (short tons/year)	PM <sub>2.5</sub> (short tons/year)	HC (short tons/year)	CO (short tons/year)	CO <sub>2</sub> (short tons/year)	Diesel- Equivalent (gallons/year)
Baseline of Entire Fleet	8.3894	0.3027	0.4747	2.4421	421.9776	38,016.0000
Baseline of Vehicles Retrofitted	8.3894	0.3027	0.4747	2.4421	421.9776	38,016.0000
Percent Reduced (%)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Amount Reduced Per Year	8.3894	0.3027	0.4747	2.4421	421.9776	38,016.0000
Daily	NO <sub>x</sub> (kg/day)	PM <sub>2.5</sub> (kg/day)	HC (kg/day)	CO (kg/day)	CO <sub>2</sub> (kg/day)	Diesel- Equivalent (gal/day)
Kilograms Reduced Per Day (kg/day)	20.8513	0.7524	1.1797	6.0698	1,048.7990	104.1534

Figure 37: Estimated Emission Reductions

Over 300,000 clean, diesel free miles were driven in 2017. In the five-year demonstration period, over 1.5 million zero emission miles were driven under this project. The zero emission miles driven saved UPS over 34,000 gallons of diesel in 2013 and is expected to save close to 70,000 for the remaining project years. Total gallons of fuel saved under this project will be over 300,000.

Figure 38: Gallons of Fuel Saved



The Zero Emission Community-Level Goods Movement and Delivery Demonstration was a first step toward transitioning more UPS vehicles to electrification. Through this successful project, we hope that more return-to-base companies will look toward electrification as a fleet vehicle option.

Zero emission, battery electric technology is still plagued with cost-effectiveness when compared to

similar hybrid electric vehicles. Although the environmental savings are so much greater with all electric vehicles, hybrid electric vehicles have a much lower incremental cost increase. We can continue to drive fleet market adoption with continued partnerships and increased incentive opportunities for all electric vehicles.

EVI and UPS see continued partnerships with the SCAQMD and CARB as a catalyst to transition diesel fleets to clean electric, including fuel cell, technology in the South Coast Air Basin and throughout California.

### Zero Emission Cargo Transport (ZECT) Demonstration

On-road heavy-duty diesel trucks are one of the largest sources of diesel particulate matter and NO<sub>x</sub> emissions in the South Coast Air Basin. The impact on air quality and public health is more pronounced in the surrounding communities along the goods movement corridors near the San Pedro Bay Ports - Ports of Los Angeles and Long Beach, and next to major freeways in Southern California. As a measure



to reduce the impact and meet federal ambient air quality standards, the SCAQMD has been working with regional stakeholders to promote and support the development and deployment of advanced zero emission cargo transport technologies. In 2012, SCAQMD applied for and received a \$4.17 million grant from the Department of Energy under the Zero Emission Cargo Transport (ZECT) Demonstration Program to develop various Class 8 electric drayage trucks with zero emission operation capability. One of the four technologies funded by the DOE grant was battery electric trucks developed by Transportation Power, Inc. (TransPower).

In partnership with Navistar and Total Transportation Services, Inc. (TTSI), TransPower designed and manufactured pre-commercial Class 8 battery-electric drayage trucks - Electric Drayage Demonstration (EDD) trucks - and conducted a demonstration over a three-and-a-half year period in real-world drayage operation environments, transporting cargo containers in and around the Ports of Los Angeles (POLA) and Long Beach (POLB). The original project scope included only four EDD trucks, but by leveraging a grant from the CEC and additional cost-sharing from the SCAQMD and the two Ports through their Technology Advancement Program (TAP), the project later increased the demonstration fleet from three to seven trucks and extended the demonstration period by two years through September 30, 2017, to allow more time for testing of these trucks.

These trucks featured a high-power electric drive system designed and developed by TransPower and a team of U.S. based component suppliers. The EDD trucks were expected to demonstrate new industry-leading technologies and products in at least three key areas:

*Power Conversion:* advanced Inverter-Charger Unit (ICU) that combines the functions of vehicle inverter and battery charger with the expectation of reducing capital costs and simplifying battery recharging.

*Energy Storage:* high-energy battery modules using the lowest cost lithium-ion cells available, along with an advanced battery management system (BMS).

*Vehicle Control:* a proprietary vehicle control system to optimize vehicle efficiency, maximize battery life and protect key components such as batteries and power electronics from excessive temperatures, voltage spikes or current surges.



**Figure 39: First Four EDD Trucks (March 2015)**

The demonstration activities were conducted under real-world cargo transport conditions at the San Pedro Bay Ports. The trucks were projected to provide 100 miles of daily operating range under normal conditions and 60-65 miles of range under fully-loaded conditions, with a top speed of at least 60 mph and significantly faster acceleration than conventional diesel trucks. EDD-1, the first of the seven demonstration vehicles, was first deployed into drayage service in April 2014 and was demonstrated for most of 2014. EDD-1 was the evolution of TransPower's prototypes in 2011 and 2013 and utilized the latest version of TransPower's ElecTruck™ drive system. The ElecTruck™ drive system is the basis of

TransPower's battery electric vehicle drive system and consists of three major subsystems. (1) the Power Control and Accessory Subsystem (PCAS) that combines a network control architecture, control software, and power conversion modules into an integrated subsystem that links all drive system components and enables them to communicate with vehicle controls and displays. A key component of the PCAS is an onboard Inverter-Charger Unit (ICU) developed with EPC Power Corp. (2) the Motive



Drive Subsystem (MDS) that converts electrical power from the battery subsystem and ICU into mechanical power to drive the vehicle's wheels. The MDS makes innovative use of a motor originally designed for a high-performance hybrid passenger car--the Fisker Karma. Developed and supplied by Quantum Technologies, TransPower used two of these motors, each providing 150 kW of peak power, to meet the demanding truck requirements. TransPower developed a proprietary means of mounting the two motors in tandem with a through shaft which is then mated to an Eaton 10-speed "automated manual transmission" (AMT); this represented a major industry innovation and a huge improvement over the gearbox installed into TransPower's first prototype Class 8 truck. (3) The Energy Storage Subsystem (ESS), which includes the batteries and interconnects. Each sub-system was continually assessed for improvement during the ZECT Demonstration Program.

Developing a reliable, cost effective ESS turned out to be the greatest engineering challenge of the ZECT project. A small module battery installation design used in EDD-1 was based on the idea that these modules afforded greater interchangeability between different types of vehicles and possibly even used in stationary battery energy systems once their vehicle use was exhausted. A key lesson learned is that installing many separate battery modules, each with its own structure, lid and network of cables and connectors into a vehicle with limited volume, and doing so safely and with precision, is exceedingly complex. In addition, it was determined that any benefits gained by standardizing module design were largely offset by the need to build heavy-duty cradles to support the modules – cradles that need to be customized to the physical dimensions of the truck, so they can never be standardized. A major redesign of the ESS to simplify the assembly and servicing of TransPower's electric trucks resulted in development of the larger, more rugged battery enclosures used in EDD-2 and all subsequent EDD trucks (Figure 41).

EDD-2 was completed in August 2014 and underwent four months of drive testing and optimization of the new ESS, including the new Cell-Saver™ battery management system. The University of California Riverside (UCR) tested the truck and reported a "high degree of reliability" with the ElecTruck™ drive system. UCR concluded that the EDD-2 vehicle consumed half as much battery energy per mile relative to another battery electric truck evaluated by UCR in 2011. EDD-2 was deployed into drayage service in early 2015 and continued operating through September 2017.

In September 2015, EDD-3 was delivered to the California Cartage (CalCartage) Company in Wilmington, the largest drayage company supporting the Ports, where it began demonstration operation in October 2015. Starting in December 2015, EDD-3 initiated regular single-shift, daily operation, 6 days a week, averaging 40 miles per day and 2-4 "pulls" per 8-hour shift. Through the end of the ZECT project in September 2017, it accrued 11,703 miles and continued to perform reliably. However, CalCartage found it difficult to find uses for EDD-3 due to its range limitations.



**Figure 40: EDD Truck Carrying a Load of Steel**



**Figure 41: New ESS - 5 large modules (300 Ah cells) mounted on frame rails & behind cab of EDD-2**



Test operation of EDD-4 was initiated in the spring of 2015, when it was showcased at an environmental event hosted by San Diego Gas & Electric Company and used for brief demonstrations with fleet operators in the San Diego region. In September 2015, EDD-4 began performing regular demonstration service with National Retail Trucking (NRT) based in Compton, exclusively for draying IKEA containers from the various terminals at the San Pedro Bay Ports. In early 2016, EDD-4 was returned to TransPower to address an intermittent power steering fault and for planned upgrades to the ICU. After three weeks of service to address these issues, it was returned to NRT, where it operated with a high degree of reliability for the duration of the project. Through the end of the project, EDD-4 accumulated 13,195 miles of operation, including more than 12,500 miles of commercial drayage service.

EDD-5 and EDD-6 were both delivered to the Los Angeles/Long Beach port region for service in early 2016. Deployment of these trucks was delayed for several months due an unexpectedly long development cycle for the RS-12, which is the inverter-only unit that TransPower elected to introduce in these three newer trucks. The RS-12 replaced the second ICU in trucks of the EDD design, which proved to save on cost and weight without sacrificing operations because only one ICU is required for battery charging. EDD-7 was the primary truck used for this “motor characterization” testing and tuning of the ICUs and RS-12 inverters. At the conclusion of this effort, the RS-12 was actually shown to be capable of coaxing 165 kW of power out of each JJE motor, a 10% improvement over the previous peak power level of 150 kW.

The seven vehicles collectively accrued more than 43,000 miles. The first four trucks gained 37,841 miles and the remaining 3 trucks saw less mileage but helped validate the latest drive system improvements. Most of the miles accrued on the fleet of EDDs were hauling heavy loads in real-world drayage operations. The technologies used in these trucks were improved continuously throughout the project, achieving the more important goal of bringing them close to a state of commercial readiness. Many of the trucks are expected to continue routine drayage operations with TTSI under a lease agreement with TransPower.

The ZECT research added to the understanding of heavy-duty battery electric vehicle technology in many ways. TransPower continuously improved its electric drive components in response to many valuable lessons learned. Improvements were achieved in each of the principal technology areas:

*Power Conversion:* The ICU was improved to make it more robust, and a new control scheme was developed to control one of the truck’s two motors with a smaller, less expensive inverter, rather than duplicating the battery charging hardware in the ICU. A new automotive accessory inverter was integrated into the system, replacing a failure-prone industrial inverter.

*Energy Storage:* Battery module designs shifted from installing batteries in a large number of small modules to using a smaller number of large battery enclosures (Figure 3). This greatly reduced the complexity of battery subsystem integration. A new advanced BMS was developed, featuring active cell balancing and high-power charge “shuffling.”

*Vehicle Control:* A new method of mechanically integrating power control and accessory components was developed, greatly reducing the time and effort required to install these components into a truck. TransPower’s automated manual transmission (AMT) system was greatly improved, with the adoption of a 10-speed Eaton transmission and refined transmission controls.

These and other improvements helped advance the state-of-the-art of electric truck component technology from early prototype/proof-of-concept to pre-commercial, where future investments can be focused on improving producibility and reducing manufacturing costs rather than demonstrating basic feasibility.



TransPower's No. 1 lesson learned from the ZECT project is that battery energy storage remains the primary technical obstacle to widespread adoption of electric trucks. Despite major investments in improving every aspect of its energy storage subsystem, variations in cell voltage and BMS failures caused problems in every truck, from the beginning of the project until the very end. While these problems were reduced in frequency and severity in six of the seven trucks over the course of the project, they remained by far the largest single cause of maintenance-related issues. The rest of the ElecTruck™ drive system was, for the most part, perfected by the end of the project and rarely caused any problems. While it is noteworthy that nearly all maintenance-related issues toward the end of the project were battery related, it should be emphasized that these problems were not the primary limitation to use of the EDD trucks. The greatest obstacle to EDD truck utilization was, by far, the limited operating range of these trucks.

The methods and techniques investigated and demonstrated in this study were shown to be highly effective technologically and economically. Prior to the ZECT project, the idea of using battery-electric technology to power Class 8 trucks weighing up to 80,000 pounds was considered impractical by many. Four years later, TransPower's fleet of electric trucks proved unequivocally that battery-electric propulsion can meet the demanding performance requirements of the heaviest Class 8 trucks, and it now appears that many new companies are entering this market such as Cummins, BYD, Daimler, Volvo and Tesla who developing and demonstrating their own electric truck systems.

The ZECT trucks were shown to be capable of hauling heavy loads with an average energy consumption of approximately 2.3 kilowatt-hours (kWh) per mile, and the base recurring cost of manufacturing an electric truck was reduced from about four times the cost of a high-end diesel truck to about twice the diesel truck cost. Extrapolations suggest that further reductions can be achieved with future modifications of TransPower components and larger scale manufacturing.

In addition to demonstrating the essential feasibility of electric Class 8 trucks the ZECT project is expected to yield public health benefits by helping to reduce emissions of carbon and criteria pollutants by large trucks. These benefits will be particularly impactful in economically and environmentally disadvantaged communities with high truck traffic, such as neighborhoods adjacent to California's seaports and near major warehouses and distribution centers. Many of these communities are in the South Coast Air Basin.

During the course of the ZECT project, the EDD trucks were operated for varying lengths of time by several fleet operators, including TTSI, CalCartage, NRT, 3 Rivers Trucking, SA Recycling, Knight Transportation Services, Pasha Stevedoring and Terminals, BAE Systems, and Terminalift. Mileage accumulations from the ZECT trucks did not measure up to initial expectations, but the experience gained while operating electric trucks in all of these fleets was invaluable. All seven trucks encountered maintenance issues of varying degrees of severity, but only one truck, EDD-1, was inoperable for an extended period of time. The other six trucks experienced reliability and maintainability issues typical for vehicles using completely new technologies, but could have been used much more extensively if not due to external factors such as limited viability of charging infrastructure, insufficient driver training/motivation, and "range anxiety." Of these factors, range anxiety was by far the most prevalent, as fleet operators had difficulty finding productive ways to operate trucks that can only operate for 60-70 miles on a single charge – the typical maximum range for an EDD truck when fully loaded.

To build on the success of the ZECT project, TransPower intends to consolidate the EDD fleet in the hands of a single fleet operator, TTSI, to make service and support easier and to achieve a "critical mass" of EV technology in one fleet. A lesson learned from the ZECT project is that when a fleet operator has only a single vehicle of a given technology type, it is difficult for that operator to divert attention from the rest of the truck in its fleet to make the continuing investments required to keep their one high-technology truck operating productively. It is hoped that deploying many of the EDD trucks with TTSI will make it more economical for TTSI to invest the resources required to keep electric



trucks operating in its fleet, and provide an opportunity to deploy the EDD trucks for limited-duty cycles.

TransPower is also pursuing development of new technologies that will directly address the shortcomings observed in the EDD fleet. These include advanced battery technologies that will extend operating range while also reducing vehicle weight and cost, and various strategies for extending operating range with onboard internal combustion engines and fuel cells. Equally important was TransPower's progress toward establishing a go-to-market strategy for commercialization of its technologies. TransPower made progress in these efforts during the ZECT project by repackaging its major subsystems in ways that will make it easier for them to be shipped to vehicle manufacturers for installation on their own assembly lines. The integrated PCAS assembly, described earlier in this report, is an excellent example of how TransPower made significant changes in its product designs and integration methods during the ZECT project to facilitate this transition, expected to be implemented in Class 8 trucks funded under other grants.

In summary, the ZECT project achieved all of its major technical and economic objectives, including demonstrating the ability of electric port drayage trucks to match or surpass the performance of conventional diesel and natural gas drayage trucks; improving reliability than previous generations of electric Class 8 trucks; zero emission operation and high energy efficiency; and quantifiable environmental and economic benefits, based on actual in-use data.

### **Utilization of Fleet DNA Approach and Capabilities to Provide Vehicle Vocation Analysis in the SCAQMD**

According to the Energy Information Administration (EIA), diesel and gasoline account for more than 92% of the total energy used in the transportation sector. The largest consumers of fuel in the transportation sector are medium- and heavy-duty vehicles, which are also the largest contributors to NO<sub>x</sub>, PM and ozone air pollution in the South Coast and a significant source of global GHG emissions. The National Renewable Energy Laboratory (NREL) & the Department of Energy (DOE) have been conducting research, development and demonstration (RD&D) projects to facilitate the deployment of advanced vehicle technology and alternative fuels into the marketplace in order to reduce petroleum use and enhance the reduction of mobile source emissions in California and the U.S. NREL and the SCAQMD collaborated on a joint project, referred to as the Fleet DNA study, to collect data on medium- and heavy-duty vehicles used in various vocations in the South Coast; to analyze vehicle usage characteristics to better understand how vehicle vocations differ or compare; to assess their respective vehicle performances; and to provide some recommendations to improve efficiency and some technologically feasible "clean fuel" alternatives.

OEMs, commercial fleets and research organizations have identified a lack of medium- and heavy-duty vehicle use data as a barrier to intelligent vehicle design and deployment. The usage data developed in the Fleet DNA study helps to identify average and extreme use patterns for various vehicle vocations that could help identify similar use patterns across dissimilar vocations which could lead to more optimized and efficient designs that are appropriate to multiple uses. The study was intended to provide information that could enable intelligent deployment of advanced vehicle technology within key vocations. This was accomplished by showing the relationship between vocational duty cycles and technology performance.

The Fleet DNA study consisted of three parts: 1) Identification of Appropriate Vocations, 2) Data Collection and Analysis, and 3) Powertrain and Advanced Technology Matching by Vocation.

Identification of Appropriate Vocations: NREL commenced this study with an in-depth assessment of the SCAQMD vehicle population to categorize the medium- and heavy-duty (Class 3–8) on-road commercial vehicle vocations in the South Coast Air Basin. The size and age of the vehicle population



was ascertained by acquiring and mining data from the 2014 R.L. POLK medium- and heavy-duty vehicle registration database (now part of IHS Inc.). Annual vehicle miles travelled (VMT) and fuel usage numbers were estimated by leveraging data from the U.S. DOT's Vehicle In-Use Survey (VIUS) database, the Oak Ridge National Laboratory's Transportation Energy Data Book (TEDB), and CARB's EMFAC model (EMFAC is short for EMISSIONS FACTors). To estimate NOx emissions contributions from various vehicle types, weight classes and model years, NREL developed a method to relate NOx emissions from different engine emission certification levels to fuel economy. This data was entered into NREL's Scenario Evaluation, Regionalization & Analysis (SERA) model to estimate the NOx emissions contribution from each vocational category in the SCAQMD inventory.

Results of the data mining activity using the R.L. Polk database as of April 1, 2014, produced the following results: 518,863 Class 3-8 vehicles are registered in the SCAQMD; 304,804 are registered to over 60,000 businesses, and 214,059 are registered to individuals, of which 136,685 are pre-model year (MY) 2002; the percentages of each class of vehicle in the SCAQMD fleet is comparable to those on a national level as are the percentages of Class 7-8 vehicles that meet the pre-2007, the 2007-2010, and the 2010 and newer diesel emission standards; on average, vehicles in the SCAQMD are older than the national average with 73% of Class 7-8 diesels being MY 2006 (7 years) and older and 57% being pre-MY 2002 (more than 10 years old); 65% of vehicles are registered to fleets comprising 10 or fewer vehicles.

The initial vehicle analysis led NREL to recommend and SCAQMD to agree to two scope modifications:

- Eliminate all gasoline vehicles from analysis: gasoline vehicles have significantly lower NOx impact than diesel for any given MY and are weighted towards individual ownership.
- Eliminate motorhomes from analysis: motor homes may be used sporadically and usage probably isn't confined to SCAQMD. Motor homes are weighted towards individual ownership, and there are fewer opportunities to influence this market with new low emissions technologies.

These changes reduced the Class 3-8 vehicle population by 45% (from 518,863 to 283,001) and shifted the weight class split of vehicles, reducing the Class 3-4 population the most. The selected and reduced vehicle population data was combined with VMT data from EMFAC and TEDB, fuel economy (mpg) data from TEDB, and entered into NREL's SERA model for modeling the current vehicle population's breakdown along vocation, class and vehicle type categories; generating estimated miles and fuel consumption; and, when combined with NREL's fuel consumption-to-NOx emissions correlation, estimating NOx emissions from each vehicle category. To develop its NOx vs Fuel Consumption correlation, NREL conducted an extensive literature study of chassis dyno test results. The combined studies included 277 vehicles, 29 test cycles and almost 600 individual test runs. This information was compared to corresponding engine emissions certifications levels. The derived NOx/Fuel Consumption correlation compared more favorably against engine emission certification levels for MYs 2007 and newer and less so for older vehicles.

Because Class 8 vehicles are the largest commercial vehicle population segment, travel the most miles and have the lowest average fuel economy (mpg), they are the largest NOx contributors in the vehicle population study. Class 8 vehicles comprised 50% of the Class 3-8 population and contributed 77% of vehicle NOx emissions from this population across all model years. The two figures on the next page show the vehicle population estimated aggregate NOx emissions by vehicle class and model year (Figure 42) and by vocation and model year (Figure 43).



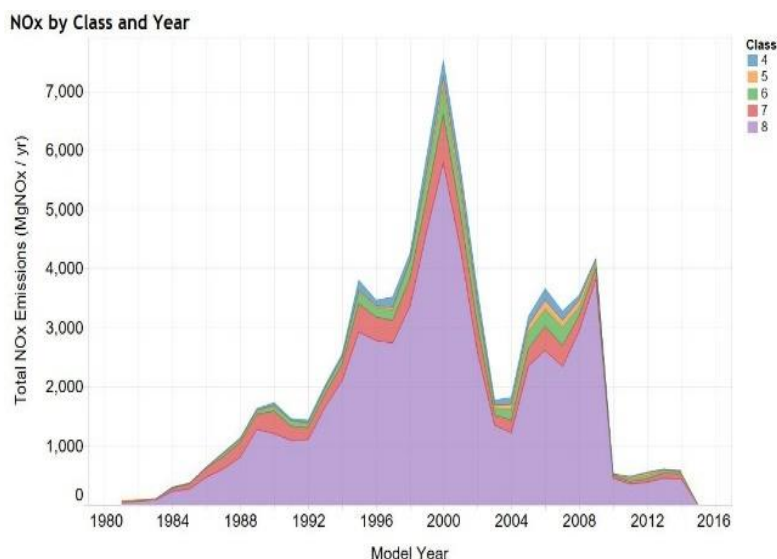


Figure 42: NOx Emissions by Vehicle Class and MY

Based on the above vehicle population and NOx inventory analysis, the following vocations were recommended for further study: Class 8 vehicles in General Freight, Services, Wholesale/Retail and Refuse vocational groups. By looking at fleets owning Class 8 vehicles under those categories, the following groups were recommended due to the presence of larger fleets: drayage/logistics fleets; auto wrecking/used auto parts fleets; and curbside refuse collection. NREL identified potential commercial fleets in the above business

sectors to obtain detailed vehicle usage data. Based on a review of the NREL recommendations and other programmatic considerations, SCAQMD decided on the following fleet vocations for data collection: Class 8 drayage and transfer trucks and Class 3-7 delivery trucks.

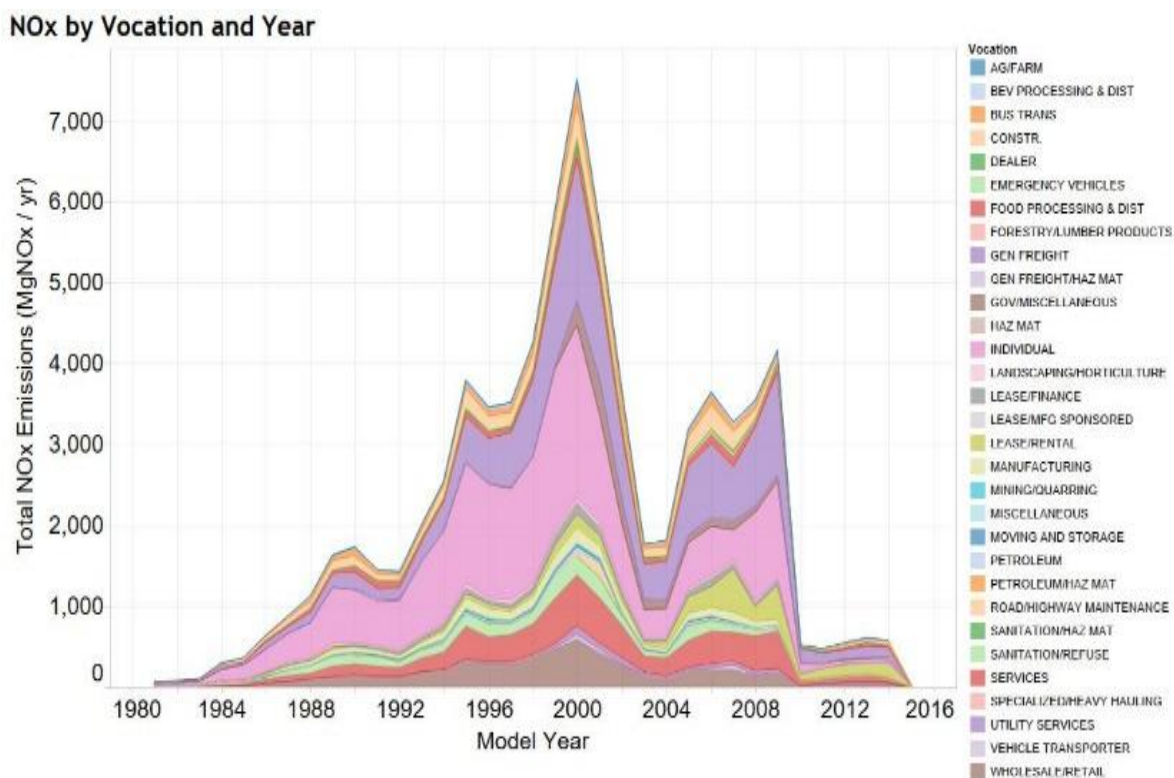


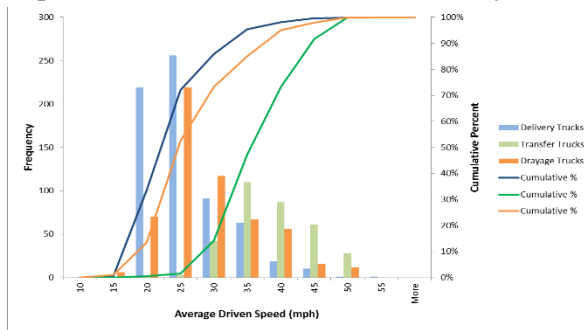
Figure 43: Annual NOx Emissions by Vocation and MY



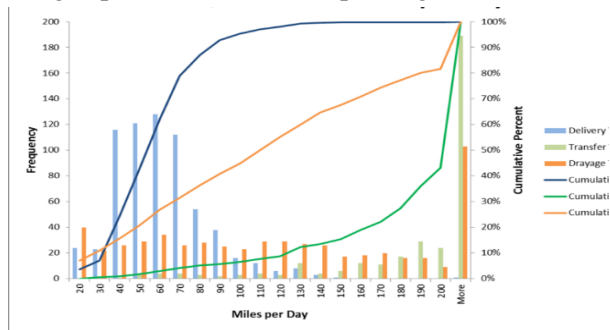
**Data Collection and Analysis:** NREL completed a campaign of commercial vehicle data logging within SCAQMD to capture detailed 1 Hz GPS and engine CAN<sup>6</sup> data on the three specified vocations: Class 8 drayage and transfer trucks and Class 3-7 delivery trucks. This effort resulted in almost 5,000 vehicle trips and over 1,500 recorded days of operation from 114 vehicles. NREL completed detailed duty-cycle analysis of each of these vocations and selected representative chassis drive cycles that could be used to evaluate technologies on vehicle platforms. NREL also leveraged recent data logging activities within these vocations and this region including data collected by NREL under the California Hybrid Truck and Bus Voucher Incentive Project (HVIP) and Phase 1 of the DOE-funded Zero Emission Cargo Transport (ZECT I). Under the HVIP, data was collected between October 2012 to September 2013 from 62 delivery vehicles for 2 to 3 weeks, each including parcel and linen delivery vocations with UPS, Aramark and FedEx. Data from the ZECT I project included datalogging of drayage service from TTSI including 149 days of conventional baseline vehicle operation on 2 trucks and 26 days of operation of the TransPower electrified drayage trucks.

NREL conducted drive cycle analysis from all vehicles within each of the three selected vocations as a group with no separation by operator or location. As would be expected, each of the three vocations has different drive cycle statistics based on their different vocational operations.

Figure 44 shows a histogram of average driven speed (not including idle time) of each vocation. Both delivery trucks and drayage trucks have average driven speeds near 30 mph, but the average driven speed of the drayage group is likely reduced by the slow speed “creep” time while in queue at or near the port. The transfer trucks have more days with average speed in the 40-50 mph range, but are still



**Figure 44: Average Driven Speed**



**Figure 45: Miles Driven Per Day**

not a pure highway driving type. NREL applied its Drive-cycle Rapid Investigation, Visualization and Evaluation tool (DRIVE<sup>TM</sup>) to compare representative drive cycle metrics from the data collected for this project to a variety of standard drive cycles. Figure 45 shows a histogram of the miles driven per day by each of the vocations. The delivery group has the narrowest range of daily miles while drayage and transfer trucks have greater variation day-to-day as well as higher miles per day as would be expected. NREL used this comparison to select drive cycles that best represent and bracket the observed operational data.

**Powertrain and Advanced Technology Matching by Vocation:** NREL completed an extensive analysis on the impact of technology improvements on vehicle efficiency and performance using the Future Automotive Systems Technology Simulator tool (FASTSim) batch processing all the real world recorded drive cycles collected in the study. Assessed technologies included: battery electric, natural gas, aerodynamic improvements, mass reduction and rolling resistance. A brief summary of the technology trends is provided below.

<sup>6</sup> The Controller Area Network (CAN, also known as CAN Bus) is a vehicle data bus standard designed to allow automotive electronic control units and devices to communicate with each other.



*Delivery Trucks (Class 3-7)* - NREL modeled the effects of rolling resistance, aerodynamic drag, vehicle mass reduction, CNG engines and vehicle electrification across over 2100 real-world delivery truck trips in the Fleet DNA database for class 3-7 delivery trucks. The results showed that delivery trucks benefit more from mass reduction than from rolling resistance reduction or aerodynamic improvements. The stop-and-go nature of delivery vehicles means they save fuel from reduced mass on every acceleration. Conversely they do not typically drive enough miles for rolling resistance improvements to have the same impact and they do not drive enough at high speeds for aerodynamic improvements to save substantial amounts of energy. When routes are within the range of EV powertrains large savings can be realized, but payback due to the cost of batteries and electric rate structure must be considered on an individual site basis. Simulations of delivery truck routes showed EVs using significantly less energy than their diesel counterparts (approximately 1.3 kWh/mile EV vs. 4.4 kWh/mile diesel). The Fleet DNA duty cycle data showed that approximately 80% of daily driving was less than 70 miles per day, which could be accomplished with a 100kWh battery pack. CNG, while somewhat less efficient on an energy basis may offer fuel cost savings when natural gas prices remain below diesel with lower emissions relative to baseline diesel technology.

*Transfer Trucks (Class 8)* - NREL modeled the effects of rolling resistance, aerodynamic drag, vehicle mass reduction, and CNG engines across over 800 real-world transfer truck trips in the database. EVs were not considered because of the long daily driving distances (i.e., 90% of the daily driving was over 100 miles). The simulations showed that transfer trucks benefit more from mass reduction and rolling resistance reduction than from aerodynamic improvements; but small aerodynamic improvements may be achievable as the vocation currently has not typically implemented aerodynamic improvements even though these vehicles spend significant time at highway speeds. Care would have to be taken to implement aerodynamic solutions that improve the drag coefficient without adversely affecting the job function. While current EV technology cannot provide the range needed; CNG engines can provide the range needed with reduced emissions and possible fuel cost savings when natural gas prices remain below diesel on an energy equivalent basis.

*Drayage Trucks (Class 8)* - NREL modeled the effects of rolling resistance, aerodynamic drag, vehicle mass reduction, CNG engines and vehicle electrification across over 1800 real-world drayage truck trips in the database. The simulations showed that drayage trucks benefit more from mass reduction than from rolling resistance reduction or aerodynamic improvements and mass reduction on the tractor is the aspect most under the control of the fleet operator. CNG and EV powertrains offer advantages that are completely separate from the chassis and container designs. EV powertrains are a good fit for drayage vehicles if the daily driving distance is within the range of a specific vehicle design and battery usage can be maximized. CNG vehicles also work well and can provide the range needed for the full spectrum of drayage operations with reduced emissions and possible fuel cost savings for the full spectrum of routes.

The results from this study were primarily intended to show the relationship between vocational duty cycles and technology performance. A follow-on more detailed “total cost of ownership” analysis, referred to as the Commercial Zero Emission Vehicle (ComZEV) Roadmap, is currently being conducted by NREL and Ricardo Engineering to fully understand economic drivers associated with each technology option, leveraging the data and results from the FleetDNA Study. SCAQMD and the Southern California Gas Company are cosponsoring ComZEV.



**Table 5: Projects Completed between January 1 & December 31, 2017**

<b>Contract</b>	<b>Contractor</b>	<b>Project Title</b>	<b>Date</b>
<b>Hydrogen and Mobile Fuel Cell Technologies and Infrastructure</b>			
10482	California State University Los Angeles	Install and Demonstrate a PEM Electrolyzer in Los Angeles, Providing Hydrogen Fueling for Vehicles and Utilizing the Technology in the Engineering Technology Curriculum at the University	Oct-2017
13155†	Fletcher Jones Motor Cars Inc.	Lease Two F-Cell Fuel Cell Vehicles for Two Years	Feb-2017
14139†	Hyundai America Technical Center Inc.	No-Cost Lease of Fuel Cell Vehicle	Dec-2017
16039	Lawrence Livermore National Laboratory	Demonstrate Prototype Hydrogen Sensor and Electronics Package	Apr-2017
18118	Frontier Energy, Inc. (formerly BKi)	Participate in California Fuel Cell Partnership for CY 2017 and Provide Support for Regional Coordinator	Dec-2017
<b>Engine Systems/Technologies</b>			
15626	Cummins Westport, Inc.	Develop, Integrate and Demonstrate Ultra-Low Emission Natural Gas Engines for On-Road Heavy-Duty Vehicles	Jul-2017
<b>Electric/Hybrid Technologies and Infrastructure</b>			
12028	Electric Vehicle International, Inc.	Demonstrate and Replace UPS Delivery Trucks with Zero Emission Medium-Duty Trucks	Sep-2017
13396	Transportation Power, Inc.	Develop and Demonstrate Seven Class 8 Zero Emission Electric Trucks	Sep-2017
14156†	Galpin Motors Inc. (Galpin Ford)	Lease Two Fusion Energi and One C-Max Energi PHEVs for a Three-Year Period	Jan-2017
14224	Complete Coach Works	Develop and Demonstrate Long Range All-Electric Transit Bus	Feb-2017
14323†	Selman Chevrolet Company	Lease Two 2014 Chevrolet Volt Extended-Range Electric Vehicles for Three Years	Mar-2017
15448†	University of California Los Angeles	Site Selection for DC Fast Charge Network	Apr-2017
<b>Fueling Infrastructure and Deployment (NG/RNG)</b>			
07246	USA Waste of California, Inc.	Purchase and Install New LNG Storage Tank at Long Beach LNG Refueling Station	Jun-2017
08098	Redlands Unified School District	Purchase and Install New CNG Fueling Station	Apr-2017
12135	Placentia-Yorba Linda Unified School District	Upgrade CNG Fueling Station	Nov-2017
14311	Southern California Gas Company	Construct CNG Fueling Station in Murrieta	Dec-2017



**Table 5: Projects Completed between January 1 & December 31, 2017 (cont'd)**

<b>Contract</b>	<b>Contractor</b>	<b>Project Title</b>	<b>Date</b>
<b>Fuels/Emissions Studies</b>			
10722	University of California Riverside/CE-CERT	Re-Establish Testing Facility and Quantify PM Emission Reductions from Charbroiling Operations	Sep-2017
14162	National Renewable Energy Laboratory	Utilize Fleet DNA Approach and Capabilities to Provide Vehicle Vocational Analysis within SCAQMD	Jun-2017
15623	University of California Riverside/CE-CERT	Evaluate Ozone and SOA Formation from Gasoline and Diesel Compounds	Mar-2017
16198	Gladstein, Neandross & Associates LLC	Study Opportunities and Benefits of Deploying Next Generation Heavy-Duty Natural Gas Vehicles Operating on Renewable Natural Gas	Jan-2017
16254	University of California Berkeley	Evaluate Ozone and Secondary Aerosol Formation from Diesel Fuels	Dec-2017
<b>Stationary Clean Fuel Technologies</b>			
13408	University of California Irvine	Demonstrate Building Integration of Electric Vehicles, Photovoltaics and Stationary Fuel Cells	Sep-2017
<b>Health Impacts Studies</b>			
14171	Southern California Research Center/Allergy & Asthma Associates of Southern California	Study Air Pollution Health Effects on In-Utero Exposure to Traffic-Related Pollutants	May-2017
<b>Technology Assessment and Transfer/</b>			
05128†	Mid-Atlantic Research Institute LLC	Technical Assistance for Development, Outreach and Commercialization of Advanced Heavy-Duty and Off-Road Technologies	Mar-2017
13194†	Clean Fuel Connection Inc.	Technical Assistance with Alternative Fuels, Renewable Energy and Electric Vehicles	Mar-2017
15369†	Breakthrough Technologies Institute, Inc.	Technical Assistance with Low and Zero Emission Vehicles, Fuel Cells, Stationary Applications and Emissions Analyses	Dec-2017
15507†	Jerald A. Cole	Technical Assistance with Alternative Fuels, Emissions Analysis and Combustion Technologies	Jan-2017
15610	Goss Engineering, Inc.	Conduct Engineering Services at SCAQMD Headquarters	Dec-2017
17076†	Gladstein, Neandross & Associates, Inc.	Cosponsor Rethink Methane 2017	Apr-2017
17174†	Coordinating Research Council, Inc.	Cosponsor 27 <sup>th</sup> Real-World Emissions Workshop	May-2017
17175†	Coordinating Research Council, Inc.	Cosponsor 2017 Mobile Source Air Toxics Workshop	Apr-2017



**Table 5: Projects Completed between January 1 & December 31, 2017(cont'd)**

<b>Contract</b>	<b>Contractor</b>	<b>Project Title</b>	<b>Date</b>
<b>Technology Assessment and Transfer/Outreach (cont'd)</b>			
17275†	University of California Irvine	Cosponsor ICEPAG 2017	Sep-2017
17314†	University of California Irvine	Cosponsor the 2017 Portable Emissions Measurement Systems (PEMS) Conference & Workshop	Mar-2017
17324†	Whittier Uptown Association	Cosponsor Whittier Earth Day 2017	Oct-2017
17334†	Fourth Wall Events Inc.	Cosponsor the Emerging Technologies Summit	Apr-2017
17346†	Gladstein, Neandross & Associates LLC	Cosponsor the ACT Expo 2017	Jun-2017
17369†	FuturePorts	Cosponsor FuturePorts Annual Conference 2017	Jul-2017
17370†	Sustain OC	Cosponsor the 2017 Advanced Transportation Symposium & Expo	Aug-2017
17401†	University of California Davis-Institute of Transportation Studies	Cosponsor The Asilomar 2017 Conference on Transportation & Energy Policy	Oct-2017
18003†	Southern California Chinese American Environmental Protection Association	Cosponsor 2017 Los Angeles Environmental Forum	Sep-2017
18030†	Platia Productions	Cosponsor the 2017 Santa Monica AltCar Expo & Conference	Nov-2017
18039†	Three Squares Inc.	Cosponsor the 2017 Women in Green Forum	Nov-2017
18092†	California Electric Transportation Coalition	Cosponsor the CalETC 2017 Los Angeles Auto Show Events	Dec-2017

†Two-page summary reports (as provided in Appendix C) are not required for level-of-effort technical assistance contracts, leases or cosponsorships; or it was unavailable at time of printing this report.



## CLEAN FUELS PROGRAM 2018 Plan Update

As noted earlier, this year marks the 30<sup>th</sup> year of the SCAQMD's Clean Fuels Program, along with establishment of the Technology Advancement Office (TAO) to oversee the Program, as a result of state legislation in 1988. The funding source is a \$1 motor vehicle registration surcharge that, like the Program, was originally approved for a limited five-year period, but legislation eventually extended both the Program and surcharge indefinitely. The Clean Fuels Program has evolved over the years but has continued to fund a broad array of technology applications spanning near- and long-term implementation. More recently, the focus has been and will continue to be to support the development and deployment of zero and near-zero emission technologies. Similarly, planning has been and will remain an ongoing activity for the Program, which must remain flexible to address evolving technologies as well as the latest progress in the state-of-technologies, new research areas and data.

Every year the SCAQMD re-evaluates the Clean Fuels Program to develop a Plan Update based on a reassessment of the technology progress and direction of the SCAQMD's Board. This Plan Update for CY 2018 targets several near-term projects to help achieve emissions reductions needed for the South Coast to meet health-based air quality standards.

### Overall Strategy

The overall strategy of the TAO's Clean Fuels Program is based, in large part, on emission reduction technology needs identified through the AQMP process and the SCAQMD Board's directives to protect the health of the approximately 17 million residents (nearly half the population of California) in the South Coast Basin. The AQMP, which is updated approximately every four years, is the long-term regional "blueprint" that relies on fair-share emission reductions from all jurisdictional levels (e.g., federal, state and local). The 2016 AQMP, which was adopted by the SCAQMD Governing Board in March 2017, is composed of stationary and mobile source emission reductions from traditional regulatory control measures, incentive-based programs, projected co-benefits from climate change programs, mobile source strategies and reductions from federally regulated sources (e.g., aircraft, locomotives and ocean-going vessels).

The emission reductions and control measures in the 2016 AQMP rely on commercial adoption of a mix of currently available technologies as well as the expedited development and commercialization of lower-emitting mobile and stationary advanced technologies in the Basin to achieve air quality standards.

The 2016 AQMP projects that an approximate 45 percent reduction in NO<sub>x</sub> is required by 2023 and an additional 55 percent reduction by 2031. The majority of these NO<sub>x</sub> reductions must come from mobile sources, both on- and off-road. Notably, the SCAQMD is currently only one of two regions in the nation designated as an extreme ozone nonattainment area (the other is San Joaquin Valley). Ground level ozone (a key component of smog) is created by a chemical reaction between NO<sub>x</sub> and volatile organic compound (VOC) emissions in sunlight. This is especially noteworthy because in the South Coast Air Basin the primary driver for ozone formation is NO<sub>x</sub> emissions, and mobile sources contribute approximately 88 percent of the NO<sub>x</sub> emissions in this region. Furthermore, NO<sub>x</sub> emissions, along with VOC emissions, also lead to the

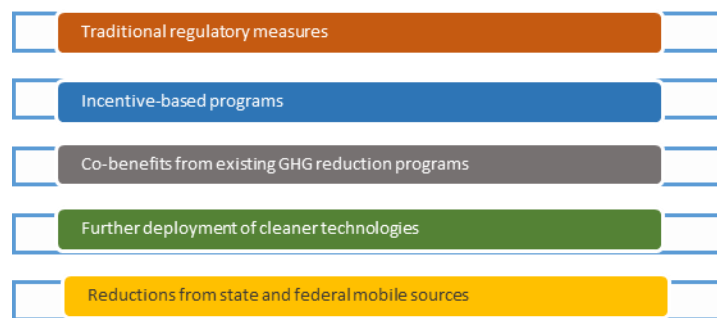


Figure 46: 2016 AQMP Components



formation of PM<sub>2.5</sub> [particulate matter measuring 2.5 microns or less in size, expressed as micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )].

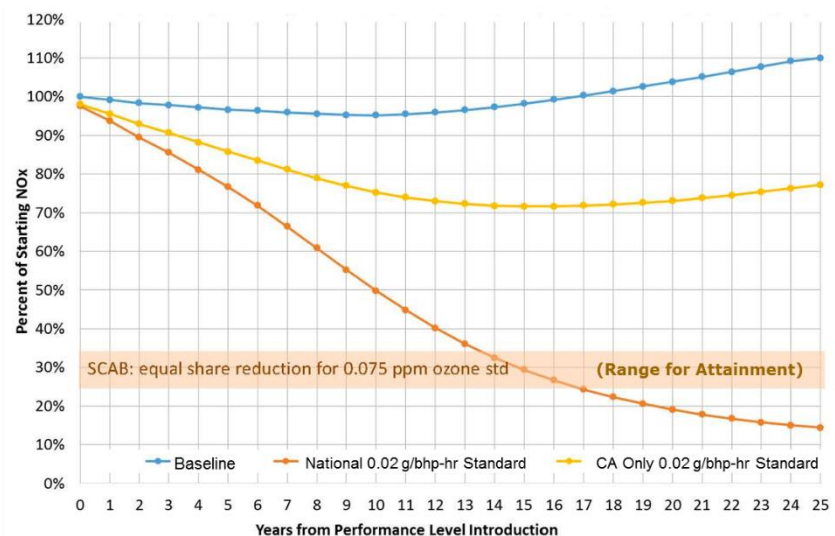
The 2016 AQMP includes integrated strategies and measures to demonstrate attainment of the following National Ambient Air Quality Standards (NAAQS):

- 8-hour Ozone (75 parts per billion or ppb) by 2031
- Annual PM<sub>2.5</sub> ( $12 \mu\text{g}/\text{m}^3$ ) by 2025
- 24-hour PM<sub>2.5</sub> ( $35 \mu\text{g}/\text{m}^3$ ) by 2019
- 8-hour Ozone (80 ppb) by 2023 (updated from the 2012 AQMP)
- 1-hour Ozone (120 ppb) by 2022 (updated from the 2012 AQMP)

On a positive note, the 2016 AQMP for the first time envisions Southern California achieving attainment through regulations and identifies the clean technologies to be deployed that were formerly undefined as “blackbox” measures. This is due, in part, because the needed zero and near-zero technologies are being commercialized or nearing commercialization, albeit with deployment pathways that still require more specificity and scalability. Also, additional NO<sub>x</sub> and VOC emission reduction co-benefits are expected from carbon dioxide (CO<sub>2</sub>) reductions resulting from California’s climate change policies, together with funding to incentivize the deployment of these cleaner technologies. There are significant challenges to getting there, however, including the need for the U.S. EPA and CARB to lower the heavy-duty engine exhaust NO<sub>x</sub> standard from 0.2 grams per brake horsepower-hour (g/bhp-hr) to an already commercially achievable (by natural gas powered engines) 0.02 g/bhp-hr. Finally, financial resources will need to be identified that could be utilized to offset the higher procurement costs of these emerging clean technologies.

In June 2016, SCAQMD and 10 co-petitioners requested the U.S. EPA Administrator to undertake rulemaking to revise the national on-road heavy-duty engine exhaust NO<sub>x</sub> emission standard from 0.2 g/bhp-hr to 0.02 g/bhp-hr. It was recommended that the regulation be implemented by January 2022 or if not feasible, by January 2024, with a phase-in starting in January 1, 2022. A national standard (as opposed to only a California standard) is estimated to result in NO<sub>x</sub> emission reductions from this source category from 70 to 90 percent in 14 to 25 years, respectively. Given that the Basin must attain the 75 ppb ozone NAAQS by 2031 (within the next 13 years), a new on-road heavy-duty engine exhaust emissions standard for NO<sub>x</sub> is critical given the time needed for such standards to be adopted, for manufacturers to develop and produce compliant vehicles, and for national fleet turnover to occur.

This chart here shows the difference in NO<sub>x</sub> reductions from heavy-duty trucks between baseline (no new



Source: Presentation by Mr. Cory Palmer, ARB at the Symposium on California's Development of its Phase 2 Greenhouse Gas Reduction Standards for On-Road Heavy-Duty Vehicles (April 23, 2015)

**Figure 47: NO<sub>x</sub> Reduction Comparison: No New Regulations vs Low NO<sub>x</sub> Standard in California only vs National Standard**



regulations) emissions (in blue), a low NO<sub>x</sub> standard adopted only in California (yellow) and reductions if the same low NO<sub>x</sub> standard is implemented nationally (orange).

The findings from the MATES IV<sup>7</sup> (released May 2015), which included local scale studies near large sources such as ports and freeways, reinforce the importance of these impacts and the need for transformative transportation technologies, especially near the goods movement corridor. In recognition of these impacts, the SCAQMD added as a key element to its strategy a concerted effort to develop and demonstrate zero and near-zero emissions' goods movement technologies, including electric trucks, plug-in hybrid trucks with all-electric range, zero emission container transport technologies, trucks operating from wayside power including catenary technology. In 2017, as noted earlier in this report, SCAQMD initiated MATES V to update the emissions inventory of toxic air contaminants and modeling to characterize risks, including measurements and analysis of ultrafine particle concentrations typically emitted or converted from vehicle exhaust. CARB is also in the processing of updating its EMFAC model, which assesses emissions from on-road vehicles including cars, trucks and buses.

A key strategy of the Clean Fuels Program is its public-private partnership with private industry, technology developers, academic institutions, research institutions and government agencies. This public-private partnership has allowed the Program to leverage its funding with \$3-\$4 of spending on R&D projects to every \$1 of SCAQMD funds. The SCAQMD aggressively seeks leverage funds to accomplish more with every dollar and will continue to do so.

CY 2018 marks another hallmark in TAO – the 20<sup>th</sup> year of the Carl Moyer Program. The Carl Moyer Program provides the necessary incentives to push market penetration of the technologies developed and demonstrated by the Clean Fuels Program. Together these two synergistic programs allow the SCAQMD to be a leader in technology development and commercialization to accelerate the reduction of criteria pollutants.

As the state government continues to turn much of their attention to climate change (CO<sub>2</sub> reductions), the SCAQMD remains committed to developing, demonstrating and commercializing zero and near-zero emission technologies and renewable fuels. Fortunately many of the technologies that address the South Coast Basin's needed NO<sub>x</sub> reductions also enable GHG reductions. Because of these “co-benefits,” the SCAQMD has successfully partnered with the state and federally funded projects that promise emission reductions.

## **Program and Funding Scope**

This 2018 Plan Update includes projects to develop, demonstrate and commercialize a variety of technologies, from near-term to long-term, that are intended to address the increasing challenges this region is facing to meet air quality standards, including:

- 1) implementation of new and changing federal requirements, such as the federal 8-hour ozone standard of 70 ppb promulgated by U.S. EPA in late 2015;
- 2) implementation of new technology measures by including accelerated development of technologies getting ready for commercialization and deploying ready technologies; and
- 3) continued development of cost-effective approaches.

The overall scope of projects in the 2018 Plan Update also needs to remain sufficiently flexible to address new challenges and measures that are identified in the 2016 AQMP, consider dynamically

---

<sup>7</sup> <http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7>



evolving technologies, and take into account new research and data. The latter, for example, might include initial findings from MATES V and models generated using EMFAC 2017.

The Clean Air Act, in addition to providing for specific control measures based on known technologies and control methods, has provisions for more general measures based on future, yet-to-be-developed technologies. These “black box” measures are identified under Section 182(e)(5) of the Clean Air Act for regions that are extreme non-attainment areas, such as the South Coast Basin. In the past, some of the technologies that have been developed and demonstrated in the Clean Fuels Program may have served as guidance for the “black box.” However, as noted above, the 2016 AQMP calls for elimination on the reliance of these “black box” (future technologies) to the maximum extent possible.

Within the core technology areas defined later in this section, project objectives range from near-term to long-term. However, the SCAQMD Clean Fuels Program concentrates on supporting development, demonstration and technology commercialization and deployment efforts rather than fundamental research. The nature and typical time-to-product for the Program’s projects is described below, from near-term to longer-term.

- *Deployment* or technology commercialization efforts focus on increasing the utilization of clean technologies in conventional applications, promising immediate and growing emissions reduction benefits. It is often difficult to transition users to a non-traditional technology or fuel due to higher costs or required changes to user behaviors, even if such a technology or fuel offers significant societal benefits. As a result, in addition to government’s role to reduce risk by funding technology development and testing, one of government’s roles is to support and offset any incremental cost through incentives to help accelerate the transition and use of the cleaner technology. The increased use and proliferation of these cleaner technologies often depends on this initial support and funding as well as efforts intended to increase confidence of stakeholders that these technologies are real, cost-effective in the long term and will remain applicable.
- Technologies ready to begin field *demonstration* in 2018, are expected to result in a commercial product in the 2021-2023 timeframe, and technologies being field demonstrated generally are in the process of being certified. The field demonstrations provide a controlled environment for manufacturers to gain real-world experience and address any end-user issues that may arise prior to the commercial introduction of the technology. Field demonstrations provide real-world evidence of a technology’s performance to help allay any concerns by potential early adopters.
- Finally, successful technology *development* projects are expected to begin during 2018 with durations of at least two or more years. Additionally, field demonstrations to gain longer-term verification of performance may also be needed prior to commercialization. Certification and ultimate commercialization would be expected to follow. Thus, development projects identified in this plan may result in technologies ready for commercial introduction as soon as 2022-2024. Projects are also proposed that may involve the development of emerging technologies that are considered longer term and, perhaps higher risk, but with significant emission reduction potential. Commercial introduction of such long-term technologies would not be expected until 2025 or later.

## Core Technologies

The following technologies have been identified as having the largest potential and best prospects to enable the emission reductions need to achieve NAAQS and thus form the core of the Program.

Not all project categories will be funded in 2018 due to funding limitations, and focus will remain on control measures identified in the 2016 AQMP, with consideration for availability of suitable projects. The technical areas identified below are appropriate within the context of the current air quality



challenges and opportunities for technology advancement. Within these areas there is significant opportunity for SCAQMD to leverage its funds with other funding agencies to expedite the implementation of cleaner alternative technologies in the Basin. A concerted effort is continually made to form private partnerships to leverage Clean Fuels funds. For example, in January 2016, the SCAQMD was awarded \$23.5 million from CARB's Low Carbon Transportation Greenhouse Gas Emission Reduction Fund for heavy-duty truck projects. In 2018, SCAQMD hopes to participate in a CARB-funded zero and near-zero emissions freight facilities project using FY 2017-18 monies their Board has dedicated to clean transportation incentives.

Several of the core technologies discussed below are synergistic. For example, a heavy-duty vehicle such as a transit bus or drayage truck, may utilize a hybrid electric drive train with a fuel cell operating on hydrogen fuel or an internal combustion engine operating on an alternative fuel as a range extender. The core hybrid electric technologies overlap with each other.

Priorities may shift during the year in keeping with the diverse and flexible "technology portfolio" approach. Priorities may also shift to address specific technology issues which affect residents within the SCAQMD's jurisdiction. Changes in priority may also occur to leverage opportunities such as cost-sharing by the state government, the federal government or other entities.

The following nine core technology areas are listed by current SCAQMD priorities based on the goals for 2018.

### ***Hydrogen & Fuel Cell Technologies & Infrastructure***

The SCAQMD supports hydrogen infrastructure and fuel cell technologies as one option in our technology portfolio and is dedicated to assisting federal and state government programs to deploy light-duty fuel cell vehicles (FCVs) by supporting the required refueling infrastructure.

Calendar Years 2015-2018 have been a critical timeframe for the introduction of hydrogen fueling infrastructure. In 2014, Hyundai introduced the Tucson FCV for lease; in 2015, Toyota commercialized the first FCV available to consumers for purchase; and in December 2016, Honda started delivering its 2017 Honda Clarity Fuel Cell. Other OEMs have similarly disclosed plans to introduce FCVs in 2018 and beyond. Since hydrogen refueling stations need 18-36 month lead times for permitting, construction and commissioning, plans for stations need to be implemented now. While coordination efforts with the California Division of Measurement Standards (DMS) to establish standardized measurements for hydrogen fueling started in 2014, additional efforts to offer hydrogen for sale in higher volumes to general consumers are still needed. In addition, SCAQMD continues to review the market to understand new business models and new sources of funding besides grants for construction necessary to enable the station operations to remain solvent during the early years until vehicle numbers ramp up. Lastly, a deliberate and coordinated effort is necessary to ensure that the retail hydrogen stations are developed with design flexibility to address specific location limitations, and with refueling reliability matching those of existing gasoline and diesel fueling stations.

Fuel cells can also play a role in medium- and heavy-duty applications where battery capacity is insufficient to meet range requirements. The California Fuel Cell Partnership's (CaFCP) Medium- and Heavy-Duty Fuel Cell Electric Truck Action Plan completed in October 2016 focuses on Class 4 parcel delivery trucks and Class 8 drayage trucks with infrastructure development and establishes metrics for measuring progress. Toyota Motors has also displayed a Class 8 fuel cell truck with planned demonstrations at Port of Long Beach.

The 2018 Plan Update identifies key opportunities while clearly leading the way for pre-commercial demonstrations of OEM vehicles. Future projects may include the following:



- continued development and demonstration of distributed hydrogen production and fueling stations, including energy stations with electricity and hydrogen co-production and higher pressure (10,000 psi) hydrogen dispensing and scalable/higher throughput;
- development and demonstration of cross-cutting fuel cell applications (e.g. plug-in hybrid fuel cell vehicles);
- development and demonstration of fuel cells in off-road, locomotive and marine applications;
- demonstration of fuel cell vehicles in controlled fleet applications in the Basin;
- development and implementation of strategies with government and industry to build participation in the hydrogen market including certification and testing of hydrogen as a commercial fuel to create a business case for investing as well as critical assessments of market risks to guide and protect this investment; and
- coordination with fuel cell vehicle OEMs to develop an understanding of their progress in overcoming the barriers to economically competitive fuel cell vehicles and develop realistic scenarios for their large scale introduction.

### ***Engine Systems***

Natural gas engines are experiencing market growth due to the low cost of fuel. In order to achieve the emission reductions required for the South Coast Air Basin, the internal combustion engines (ICEs) used in the heavy-duty sector will require emissions that are 90% lower than the 2010 standards. In 2016, commercialization of the Cummins 8.9L natural gas engine achieving 90% below the existing federal standard was a game changer. The 8.9L engine works well in refuse and other vocational trucks as well as transit and school buses. In 2017, Cummins Westport Inc. with SCAQMD and other project partners achieved certification of the 12-liter natural gas engine. The 11.9L engine in Class 8 drayage trucks and 60-foot articulated transit buses is a further game changer. CARB and U.S. EPA certified both engines at 0.02 g/ bhp-hr for NOx. The Plan Update continues to incorporate pursuit of cleaner engines for the heavy-duty sector. Future projects will support the development, demonstration and certification of engines that can achieve these massive emission reductions using an optimized systems approach. Specifically, these projects are expected to target the following:

- development of ultra-low emission, natural gas engines for heavy-duty vehicles and high horsepower applications;
- continued development and demonstration of gaseous- and liquid-fueled, advanced fuels or alternative fuel medium-duty and heavy-duty engines and vehicles;
- development and demonstration of alternative fuel engines for off-road applications;
- evaluation of alternative engine systems such as hydraulic plug-in hybrid vehicles;
- development and demonstration of engine systems that employ advanced engine design features, waste heat recovery, improved exhaust or recirculation systems, and aftertreatment devices; and
- development of cold start technologies for hybrids and diesels where high level emissions occur

The National Highway Traffic Safety Administration's finalized standards to improve fuel efficiency of medium- and heavy-duty vehicles for model year 2018 and beyond should spur further interest by manufacturers to partner on engine system development. The EPA's recent initiation to create a rule for a national low NOx standard for all on highway heavy duty engines will require all manufacturers to participate by 2024.

### ***Electric/Hybrid Technologies & Infrastructure***

If the region expects to meet the federal standards for PM2.5 and ozone, a primary focus must be on zero and near-zero emission technologies. A key strategy to achieve these goals is the electrification of transportation technologies on a wide and large scale. With that in mind, the SCAQMD supports projects to address the main concerns regarding cost, battery lifetime, travel range, charging station infrastructure and original equipment manufacturer (OEM) commitment. Integrated transportation



systems can encourage further reduction of emissions by matching the features of electric vehicles (zero emissions, zero start-up emissions, all electric range) to typical consumer demands for mobility by linking them to transit. Additionally, the impact of fast charging on battery life and infrastructure costs needs to be better understood. This is especially important today when every month roughly 10,000 new plug-in vehicles are sold or leased in the U.S., and this number may increase significantly with the introduction of vehicles with anticipated 200+ mile ranges, such as the Chevy Bolt for which U.S. sales launched in December 2016 and the more affordable Tesla Model 3 which came out in 2017.

The development and deployment of zero emission goods movement systems remains one of the top priorities for the SCAQMD to support a balanced and sustainable growth in the port complex. The SCAQMD continues to work with our regional partners, in particular the Ports of Los Angeles and Long Beach, the Southern California Association of Governments (SCAG) and Los Angeles County Metropolitan Transportation Authority (LACMTA) to identify technologies that could be beneficial to and garner support from all stakeholders. Specific technologies include zero emission trucks (using batteries and/or fuel cells), near-zero emission trucks with all-electric range using wayside power (catenary or roadbed electrification) or with plug-in hybrid powertrains, locomotives with near-zero emissions (e.g., 90% below Tier 4), electric locomotives using battery tender cars and catenary, and linear synchronous motors for locomotives and trucks. Additionally, the California Sustainable Freight Action Plan outlines a blueprint to transition the state's freight system to an environmentally cleaner, more efficient and more economical one than it is today, including a call for a zero and near-zero emissions vehicle pilot project in Southern California. The Port of Los Angeles's Sustainable City Plan corroborates this effort, setting a goal of 15 percent of zero emission goods movement trips by 2025 and 35 percent by 2035. More recently, the Clean Air Action Plan 2017 Update adopted by Ports of Los Angeles and Long Beach call for zero emission cargo handling equipment by 2030 and zero emission drayage trucks by 2035. Cummins and Tesla have announced plans to demonstrate zero emission heavy-duty trucks, with future commercial plans for heavy-duty vehicle electrification.

There are now over 11 light-duty PHEVs certified to California's cleanest ATPZEV or TZEV standard and 16 pure battery electric vehicles (BEVs) commercially available in California. All of these vehicles offer the benefits of higher fuel economy and range, as well as lower emissions. Continued advancements in the light-duty arena may have applications for medium- and heavy-duty vehicles.

Opportunities to develop and demonstrate technologies that could enable expedited widespread use of electric and hybrid-electric vehicles in the Basin include the following:

- demonstration of electric and hybrid technologies for cargo container transport operations, e.g., heavy-duty battery electric or plug-in electric drayage trucks with all electric range;
- demonstration of medium-duty electric and hybrid electric vehicles in package delivery operations, e.g., electric walk-in vans with fuel cell or CNG range extender ;
- development and demonstration of CNG hybrid vehicle technology;
- demonstration of niche application battery electric vehicles, including school and transit buses and refuse trucks with short-distance fixed service routes;
- demonstration of integrated programs that make best use of electric drive vehicles through interconnectivity between fleets of electric vehicles and mass transit, and web-based reservation systems that allow multiple users;
- development of eco-friendly intelligent transportation system (ITS) strategies, optimized load-balancing strategies for cargo freight and market analysis for zero emission heavy-duty trucks;
- demonstration and installation of EV infrastructure to support the electric and hybrid-electric vehicle fleets currently on the roads or soon entering the market, and to reduce cost, improve convenience and integrate with renewable energy and building demand management strategies (e.g., vehicle-to-grid or vehicle-to-building functionality);
- repurpose of EV batteries for other or second third energy storage uses, as well as reusing battery packs and approaches to recycle lithium, cobalt and other metals; and



- development of a methodology to increase understanding of the capability to accept fast-charging and the resultant life cycle and demonstration of the effects of fast-charging on battery life and vehicle performance.

### ***Fueling Infrastructure and Deployment (NG/RNG)***

The importance of natural gas, renewable natural gas (RNG) and related refueling infrastructure cannot be overemphasized for the realization of large deployment of alternative fuel technologies. Significant demonstration and commercialization efforts funded by the Clean Fuels Program as well as other local, state and federal agencies are underway to: 1) support the upgrade and buildup of public and private infrastructure projects, 2) expand the network of public-access and fleet fueling stations based on the population of existing and anticipated vehicles, and 3) put in place infrastructure that will ultimately be needed to accommodate transportation fuels with very low gaseous emissions.

Compressed and liquefied natural gas (CNG and LNG) refueling stations are being positioned to support both public and private fleet applications. Upgrades and expansions are also needed to refurbish or increase capacity for some of the stations installed five or more years ago as well as standardize fueling station design, especially to ensure growth of alternative fuels throughout the South Coast Air Basin and beyond. There is also growing interest for partial or complete transition to renewable natural gas delivered through existing natural gas pipelines. Funding has been provided at key refueling points for light-, medium- and heavy-duty natural gas vehicle users traveling from the local ports, along I-15 and The Greater Interstate Clean Transportation Corridor (ICTC) Network. SB 350 (De León) further establishes a target to double the energy efficiency in electricity and natural gas end uses by 2030.

Active participation in the development of National Fire Protection Association (NFPA) fire and safety codes and standards, evaluation of the cost and economics of the new fuels, public education and training and emergency response capability are just a few areas of the funded efforts that have helped overcome public resistance to these new technologies. Some of the projects expected to be developed and cofunded for infrastructure development are:

- development and demonstration of renewable natural gas as a vehicle fuel from renewable feedstocks and biowaste;
- development and demonstration of advanced, cost effective methods for manufacturing synthesis gas for conversion to renewable natural gas;
- enhancement of safety and emissions reductions from natural gas refueling equipment;
- expansion of fuel infrastructure, fueling stations, and equipment; and
- expansion of infrastructure connected with existing fleets, public transit, and transportation corridors, including demonstration and deployment of closed loop systems for dispensing and storage.

### ***Health Impacts, Fuel and Emissions Studies***

The monitoring of pollutants in the Basin is extremely important, especially when linked to (1) a particular sector of the emissions inventory (to identify the responsible source or technology) and/or (2) exposure to pollution (to assess the potential health risks). In fact, studies indicate that smoggy areas can produce irreversible damage to children's lungs. This information highlights the need for further emissions and health studies to identify the emissions from high polluting sectors as well as the health effects resulting from these technologies.

Over the past few years, the SCAQMD has funded emission studies to evaluate the impact of tailpipe emissions of biodiesel and ethanol fueled vehicles mainly focusing on criteria pollutants and greenhouse gas (GHG) emissions. These studies showed that biofuels, especially biodiesel in some applications and duty cycles, can contribute to higher NO<sub>x</sub> emissions while reducing other criteria pollutant emissions. Furthermore, despite recent advancements in toxicological research related to air



pollution, the relationship between particle chemical composition and health effects is still not completely understood, especially for biofuels. Therefore, a couple of years ago the SCAQMD funded studies to investigate the physical and chemical composition and toxicological potential of tailpipe PM emissions from biodiesel and ethanol fueled vehicles to better understand their impact on public health. Studies continued in 2015 to further investigate the toxicological potential of emissions, such as ultrafine particles and vapor phase substances, and to determine whether or not other substances such as volatile or semi-volatile organic compounds are being emitted in lower mass emissions that could pose harmful health effects. In addition, as the market share for gasoline direct injection (GDI) vehicles has rapidly increased from 4% of all vehicle sales in the U.S. in 2009 to 38% in 2014, with an expectation to top 60% by 2016, it is important to understand the impact on air quality from these vehicles. As such, SCAQMD has funded studies to investigate both physical and chemical composition of tailpipe emissions, focusing on PM from GDI vehicles as well as secondary organic aerosol formation formed by the reaction of gaseous and particulate emissions from natural gas and diesel heavy-duty vehicles. In 2017, SCAQMD initiated an in-use real-world emissions study, including fuel usage profile characterization as well as an assessment of the impact of current technology and alternative fuels on fuel consumption.

In recent years, there has also been an increased interest both at the state and national level on the use of alternative fuels including biofuels to reduce petroleum oil dependency, GHG emissions and air pollution. In order to sustain and increase biofuel utilization, it is essential to identify feedstocks that can be processed in a more efficient, cost-effective and sustainable manner.

Some areas of focus include:

- demonstration of remote sensing technologies to target different high emission applications and sources;
- studies to identify the health risks associated with ultrafine and ambient particulate matter including their composition to characterize their toxicity and determine specific combustion sources;
- in-use emission studies using biofuels, including renewable diesel, to evaluate in-use emission composition;
- in-use emission studies to determine the impact of new technologies, in particular PEVs on local air quality as well as the benefit of telematics on emissions reduction strategies;
- lifecycle energy and emissions analyses to evaluate conventional and alternative fuels; and
- analysis of fleet composition and its associated impacts on criteria pollutants.

### ***Stationary Clean Fuel Technologies***

Although stationary source emissions are small compared to mobile sources in the South Coast Air Basin, there are applications where cleaner fuel technology can be applied to reduce NO<sub>x</sub>, VOC and PM emissions. For example, a recent demonstration project funded in part by the SCAQMD at a local sanitation district consisted of retrofitting an existing biogas engine with a digester gas cleanup system and catalytic exhaust emission control. The retrofit system resulted in significant reductions in NO<sub>x</sub>, VOC and CO emissions. This project demonstrated that cleaner, more robust renewable distributed generation technologies exist that could be applied to not only improve air quality, but enhance power quality and reduce electricity distribution congestion.



Additionally, alternative energy storage could be achieved through vehicle-to-grid or vehicle-to-building technologies, as well as Power-to-Gas that could allow potentially stranded renewable electricity stored as hydrogen fuel. The University of California (U.C.) Riverside's Sustainable Integrated Grid Initiative and U.C. Irvine's Advanced Energy and Power Program, funded in part by the SCAQMD, for example could assist in the evaluation of these technologies.

Projects conducted under this category may include:

- development and demonstration of reliable, low emission stationary technologies (e.g., low NOx burners, fuel cells or microturbines);
- exploration of renewables as a source for cleaner stationary technologies;
- evaluation, development and demonstration of advanced control technologies for stationary sources; and
- vehicle-to-grid or vehicle-to-building, or other stationary energy demonstration projects to develop sustainable, low emission energy storage alternatives.

### ***Emission Control Technologies***

Although engine technology and engine systems research is required to reduce the emissions at the combustion source, dual fuel technologies and post-combustion cleanup methods are also needed to address the current installed base of on-road and off-road technologies. Existing diesel emissions can be greatly reduced with introduction of natural gas into the engine or via aftertreatment controls such as PM traps and catalysts, as well as lowering the sulfur content or using additives with diesel fuel. Gas-to-Liquid (GTL) fuels, formed from natural gas or other hydrocarbons rather than petroleum feedstock and emulsified diesel, provide low emission fuels for use in diesel engines. As emissions from engines become lower and lower, the lubricant contributions to VOC and PM emissions become increasingly important. The most promising of these technologies will be considered for funding, specifically:

- evaluation and demonstration of new emerging liquid fuels, including alternative and renewable diesel and GTL fuels;
- development and demonstration of renewable-diesel engines and advanced aftertreatment technologies for mobile applications (including diesel particulate traps and selective catalytic reduction catalysts); and non-thermal regen technology
- development and demonstration of low-VOC and PM lubricants for diesel and natural gas engines.

### ***Technology Assessment and Transfer/Outreach***

Since the value of the Clean Fuels Program depends on the deployment and adoption of the demonstrated technologies, outreach and technology transfer efforts are essential to its success. This core area encompasses assessment of advanced technologies, including retaining outside technical assistance as needed, efforts to expedite the implementation of low emission and clean fuels technologies, coordination of these activities with other organizations and information dissemination to educate the end user. Technology transfer efforts include support for various clean fuel vehicle incentive programs as well.

## **Target Allocations to Core Technology Areas**

Figure 48 below presents the potential allocation of available funding, based on SCAQMD projected program costs of \$16.7 million for all potential projects. The expected actual project expenditures for 2018 will be less than the total SCAQMD projected program cost since not all projects will materialize. The target allocations are based on balancing technology priorities, technical challenges and opportunities discussed previously and near-term versus long-term benefits with the constraints on available SCAQMD funding. Specific contract awards throughout 2018 will be based on this proposed



allocation, the quality of proposals received and evaluation of projects against standardized criteria and ultimately SCAQMD Governing Board approval.

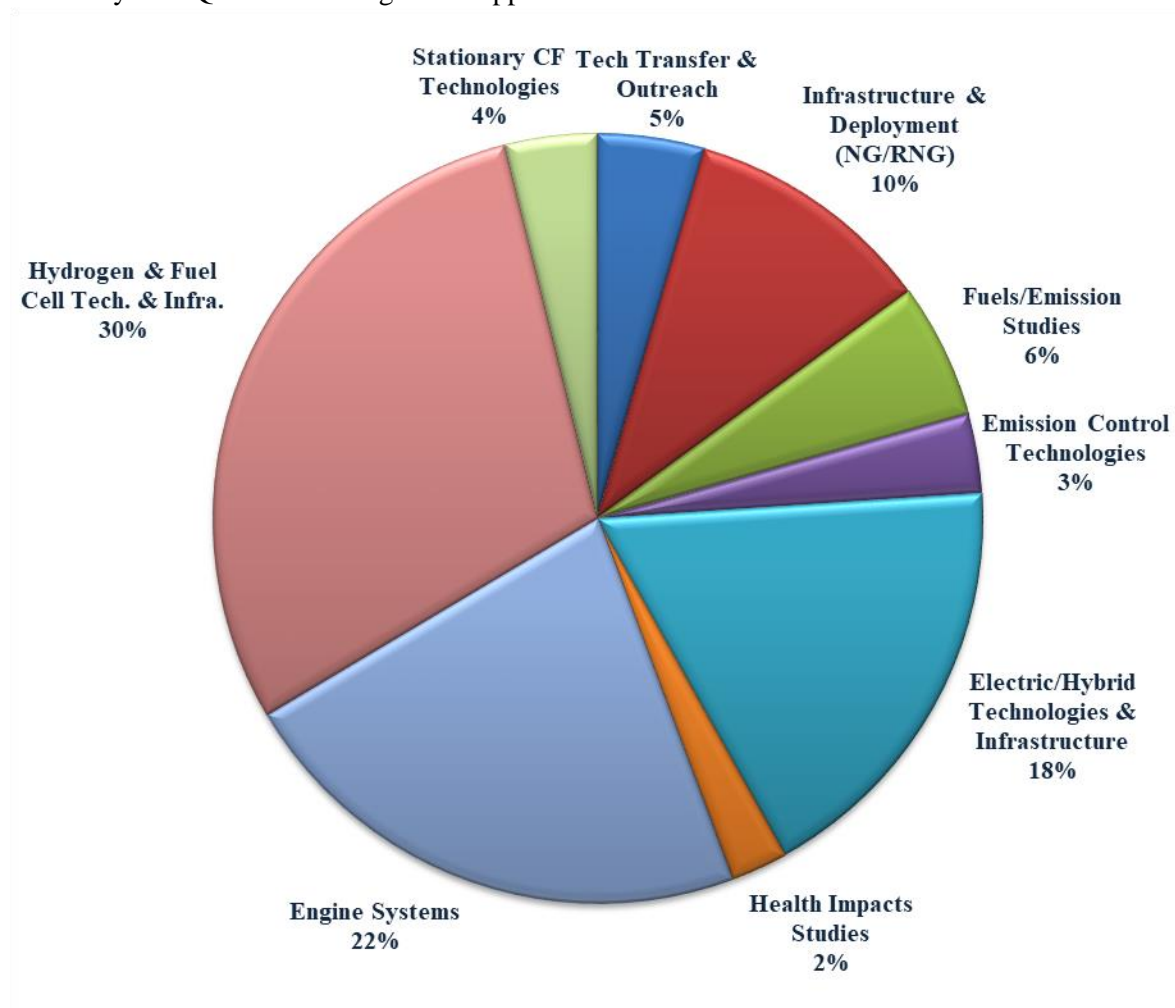


Figure 48: Projected Cost Distribution for Potential SCAQMD Projects in 2018 (\$16.7M)



**[This Page Intentionally Left Blank]**



## CLEAN FUELS PROGRAM

### Program Plan Update for 2018

This section presents the Clean Fuels Program Plan Update for 2018. The proposed projects are organized by program areas and described in further detail, consistent with the SCAQMD budget, priorities and the best available information on the state-of-the-technology. Although not required, this Plan also includes proposed projects that may be funded by revenue sources other than the Clean Fuels Program, specifically related to VOC and incentive projects.

Table 6 (page 89) summarizes potential projects for 2018 as well as the distribution of SCAQMD costs in some areas as compared to 2017. The funding allocation continues the focus on development and demonstration of zero and near-zero emission technologies including the infrastructure for such technologies. For the 2018 Draft Plan, the SCAQMD shifts some resources onto hydrogen and fuel cell technologies to incentivize large-scale hydrogen infrastructure projects at the Ports and in the Inland Empire and in light of current and projected roll out of fuel cell vehicles in 2016-2018. There is a small decrease in electric and hybrid-electric technologies in light of the large award the SCAQMD received in early January 2016 from the GGRF Program to demonstrate vehicles in this technology area. A small funding shift to Engine Systems and Fueling Infrastructure and Deployment (natural gas and renewable fuels) is also recommended for biogas production and to ensure continued development and deployment of near-zero natural gas engines and liquid-fueled high horsepower engines for long-haul trucks. The other areas will continue with similar allocations for 2018. As in prior years, the funding allocations again align well with the SCAQMD's FY 2017-18 Goals and Priority Objectives. Overall, the Program is designed to ensure a broad portfolio of technologies and leverage state and federal efforts, and maximize opportunities to leverage technologies in a synergistic manner.

Each of the proposed projects described in this Plan, once fully developed, will be presented to the SCAQMD Governing Board for approval prior to contract initiation. This development reflects the maturity of the proposed technology and identifies contractors to perform the projects, participating host sites, and securing sufficient cost-sharing needed to complete the project and other necessary factors. Recommendations to the SCAQMD Governing Board will include descriptions of the technology to be demonstrated and in what application, the proposed scope of work of the project and the capabilities of the selected contractor and project team, in addition to the expected costs and expected benefits of the projects as required by H&SC 40448.5.1.(a)(1). Based on communications with all of the organizations specified in H&SC 40448.5.1.(a)(2) and review of their programs, the projects proposed in this Plan do not appear to duplicate any past or present projects.

### Funding Summary of Potential Projects

The remainder of this section contains the following information for each of the potential projects summarized in Table 6 (page 89).

**Proposed Project:** A descriptive title and a designation for future reference.

**Expected SCAQMD Cost:** The estimated proposed SCAQMD cost share as required by H&SC 40448.5.1.(a)(1).

**Expected Total Cost:** The estimated total project cost including the SCAQMD cost share and the cost share of outside organizations expected to be required to complete the proposed project. This is an indication of how much SCAQMD public funds are leveraged through its cooperative efforts.

**Description of Technology and Application:** A brief summary of the proposed technology to be



developed and demonstrated, including the expected vehicles, equipment, fuels, or processes that could benefit.

**Potential Air Quality Benefits:** A brief discussion of the expected benefits of the proposed project, including the expected contribution towards meeting the goals of the AQMP, as required by H&SC 40448.5.1.(a)(1). In general, the most important benefits of any technology research, development and demonstration program are not necessarily realized in the near-term. Demonstration projects are generally intended to be proof-of-concept for an advanced technology in a real-world application. While emission benefits, for example, will be achieved from the demonstration, the true benefits will be seen over a longer term, as a successfully demonstrated technology is eventually commercialized and implemented on a wide scale.



**Table 6: Summary of Potential Projects for 2018**

<b>Proposed Project</b>	<b>Expected SCAQMD Cost \$</b>	<b>Expected Total Cost \$</b>
-------------------------	--------------------------------	-------------------------------

**Hydrogen and Fuel Cell Technologies and Infrastructure**

Develop and Demonstrate Operation and Maintenance Business Case Strategies for Hydrogen Stations	350,000	4,000,000
Develop and Demonstrate Hydrogen Production and Fueling Stations	2,000,000	6,000,000
Develop and Demonstrate Medium- and Heavy-Duty Fuel Cell Vehicles	2,500,000	10,000,000
Demonstrate Light-Duty Fuel Cell Vehicles	100,000	100,000
Subtotal	\$4,950,000	\$20,100,000

**Engine Systems/Technologies**

Develop and Demonstrate Advanced Gaseous- and Liquid-Fueled Medium- and Heavy-Duty Engines and Vehicle Technologies to Achieve Ultra-Low Emissions	3,000,000	5,600,000
Develop and Demonstrate Alternative Fuel and Clean Conventional Fueled Light-Duty Vehicles	200,000	1,500,000
Develop and Demonstrate Cold-Start Technologies	250,000	1,000,000
Develop and Demonstrate Waste-Heat Recovery on Heavy-Duty Diesel Engines	250,000	1,000,000
Subtotal	\$3,700,000	\$9,100,000

**Electric/Hybrid Technologies & Infrastructure**

Develop and Demonstrate Electric and Hybrid Vehicles	1,000,000	2,000,000
Develop and Demonstrate Infrastructure for Deployment of Plug-in Electric and Hybrid Electric Vehicles	500,000	3,000,000
Demonstrate Alternative Energy Storage	300,000	2,000,000
Develop and Demonstrate Electric Container Transport Technologies	1,200,000	4,000,000
Subtotal	\$3,000,000	\$11,000,000

**Fueling Infrastructure and Deployment (NG/RNG)**

Deploy Natural Gas Vehicles in Various Applications	500,000	2,000,000
Develop, Maintain & Expand Natural Gas Infrastructure	250,000	1,500,000
Demonstrate Natural Gas Manufacturing and Distribution Technologies Including Renewables	1,000,000	10,000,000
Subtotal	\$1,750,000	\$13,500,000

**Fuel/Emissions Studies**

Conduct In-Use Emissions Studies for Advanced Technology Vehicle Demonstrations	400,000	800,000
Conduct Emissions Studies on Biofuels and Alternative Fuels	300,000	1,000,000



**Table 6: Summary of Potential Projects for 2018(cont'd)**

<b>Proposed Project</b>	<b>Expected SCAQMD Cost \$</b>	<b>Expected Total Cost \$</b>
<b>Fuel/Emissions Studies (cont'd)</b>		
Identify and Demonstrate In-Use Fleet Emissions Reduction Technologies & Opportunities	250,000	2,000,000
Subtotal	\$950,000	\$3,800,000
<b>Stationary Clean Fuel Technologies</b>		
Develop and Demonstrate Reliable, Advanced Emission Control Technologies, and Low Emission Monitoring Systems and Test Methods	100,000	250,000
Develop and Demonstrate Clean Stationary Technologies	250,000	750,000
Develop and Demonstrate Renewables-Based Energy Generation Alternatives	300,000	1,000,000
Subtotal	\$650,000	\$2,000,000
<b>Emission Control Technologies</b>		
Develop and Demonstrate Advanced Aftertreatment Technologies	300,000	5,000,000
Demonstrate On-Road Technologies in Off-Road and Retrofit Applications	250,000	1,000,000
Subtotal	\$550,000	\$6,000,000
<b>Health Impacts Studies</b>		
Evaluate Ultrafine Particle Health Effects	100,000	2,000,000
Conduct Monitoring to Assess Environmental Impacts	150,000	500,000
Assess Sources and Health Impacts of Particulate Matter	150,000	300,000
Subtotal	\$400,000	\$2,800,000
<b>Technology Assessment &amp; Transfer/Outreach</b>		
Assess and Support Advanced Technologies and Disseminate Information	425,000	800,000
Support Implementation of Various Clean Fuels Vehicle Incentive Programs	325,000	400,000
Subtotal	\$750,000	\$1,200,000
<b>TOTALS FOR POTENTIAL PROJECTS</b>	<b>\$16,700,000</b>	<b>\$69,500,000</b>



## Technical Summaries of Potential Projects

### Hydrogen and Fuel Cell Technologies & Infrastructure

**Proposed Project:** Develop and Demonstrate Operation and Maintenance Business Case Strategies for Hydrogen Stations

**Expected SCAQMD Cost:** \$350,000

**Expected Total Cost:** \$4,000,000

**Description of Technology and Application:**

California regulations require automakers to place increasing numbers of zero emission vehicles into service every year. By 2050, CARB projects that 87% of light-duty vehicles on the road will be zero emission battery and fuel cell vehicles with fuel cell electric becoming the dominant powertrain.

In 2013, cash-flow analysis resulting in a Hydrogen Network Investment Plan and fuel cell vehicle development partnership announcements by major automakers enabled the passage of AB 8 which provides \$20 million per year for hydrogen infrastructure cofunding through the CEC. This resulted in fuel cell vehicle production announcements by Hyundai, Toyota and Honda in 2014-2015.

In October 2016, the CaFCP released its Medium- and Heavy-Duty Fuel Cell Electric Truck Action Plan focusing on Class 4 parcel delivery trucks and Class 8 drayage trucks with infrastructure development and establishing metrics for measuring progress. Additionally, the CaFCP released a Vision 2030 document establishing a roadmap for future fuel cell vehicle and hydrogen refueling stations, including barriers that need to be overcome.

In 2015, Hyundai and Toyota introduced fuel cell vehicles, with Honda initiating delivery in 2016 and others following in 2017 or soon thereafter. Government actions over the last couple of years, coupled with early adopter response, is helping to establish demand and thus a business case model for hydrogen stations.

Additional work in this project category includes (1) developing a plan to secure long-term funding to complete the hydrogen fueling network build-out; (2) providing details how funding can be invested; (3) assessing alternative revenue streams such as renewable incentives; (4) proposing alternative financing structures to leverage/extend CEC funding; and (5) supporting station operation during the transition to commercial viability, including optimizing designs with flexibility to address individual site characteristics, as well as ensuring higher levels of dispensing availability and reliability.

Furthermore, in the next couple of years an evaluation of actual market penetration of FCVs should be conducted to guide and protect local and state investments in the hydrogen market.

**Potential Air Quality Benefits:**

The 2016 AQMP identifies the use of alternative fuels and zero emission transportation technologies as necessary to meet federal air quality standards. One of the major advantages of Fuel Cell vehicles (FCEVs) is the fact that they use hydrogen, a fuel that can be domestically produced from a variety of resources such as natural gas (including biogas), electricity (stationary turbine technology, solar or wind) and biomass. The technology and means to produce hydrogen fuel to support FCEVs are available now. The deployment of large numbers of FCEVs, which is an important strategy to attain air quality goals, requires a well-planned and robust hydrogen fueling infrastructure. This SCAQMD project, with significant additional funding from other governmental and private entities, will provide the hydrogen fueling infrastructure that is necessary in the South Coast Air Basin. The deployment of FCEVs and the development of the necessary fueling infrastructure



**Proposed Project:** Develop and Demonstrate Distributed Hydrogen Production and Fueling Stations

**Expected SCAQMD Cost:** \$2,000,000

**Expected Total Cost:** \$6,000,000

**Description of Technology and Application:**

Alternative fuels, such as hydrogen and the use of advanced technologies, such as fuel cell vehicles, are necessary to meet future clean air standards. A key element in the widespread acceptance and resulting increased use of alternative fuel vehicles is the development of a reliable and robust infrastructure to support the refueling of vehicles, cost-effective production and distribution and clean utilization of these new fuels.

A major challenge to the entry and acceptance of direct-hydrogen fuel cell vehicles is the limited number of hydrogen refueling sites. This project would support the development and demonstration of hydrogen refueling technologies. Proposed projects would address:

*Fleet and Commercial Refueling Stations:* Further expansion of the hydrogen fueling network based on retail models, providing renewable generation, adoption of standardized measurements for hydrogen refueling, other strategic refueling locations and increased dispensing pressure of 10,000 psi and compatibility with existing CNG stations may be considered.

*Energy Stations:* Multiple-use energy stations that can produce hydrogen for fuel cell vehicles or for stationary power generation are considered an enabling technology with the potential for costs competitive with large-scale reforming. System efficiency, emissions, hydrogen throughput, hydrogen purity and system economics will be monitored to determine the viability of this strategy for hydrogen fueling infrastructure deployment and as a means to produce power and hydrogen from renewable feedstocks (e.g., biomass, digester gas).

*Home Refueling Appliances:* Home refueling/recharging is an attractive advancement for alternative clean fuels due to the limited conventional refueling infrastructure. This project would evaluate a hydrogen home refueler for cost, compactness, performance, durability, emission characteristics, ease of assembly and disassembly, maintenance and operations. Other issues such as building permits, building code compliance and UL ratings for safety would also be evaluated.

It is estimated that approximately 13,400 fuel cell vehicles will be deployed by 2020 in California and the majority of these vehicles will be in the South Coast Air Basin. To provide fuel for these vehicles, the hydrogen fueling infrastructure needs to be significantly increased and become more reliable in terms of availability. SCAQMD will seek additional funding from CEC and CARB to construct and operate hydrogen fueling stations.

**Potential Air Quality Benefits:**

The 2016 AQMP identifies the use of alternative clean fuels in mobile sources as a key attainment strategy. Pursuant to AQMP goals, the SCAQMD has in effect several fleet rules that require public and certain private fleets to purchase clean-burning alternative-fueled vehicles when adding or replacing vehicles to their vehicle fleets. Fuel cell vehicles constitute some of the cleanest alternative-fuel vehicles today. Since hydrogen is a key fuel for fuel cell vehicles, this project would address some of the barriers faced by hydrogen as a fuel and thus assist in accelerating its acceptance and ultimate commercialization. In addition to supporting the immediate deployment of the demonstration fleet, expanding the hydrogen fuel infrastructure should contribute to the market acceptance of fuel cell technologies in the long run, leading to substantial reductions in NO<sub>x</sub>, VOC, CO, PM and toxic compound emissions from vehicles.



**Proposed Project:** Develop and Demonstrate Medium- and Heavy-Duty Fuel Cell Vehicles

**Expected SCAQMD Cost:** \$2,500,000

**Expected Total Cost:** \$10,000,000

**Description of Technology and Application:**

This proposed project would support evaluation including demonstration of promising fuel cell technologies for applications using direct hydrogen with proton exchange membrane (PEM) fuel cell technology. Battery dominant fuel cell hybrids are another potential technology being mentioned by battery experts as a way of reducing costs and enhancing performance of fuel cell vehicles.

The California ZEV Action Plan specifies actions to help deploy an increasing number of zero emission vehicles, including medium- and heavy-duty ZEVs. Fleets are useful demonstration sites because economies of scale exist in central refueling, in training skilled personnel to operate and maintain the vehicles, in the ability to monitor and collect data on vehicle performance and for manufacturer technical and customer support. In some cases, medium- and heavy-duty fuel cell vehicles could leverage the growing network of hydrogen stations, providing an early base load of fuel consumption until the number of passenger vehicles grows. These vehicles could include hybrid-electric vehicles powered by fuel cells and equipped with batteries capable of being charged from the grid and even supplying power to the grid.

In 2012, the DOE awarded SCAQMD funds to demonstrate Zero Emission Container Transport (ZECT) technologies. In 2015, the DOE awarded SCAQMD additional funds to develop and demonstrate additional fuel cell truck platforms and vehicles under ZECT II.

This category may include projects in the following applications:

<b>On-Road:</b> Transit Buses Shuttle Buses Medium- & Heavy-Duty Trucks	<b>Off-Road:</b> Vehicle Auxiliary Power Units Construction Equipment Lawn and Garden Equipment Cargo Handling Equipment
--	--

**Potential Air Quality Benefits:**

The 2016 AQMP identifies the need to implement zero emission vehicles. SCAQMD adopted fleet regulations require public and some private fleets within the Basin to acquire alternatively fueled vehicles when making new purchases. In the future, such vehicles could be powered by zero emission fuel cells operating on hydrogen fuel. The proposed projects have the potential to accelerate the commercial viability of fuel cell vehicles. Expected immediate benefits include the establishment of zero- and near-zero emission proof-of-concept vehicles in numerous applications. Over the longer term, the proposed projects could help foster wide-scale implementation of zero emission fuel cell vehicles in the Basin. The proposed projects could also lead to significant fuel economy improvements, manufacturing innovations and the creation of high-tech jobs in Southern California, besides realizing the air quality benefits projected in the AQMP.



**Proposed Project:** Demonstrate Light-Duty Fuel Cell Vehicles

**Expected SCAQMD Cost:** \$100,000

**Expected Total Cost:** \$100,000

**Description of Technology and Application:**

This proposed project would support the demonstration of limited production and early commercial fuel cell passenger vehicles using gaseous hydrogen with proton exchange membrane (PEM) fuel cell technology, mainly through showcasing this technology. Recent designs of light-duty fuel cell vehicles include hybrid batteries to recapture regenerative braking and improve overall system efficiency.

With the implementation of the California ZEV Action Plan, supplemented by the existing and planned hydrogen refueling stations in the Southern California area, light-duty fuel cell limited-production vehicles are planned for retail deployment in early commercial markets near hydrogen stations by several automakers. Fleets are useful demonstration sites because economies of scale exist in central refueling, in training skilled personnel to operate and maintain the vehicles, in the ability to monitor and collect data on vehicle performance and for manufacturer technical and customer support. SCAQMD has included fuel cell vehicles as part of its demonstration fleet since our first hydrogen station began operation in 2005; strengthening support, education, and outreach regarding fuel cell vehicle technology on an on-going basis. In addition, demonstration vehicles could include hybrid-electric vehicles powered by fuel cells and equipped with larger batteries capable of being charged from the grid and even supplying power to the grid.

Recently, Hyundai, Toyota and Honda have commercialized fuel cell vehicles in California. Mercedes-Benz announced its pre-production of GLC F-Cell plug-in fuel cell model to be introduced at the end of 2019. Hyundai also has announced its Next-Generation Fuel Cell SUV, which it plans to introduce sometime in 2018. Innovative strategies and demonstration of dual fuel, zero emission vehicles could expand the acceptance of battery electric vehicles and accelerate the introduction of fuel cells in vehicle propulsion.

**Potential Air Quality Benefits:**

The 2016 AQMP identifies the need to implement zero emission vehicles. SCAQMD adopted fleet regulations require public and some private fleets within the Basin to acquire alternatively fueled vehicles when making new purchases. In the future, such vehicles could be powered by zero emission fuel cells operating on hydrogen fuel. The proposed projects have the potential to accelerate the commercial viability of fuel cell vehicles. Expected immediate benefits include the deployment of zero-emission vehicles in SCAQMD's demonstration fleet. Over the longer term, the proposed projects could help foster wide-scale implementation of zero emission fuel cell vehicles in the Basin. The proposed projects could also lead to significant fuel economy improvements, manufacturing innovations and the creation of high-tech jobs in Southern California, besides realizing the air quality benefits projected in the AQMP.



## Engine Systems/Technologies

**Proposed Project:** Develop and Demonstrate Advanced Gaseous- and Liquid-Fueled Medium- and Heavy-Duty Engines and Vehicles Technologies to Achieve Ultra-Low Emissions

**Expected SCAQMD Cost:** \$3,000,000

**Expected Total Cost:** \$5,600,000

### Description of Technology and Application:

The objective of this proposed project would be to support development and certification of near commercial prototype low-emission medium- and heavy-duty gaseous- and liquid-fueled engine technologies and integration and demonstration of these technologies in on-road vehicles. The NO<sub>x</sub> emissions target for this project area is 0.02 g/bhp-hr and lower and the PM emissions target is below 0.01 g/bhp-hr. To achieve these targets, an effective emission control strategy must employ advanced fuel system and engine design features, aggressive engine calibration and improved thermal management, improved exhaust gas recirculation systems, and aftertreatment devices that are optimized using a system approach. This effort is expected to result in several projects, including:

- Development and demonstration of advanced engines in medium- and heavy-duty vehicles and high horsepower applications;
- development of durable and reliable retrofit technologies to partially or fully convert engines and vehicles from petroleum fuels to alternative fuels; and
- anticipated fuels for these projects include but are not limited to alternative fuels (fossil fuel-based and renewable natural gas, propane, hydrogen blends, electric and hybrid), conventional and alternative diesel fuels, ultra-low sulfur diesel, emulsified diesel, dimethyl ether and gas-to-liquid fuels. The project proposes to expand field demonstration of these advanced technologies in various vehicle fleets operating with different classes of vehicles.

The use of alternative fuel in heavy-duty trucking applications has been demonstrated in certain local fleets within the Basin. These vehicles typically require 200-400 horsepower engines. Higher horsepower alternative fuel engines are beginning to be introduced. However, vehicle range, lack or limited accessible public infrastructure, lack of experience with alternative fuel engine technologies and limited selection of appropriate alternative fuel engine products have made it difficult for more firms to consider significant use of alternative fuel vehicles. For example, in recent years, several large trucking fleets have expressed interest in using alternative fuels. However, at this time the choice of engines over 400 HP or more is limited. Continued development of cleaner dedicated alternative gaseous- or diesel-fueled engines over 400 HP would increase availability to end-users and provide additional emission reductions.

### Potential Air Quality Benefits:

This project is intended to expedite the commercialization of near zero emission gaseous- and liquid-fueled medium- and heavy-duty engine technology in California, both in the Basin and in intrastate operation. The emission reduction benefit of replacing one 4.0 g/bhp-hr heavy-duty engine with a 0.2 g/bhp-hr engine in a vehicle that consumes 10,000 gallons of fuel per year is about 1,400 lb/yr of NO<sub>x</sub>. A heavy-duty 8.9L engine using natural gas and achieving NO<sub>x</sub> emissions of 0.02 g/bhp-hr has been certified and commercialized, with larger displacement engines expected to be certified in early 2018. Further, neat or blended alternative fuels can also reduce heavy-duty engine particulate emissions by over 90 percent compared to current diesel technology. This project is expected to lead to increased availability of low-emission alternative fuel heavy-duty engines. Fleets can use the engines and vehicles emerging from this project to comply with SCAQMD fleet regulations and towards implementation of the 2016 AQMP control measures.



**Proposed Project:**      Develop and Demonstrate Alternative Fuel and Clean Conventional Fueled Light-Duty Vehicles

**Expected SCAQMD Cost:**      \$200,000

**Expected Total Cost:**      \$1,500,000

**Description of Technology and Application:**

Although new conventionally fueled vehicles are much cleaner than their predecessors, not all match the lowest emissions standards often achieved by alternative fuel vehicles. This project would assist in the development, demonstration and certification of both alternative-fueled and conventional-fueled vehicles to meet the strictest emissions requirements by the state, e.g., SULEV for light-duty vehicles. The candidate fuels include CNG, LPG, ethanol, GTL, clean diesel, bio-diesel and ultra low-sulfur diesel, and other novel technologies. The potential vehicle projects may include:

- certification of CNG light-duty sedans and pickup trucks used in fleet services;
- assessment of “clean diesel” vehicles, including hybrids and their ability to attain SULEV standards; and
- assessment of other clean technologies.

Other fuel and technology combinations may also be considered under this category.

**Potential Air Quality Benefits:**

The 2016 AQMP identifies the use of alternative clean fuels in mobile sources as a key attainment strategy. Pursuant to AQMP goals, the SCAQMD has in effect several fleet rules that require public and certain private fleets to purchase clean-burning alternative-fueled vehicles when adding or replacing vehicles to their vehicle fleets. This project is expected to lead to increased availability of low emission alternative-and conventional-fueled vehicles for fleets as well as consumer purchase.



**Proposed Project:**     Develop and Demonstrate Cold-Start Technologies

**Expected SCAQMD Cost:**     \$250,000

**Expected Total Cost:**       \$1,000,000

**Description of Technology and Application:**

Cold start of internal combustion engines has negative impacts on the environment. The thermal efficiency of the internal combustion engine is significantly lower at cold-start than when the engine reaches steady state temperatures. If an engine can start at optimal lubricant and component temperatures, an increase in fuel economy and reduction in emissions should be achievable. Diesel engines at cold start increase emissions as much as 10%. It is also now known that the smaller hybrid engines are experiencing similar warm-up issues due to the on-off drive cycles. The need for thermal efficiency at start-up has led to a variety of suggestions and trials. The primary goal is to reduce energy losses so that systems and components such as the catalytic converter system reach their intended operating temperature range as soon as possible after engine start. In most cases, the lubrication system is the primary target of concern. Lubricant viscosity is highly sensitive to temperature and viscosity increases at low temperatures resulting in higher frictional and pumping losses than would be observed at the target operating temperature. This technology should no longer be looked at as “Seasonal”. If the oil temperature can increase at start-up, the greatest benefit may be achieved. Further benefits can include, but not be limited to, adaptation of algorithms associated with EGR fraction, air preheaters, SCR and fueling requirements. Emissions reductions can be gained and fuel economy improved. This project is to investigate technology to improve oil temperature at start-up with minimal economic impact and time. This technology could be applied to a range of vehicles from Hybrid electric light duty vehicles to heavy duty trucks. The following items are the most recently developed best practices with respect to cost and functionality. Emphasis should be on steady temperature control at start up at optimal degrees already proven and established through significant research.

- Design and prove a battery assisted electric oil heater to maintain a specified temperature continuously before start-up
- Design a lubricant flow system directly from engine head to oil pump to achieve oil temperature more quickly.

The project should be implemented, and fleet tested, and recorded over a minimum twelve month period. Further projects can develop from this technology and should be tested in regards to other liquid fuel burning engines.

**Potential Air Quality Benefits:**

The technology to reduce emissions at cold starts is beneficial to a broad spectrum of vehicles from hybrid electric, light duty to heavy duty engines in long haul trucks. The advancement in this technology will directly contribute toward the ultra-low NOx reductions soon to be required by manufacturers through a national EPA air quality standard and the current attainment policies in effect. Eliminating cold starting engine issues also directly creates a co- benefit of reducing fuel consumption.



**Proposed Project:** Develop and Demonstrate Waste-Heat Recovery in Heavy-Duty Diesel Engines

**Expected SCAQMD Cost:** \$250,000

**Expected Total Cost:** \$1,000,000

**Description of Technology and Application:**

The objective of this project is to support the demonstration and integration of Waste Heat Recovery (WHR) using the Rankine cycle for on road heavy-duty vehicles. Current WHR programs are showing reductions in GHG of 9-15 % and a 4-5% reduction in fuel consumption in long haul trucking. Diesel engines for heavy-duty commercial vehicles (HCV) convert on average approximately 40% of the primary energy into mechanical power. The residual part is released to the environment. The heat of the exhaust gas can be converted into mechanical power for the vehicle by applying a thermodynamic process. A suitable process is the Rankine process. Research on organic Rankine processes for waste heat utilization in the industry is already being reported as a successful approach. Due to the low oil prices three decades ago, these approaches were not implemented. Today, waste heat recovery can be an attractive approach to reduce fuel consumption and operating costs. Additionally emissions can be lowered 9-15% accordingly. This project is expected to demonstrate in use results in:

- Exhaust gas based recovery systems
- Coolant based recovery systems

A typical Rankine Cycle is a thermodynamic cycle that uses an environmentally friendly organic working fluid such as R134a and works through four reversible processes. In transportation, Rankine cycle systems vaporize a pressurized fluid coming from a steam generator located in the exhaust pipe or from the engine coolant. As a result of the heating, the fluid is turned into steam/vapor. The pressure will then drive the expander of the Rankine engine, which could be a turbine as well as a volumetric expander and that high efficiencies can be achieved at practical operating pressures. The mechanical energy generated by the Rankine process can be delivered to the engine either directly or via a belt transmission. Compared to an electrical utilization concept the mechanical usage shows the advantage of lower energy conversion losses. A belt transmission has the advantage of reducing oscillations. In case of an expansion machine directly coupled with the engine, significant effort is necessary to dampen unfavorable oscillations. The development on going by leading manufacturers in the industry shows great potential for further research and cost saving with the use of cost saving materials such as plastics and aluminum.

**Potential Air Quality Benefits:**

This project is expected to contribute to the total emissions reductions in heavy-duty on road engines. Emission reduction of 9-15 % in heavy-duty diesel long haul trucks has already been proven when the Rankine cycle is used. This technology can add to the total reduction in emissions in order to meet the ultra-low NOx air quality standards. The fuel savings benefit is especially attractive to long haul fleet operations.



## Electric/Hybrid Technologies & Infrastructure

**Proposed Project:** Develop and Demonstrate Electric and Hybrid Vehicles

**Expected SCAQMD Cost:** \$1,000,000

**Expected Total Cost:** \$2,000,000

### **Description of Technology and Application:**

The significance of transportation in overall carbon emissions is increasing as energy utilities move toward cleaner and more sustainable ways to generate electricity. In the United States, the EPA estimated that in 2015, transportation was responsible for about 28% of the nation's carbon emissions, second only to power plants at 31%.

The global light-duty vehicle market is changing rapidly in response to government-led initiatives to improve fuel economy and market demand for alternative transportation options. These changes are being driven primarily by the adoption of vehicles with various levels of drivetrain electrification. The SCAQMD has long supported the concept of using increased battery power to allow a portion of the driving cycle to occur in all-electric mode for true zero emission miles. This battery dominant strategy is accomplished by incorporating an advanced battery pack initially recharged from the household grid or EV chargers. This "plug-in" hybrid EV strategy allows reduced emissions and improved fuel economy. In 2009, CARB adopted Plug-In Hybrid Electric Vehicle Test Procedure Amendments and Aftermarket Parts Certification. Most automobile manufacturers have announced production plans for a range of electrified vehicle powertrains, including "blended" plug-in hybrid electric, extended-range electric vehicles (E-rEV), or battery electric vehicles (BEVs). Electric utilities refer to PHEVs, E-rEVs and BEVs as plug-in electric drive vehicles (PEVs) and are working with automakers to support PEVs. Long-range BEVs are now becoming price competitive after subsidies and affordable 200+ mile BEVs should have a big impact on the vehicle market. Plug-in hybrids (PHEVs) are also making significant advances. Continued market expansion is likely to result from expanding OEM applications of the powertrain in new, larger vehicle body types, and most large OEMs have made statements regarding a path towards electrification of their vehicle models.

The SCAQMD has long been a leader in promoting early demonstrations of next generation light-duty vehicle propulsion technologies (and fuels). However, given the current and planned market offerings in this category, priorities have shifted. Nevertheless, the SCAQMD will continue to evaluate market offerings and proposed technologies in light-duty vehicles to determine if any future support is required.

Medium- and heavy-trucks make up 4.3% of vehicles in the United States and drive 9.3% of all miles driven each year, yet are responsible for more than 25% of all the fuel burned annually. Hybrid technologies have gained momentum in the light-duty sector with commercial offerings by most of the automobile manufacturers. Unfortunately, the medium- and heavy-duty platforms are where most emissions reductions are required, especially for the in-use fleet due to low turnover.

CARB's Low Carbon Transportation programs, local support and federal funds have collectively accelerated the development and demonstration of medium-duty plug-in hybrid electric truck platforms. Analysis of project data and use profiles will help optimize drive systems, target applications for early commercialization and fill gaps in product offerings.

The SCAQMD has investigated the use of hybrid technologies to achieve similar performance as the conventional-fueled counterparts while achieving both reduced emissions and improved fuel economy. Development and validation of emission test procedures is needed, but is complicated due to the low volume and variety of medium- and heavy-duty vehicles.

Platforms to be considered include utility trucks, delivery vans, shuttle buses, transit buses, waste haulers, construction equipment, cranes and other off-road vehicles. Innovations that may be



considered for demonstration include: advancements in the auxiliary power unit, either ICE or other heat engine; battery-dominant hybrid systems utilizing off-peak re-charging, with advanced battery technologies such as lithium-ion; and hydraulic energy storage technologies where applicable. Alternative fuels are preferred in these projects, e.g., natural gas, especially from renewable sources, LPG, hydrogen, GTL and hydrogen-natural gas blends, but conventional fuels such as gasoline, clean diesel, or even biodiesel may be considered if the emissions benefits can be demonstrated as equivalent or superior to alternative fuels. Both new designs and retrofit technologies and related charging infrastructure will be considered.

This project category is to develop and demonstrate:

- various PEV architectures;
- anticipated costs for such architectures;
- customer interest and preferences for each alternative;
- integration of the technologies into prototype vehicles and fleets;
- evaluation of any new promising light-duty vehicle propulsion technologies or fuels; and
- electric and hybrid-electric medium- and heavy-duty vehicles (e.g., utility trucks, delivery vans, shuttle buses, transit buses, waste haulers, construction equipment, cranes and other off-road vehicles)

**Potential Air Quality Benefits:**

The 2016 AQMP identifies zero or near-zero emitting vehicles as a key attainment strategy. Plug-in HEV technologies have the potential to achieve near-zero emissions while retaining the range capabilities of a conventionally gasoline-fueled combustion engine vehicle, a key factor expected to enhance broad consumer acceptance. Given the variety of PEV systems under development, it is critical to determine the true emissions and performance utility compared to conventional vehicles. Successful demonstration of optimized prototypes would promise to enhance the deployment of near-ZEV and ZEV technologies.

Expected benefits include the establishment of criteria for emissions evaluations, performance requirements, and customer acceptability of the technology. This will help both regulatory agencies and OEMs to expedite introduction of zero and near-zero emitting vehicles in the South Coast Basin, which is a high priority of the AQMP.



**Proposed Project:** Develop and Demonstrate Infrastructure for Deployment of Plug-in Electric and Hybrid Electric Vehicles

**Expected SCAQMD Cost:** \$500,000

**Expected Total Cost:** \$3,000,000

**Description of Technology and Application:**

There is a critical need to address gaps in EV charging infrastructure which has resulted in a deficiency of public EV charging infrastructure availability. Almost half (48%) of the 679,592 EVs sold in the U.S. since 2011 were in California, and of those sales in California, it is estimated that almost half (43%) received CA rebate incentives in SCAQMD. In addition, the California ZEV Action Plan, which was updated in 2016, calls for 1.5 million ZEVs by 2025, calling for an increase of about 200,000 ZEVs annually between now and 2025.

The recent adoption of revised recommended practice SAE J1772 enables passenger vehicles to charge from 110/120V AC (Level 1), 220/240V AC (Level 2), and faster 440/480V DC charging using a common conductive connector in 30 minutes or less in the U.S. and Europe. Together with the growing adoption of long range EVs, the technology and infrastructure of three fast DC charging systems (SAE combo, CHAdeMO and Tesla) are developing as well. Technological developments improving the driving range of EVs, as well as increasing availability and speed of charging infrastructure, could change the need for charging infrastructure in the future. However, a study of fast-charging impact on battery life and degradation is very limited. The research and demonstration to increase understanding of the degradation effects of fast-charging will have implications on what types of charging EV owners will leverage and what EVSE stakeholders will bring to market. SCAQMD is committed to continuing to support the successful deployment of EV charging infrastructure as well as demonstration of fast-charging effect on battery life, leveraging funds from the state and the Volkswagen Penalty Fund.

The SCAQMD is actively pursuing development of intelligent transportation systems to improve traffic efficiency of electric and hybrid cargo container trucks. This system provides truck drivers real-time vehicle operation advice based on changing traffic and road conditions where trucks can dynamically change their speed to better flow through intersections. A truck eco-routing system can provide the most eco-friendly travel route based on truck engine/emission control characteristics, loaded weight, road grade and real-time traffic conditions. Integrated programs can interconnect fleets of electric drive vehicles with mass transit via Web-based reservation systems that allow multiple users. These integrated programs can match the features of EVs (zero emissions, zero start-up emissions, short range) to typical consumer demands for mobility in a way that significantly reduces emissions of pollutants and greenhouse gases.

This project category is one of SCAQMD's continued efforts to:

- deploy a network of DC fast charging infrastructure and rapidly expand the existing network of public plug-in EV charging stations;
- support investigation of fast-charging impact on battery life;
- develop intelligent transportation system strategies for cargo containers;
- develop freight load-balancing strategies as well as to conduct market analysis for zero emission heavy-duty trucks in goods movement; and
- support for local government outreach and charging installation permit streamlining.

**Potential Air Quality Benefits:**

The 2016 AQMP identifies zero or near-zero emitting vehicles as a key attainment strategy. Hybrid technologies have the potential to redirect previously wasted kinetic energy into useable vehicle power. This proposed project category will reduce Particulate Matter (PM) pollution along major roadways through the expansion of the public plug-in EV charging infrastructure network by allowing drivers to



shift away from petroleum-fueled vehicles to plug-in EVs. In addition, this project will assist in achieving improved fuel economy and lower tailpipe emissions, further helping the region to achieve federal ambient air quality standards and protect public health. Expected benefits include the establishment of criteria for emissions evaluations, performance requirements and customer acceptability of the technology. This will help both regulatory agencies and OEMs to expedite introduction of near-zero emitting vehicles in the South Coast Basin, which is a high priority of the AQMP.



**Proposed Project:**    Demonstrate Alternative Energy Storage

**Expected SCAQMD Cost:**        \$300,000

**Expected Total Cost:**        \$2,000,000

**Description of Technology and Application:**

The SCAQMD has been involved in the development and demonstration of energy storage systems for electric and hybrid-electric vehicles, mainly lithium ion chemistry battery packs. Over the past few years, new technologies, including nickel sodium chloride, lithium-ion and lithium iron phosphate batteries have shown robust performance. Other technology manufacturers have also developed energy storage devices including beyond lithium-ion batteries, flywheels, hydraulic systems and ultracapacitors. Energy storage systems optimized to combine the advantages of ultracapacitors and high-energy but low-power advanced batteries could yield benefits. Beyond lithium-ion batteries (e.g., lithium-sulfur, lithium-oxygen, sodium-ion, flow, and solid-state batteries) also have opportunities to achieve higher energy density, longer cycle life, and cheaper cost.

This project category is to apply these advanced storage technologies in vehicle platforms to identify best fit applications, demonstrate their viability (reliability, maintainability and durability), gauge market preparedness and provide a pathway to commercialization.

The long-term objective of this project is to decrease fuel consumption and resulting emissions without any changes in performance compared to conventional vehicles. This effort will support several projects for development and demonstration of different types of low emission hybrid vehicles using advanced energy storage strategies and conventional or alternative fuels. The overall net emissions and fuel consumption of these types of vehicles are expected to be much lower than traditional engine systems. Both new and retrofit technologies will be considered.

Additionally, this project will also assess potential for repurposing of electric vehicle batteries for storage as well as the longer term more cost-effective recycling approaches currently in a nascent “pilot” stage, especially for metals such as Lithium and Cobalt.

**Potential Air Quality Benefits:**

Certification of low emission vehicles and engines and their integration into the Basin’s transportation sector is a high priority under the 2016 AQMP. This project is expected to further efforts to develop alternative energy storage technologies that could be implemented in medium- and heavy-duty trucks, buses and other applications. Benefits will include proof of concept for the new technologies, diversification of transportation fuels and lower emissions of criteria, toxic pollutants and greenhouse gases.



**Proposed Project:**      Develop and Demonstrate Electric Container Transport Technologies

**Expected SCAQMD Cost:**      \$1,200,000

**Expected Total Cost:**      \$4,000,000

**Description of Technology and Application:**

Advanced transportation systems can be used to transfer cargo containers from ports to both local and “distant” intermodal facilities, thereby significantly reducing emissions from on-road trucks and locomotives and also reducing traffic congestion in local transportation corridors. Such systems could be stand-alone systems that use magnetic levitation (maglev), linear synchronous motors or linear induction motors on dedicated guideways. A more near-term design could use existing roadways that are electrified with catenary electric lines or linear electric motors to move containers on modified trucks equipped to run on electricity. In both scenarios, containers are transported relatively quietly and without direct emissions. The footprints for such systems are similar to conventional rail systems but have reduced impact on adjacent property owners including noise and fugitive dust. These systems can even be built above or adjacent to freeways or on elevated guideways. These container freight systems are not designed to carry any operators on the guideways, where the over-the-roadway system may require the operator to actively control the transport of the containers.

One of the container transportation concepts the SCAQMD is actively pursuing is the eHighway catenary hybrid truck system by Siemens Mobility. Siemens and their partners have developed a catenary system and hybrid electric trucks to utilize the catenary for zero emission transport of containers. The hybrid drive system will extend the operating range of the truck beyond the all-electric range of the catenary system, thus enabling the truck to perform regional drayage operations and bridge gaps in catenary infrastructure as it is deployed on a regional level. The proposed Siemens pantograph system will allow for seamless connection and disconnection from the catenary wires. When entering the catenary system corridor, the pantograph system will verify the presence of catenary lines and allow the driver to raise the pantograph from within the cab of the truck. Upon leaving the catenary system, the pantograph automatically retracts and the truck switches to on-board power systems. The on-board power systems could be a range of technologies, including batteries, fuel cells, or internal combustion engines. In addition, SCAQMD is administering a project to develop and demonstrate zero emission drayage trucks for goods movement operations, consisting of three different battery electric truck technologies and a fuel cell hybrid electric truck platform. This project is funded by a \$4.2 million award from Department of Energy to promote the deployment of zero emission cargo transport technologies. These trucks can be also upfitted to connect to wayside power via a catenary or linear synchronous motor (LSM) system in the future. Recently, CARB awarded SCAQMD more than \$23 million towards the development, demonstration and deployment of up to 43 trucks for goods movement, either with all electric operation or all electric range within disadvantaged communities. The total project cost is approximately \$40 million, with the remainder funds cost-shared between five sister air quality agencies, OEMs and demonstration sites.

In addition to these technologies, there are other options for electric container applications such as dual-mode locomotives, hybrid electric technologies with battery storage, a battery tender car, fuel cell propulsion systems and other wayside power alternatives. This technical review will evaluate all available technology options to determine whether their systems can be successfully developed and deployed, financially viable, and reliably operated on a long-term basis.

**Potential Air Quality Benefits:**

On-road heavy-duty diesel truck travel is an integral part of operations at the ports moving cargo containers into the Basin and beyond. The 2016 AQMP proposes to reduce emissions from this activity by modernizing the fleet and retrofitting NOx and PM emission controls on older trucks. An alternative approach, especially for local drayage to the nearby intermodal facilities, is to use advanced container



transport systems that use electric propulsion for the containers on fixed guideways or modified trucks able to operate on electricity which will eliminate local diesel truck emissions. The emission benefits have not yet been estimated because the fate of the displaced trucks has not been determined.



## **Fueling Infrastructure and Deployment (NG/RNG)**

**Proposed Project:**      Deploy Natural Gas Vehicles in Various Applications

**Expected SCAQMD Cost:**      \$500,000

**Expected Total Cost:**      \$2,000,000

### **Description of Technology and Application:**

Natural gas vehicles (NGVs) have been very successful in reducing emissions in the South Coast Air Basin due to the deployment of fleets and heavy-duty vehicles utilizing this clean fuel. In order to maintain the throughput, utility and commercial potential of the natural gas infrastructure and the corresponding clean air benefits, deploying additional models of NGVs in existing applications are needed. This technology category seeks to support the implementation of early-commercial vehicles in a wide variety of applications, such as taxis, law enforcement vehicles, shuttle buses, delivery vans, transit buses, waste haulers, class 8 tractors and off-road equipment such as construction vehicles and yard hostlers. It also seeks to deploy low-emission natural gas vehicles using renewable fuels to achieve further emission reductions.

### **Potential Air Quality Benefits:**

Natural gas vehicles have inherently lower engine criteria pollutant emissions than conventional vehicles, especially in the heavy-duty applications where older diesel engines are being replaced. Incentivizing these vehicles in city fleets, goods movement applications and transit bus routes help to reduce the local emissions and exposure to nearby residents. Natural gas vehicles also can have lower greenhouse gas emissions and increase energy diversity depending on the feedstock and vehicle class. Deployment of additional NGVs is in agreement with SCAQMD's AQMP as well as the state's Alternative Fuels Plan as part of AB 1007 (Pavley).



**Proposed Project:**     Develop, Maintain & Expand Natural Gas Infrastructure

**Expected SCAQMD Cost:**     \$250,000

**Expected Total Cost:**         \$1,500,000

**Description of Technology and Application:**

This project supports the development, maintenance and expansion of natural gas fueling station technologies to increase the overall number of such fueling stations in strategic locations throughout the Basin including the Ports. The intent is to develop and demonstrate advanced technologies to reduce the cost of natural gas equipment, develop and demonstrate closed loop systems for dispensing and storage, standardize fueling station design and construction and help with the implementation of SCAQMD's fleet rules. As natural gas fueling equipment begins to age or has been placed in demanding usage, components will deteriorate. This project offers an incentive to facilities to replace worn-out equipment or to upgrade existing fueling and/or garage and maintenance equipment to offer increased fueling capacity to public agencies, private fleets and school districts.

**Potential Air Quality Benefits:**

The AQMP identifies the use of alternative clean fuels in mobile sources as a key attainment strategy. NGVs have significantly lower emissions than gasoline vehicles and represent the cleanest internal combustion engine powered vehicles available today. The project has the potential to significantly reduce the installation and operating costs of NGV refueling stations, besides improving the refueling time. While new or improved NGV stations have an indirect emissions reduction benefit, they help facilitate the introduction of low emission, NGVs in private and public fleets in the area, which have a direct emissions reduction benefit. The increased exposure and fleet and consumer acceptance of NGVs would lead to significant and direct reductions in NO<sub>x</sub>, VOC, CO, PM and toxic compound emissions from mobile sources. Such increased penetration of NGVs will provide direct emissions reductions of NO<sub>x</sub>, VOC, CO, PM and air toxic compounds throughout the Basin.



**Proposed Project:** Demonstrate Natural Gas Manufacturing and Distribution Technologies Including Renewables

**Expected SCAQMD Cost:** \$1,000,000

**Expected Total Cost:** \$10,000,000

**Description of Technology and Application:**

Lack of sufficient statewide LNG production results in increased fuel costs and supply constraints. The cost of transporting LNG from out-of-state production facilities increases the fuel cost from 15 to 20 cents per gallon of LNG and subjects users to the reliability of a single supply source. High capital costs prevent construction of local, large-scale liquefaction facilities. Small-scale, distributed LNG liquefaction systems may provide 25 percent lower capital costs than conventional technology per gallon of LNG produced. Because these smaller plants can be sited near fleet customers, costs for transporting the LNG to end-users are much lower than those for remote larger plants. Beyond these cost reductions, the smaller plants offer key benefits of much smaller initial capital investment and wider network of supply than the larger plant model.

The project category will also consider the development and demonstration of technologies for the production of Renewable Natural Gas (RNG) from various feed stocks including landfill gas, green waste, and anaerobic digester gases.

The main objectives of this project are to investigate, develop and demonstrate:

- commercially viable methods for converting renewable feed stocks into CNG or LNG (e.g., production from biomass);
- economic small-scale natural gas liquefaction technologies;
- utilization of various gaseous feed stocks locally available;
- commercialize incentives for fleets to site, install and use LNG and L/CNG refueling facilities; and
- strategic placement of LNG storage capacity sufficient to provide supply to users in the event of a production outage.

**Potential Air Quality Benefits:**

The SCAQMD relies on a significant increase in the penetration of zero- and low-emission vehicles in the South Coast Basin to attain federal clean air standards by 2014, 2023 and 2032. This project would help develop a number of small-scale liquefaction technologies that can reduce LNG costs to be competitive with diesel fuel. Such advances are expected to lead to greater infrastructure development. This would make LNG fueled heavy-duty vehicles more available to the commercial market leading to direct reductions in NO<sub>x</sub>, PM and toxic compound emissions.



## Fuels/Emission Studies

**Proposed Project:** Conduct In-Use Emissions Studies for Advanced Technology Vehicle Demonstrations

**Expected SCAQMD Cost:** \$400,000

**Expected Total Cost:** \$800,000

### **Description of Technology and Application:**

Hybrid electric, hybrid hydraulic, plug-in electric hybrid and pure EVs will all play a unique role in the future of transportation. Each of these transportation technologies has attributes that could provide unique benefits to different transportation sectors. Identifying the optimal placement of each transportation technology will provide the co-benefits of maximizing the environmental benefit and return on investment for the operator.

The environmental benefit for each technology class will be highly duty-cycle and application specific. Identifying the attributes of a specific application or drive cycle that would take best advantage of a specific transportation technology would speed the adoption and make optimal use of financial resources in the demonstration and deployment of a technology. The adoption rates would be accelerated since the intelligent deployment of a certain technology would ensure that a high percentage of the demonstration vehicles showed positive results. These positive results would spur the adoption of this technology in similar applications, as opposed to negative results derailing the further development or deployment of a certain technology.

The proposed project would review and potentially coordinate application specific drive cycles to for specific applications. The potential emissions reductions and fossil fuel displacement for each technology in a specific application would be quantified on a full-cycle basis. This information could be used to develop a theoretical database of potential environmental benefits of different transportation technologies when deployed in specific applications.

Another proposed project would be the characterization of intermediate volatility organic compound (IVOC) emissions which is critical in assessing ozone and SOA precursor production rates. Diesel vehicle exhaust and unburned diesel fuel are major sources of and contribute to the formation of urban ozone and secondary organic aerosol (SOA), which is an important component of PM<sub>2.5</sub>.

Finally, while early developments in autonomous and vehicle-to-vehicle controls are focused on light-duty passenger vehicles, the early application of this technology to heavy-duty, drayage and container transport technologies is more likely. The impact on efficiency and emissions could be substantial. A project to examine this technology to assess its effect on goods movement and emissions associated with goods movement could be beneficial at this time.

### **Potential Air Quality Benefits:**

The development of an emissions reduction database, for various application specific transportation technologies, would assist in the targeted deployment of new transportation technologies. This database coupled with application specific vehicle miles traveled and population data would assist in intelligently deploying advanced technology vehicles to attain the maximum environmental benefit. These two data streams would allow vehicle technologies to be matched to an application that is best suited to the specific technology, as well as selecting applications that are substantial enough to provide a significant environmental benefit. The demonstration of a quantifiable reduction in operating cost through the intelligent deployment of vehicles will also accelerate the commercial adoption of the various technologies. The accelerated adoption of lower emitting vehicles will further assist in attaining SCAQMD's air quality goals.



**Proposed Project:** Conduct Emissions Studies on Biofuels and Alternative Fuels

**Expected SCAQMD Cost:** \$300,000

**Expected Total Cost:** \$1,000,000

**Description of Technology and Application:**

The use of biofuels can be an important strategy to reduce petroleum dependency, air pollution and greenhouse gas emissions. Biofuels are in fact receiving increased attention due to national support and state activities resulting from SB 32, AB 1007 and the Low-Carbon Fuel Standard. With an anticipated increase in biofuel use, it is the objective of this project to further analyze these fuels to better understand their benefits and impacts not only on greenhouse gases but also on air pollution and associated health effects.

In various diesel engine studies, replacement of petroleum diesel fuel with biodiesel fuel has demonstrated reduced PM, CO and air toxics emissions. Biodiesel also has the potential to reduce greenhouse gas emissions because it can be made from renewable feedstocks, such as soy and canola. However, certain blends of biodiesel have a tendency to increase NOx emissions for certain engines and duty cycles, which exacerbates the ozone and PM2.5 challenges faced in the Basin. In addition, despite recent advancements in toxicological research in the air pollution field, the relationship between biodiesel particle composition and associated health effects is still not completely understood.

Ethanol is another biofuel that is gaining increased national media and state regulatory attention. CARB has recently amended the reformulated gasoline regulation to further increase the ethanol content to 10% as a means to increase the amount of renewable fuels in the state. It is projected that the state's ethanol use will increase from 900 million gallons in 2007 to 1.5 billion gallons by 2012 as a result. As in the case of biodiesel, ethanol has demonstrated in various emission studies to reduce PM, CO and toxic emissions; however, the relationship between particle composition and associated health effects from the combustion of ethanol is not well understood either.

Furthermore, CARB recently proposed a regulation on the commercialization of alternative diesel fuels, including biodiesel and renewable diesel, while noting that biodiesel in older heavy-duty vehicles can increase NOx and the need for emerging alternative diesel fuels to have clear ground rules for commercialization. The impact of natural gas fuel composition on emissions from heavy-duty trucks and transit buses is also being studied.

In order to address these concerns on potential health effects associated with biofuels, namely biodiesel and ethanol blends, this project will investigate the physical and chemical composition and associated health effects of tailpipe PM emissions from light- to heavy-duty vehicles burning biofuels in order to ensure public health is not adversely impacted by broader use of these fuels. This project also supports future studies to identify mitigation measures to reduce NOx emissions for biofuels. Additionally, a study of emissions from well-to-wheel for the extraction and use of shale gas might be considered.

**Potential Air Quality Benefits:**

If biodiesel and biodiesel blends can be demonstrated to reduce air pollutant emissions with the ability to mitigate any NOx impact, this technology will become a viable strategy to assist in meeting air pollutant standards as well as the goals of SB 32 and the Low-Carbon Fuel Standard. The use of biodiesel is an important effort for a sustainable energy future. Emission studies are critical to understanding the emission benefits and any tradeoffs (NOx impact) that may result from using this alternative fuel. With reliable information on the emissions from using biodiesel and biodiesel blends, the SCAQMD can take actions to ensure the use of biodiesel will obtain air pollutant reductions without creating additional NOx emissions that may exacerbate the Basin's ozone problem.



**Proposed Project:** Identify and Demonstrate In-Use Fleet Emissions Reduction Technologies and Opportunities

**Expected SCAQMD Cost:** \$250,000

**Expected Total Cost:** \$2,000,000

**Description of Technology and Application:**

New technologies, such as alternative fueled heavy-duty engines, are extremely effective at reducing emissions because they are designed to meet the most stringent emissions standards while maintaining vehicle performance. In addition, many new vehicles are now equipped with telematics enabling motorists to obtain transportation information such as road conditions to avoid excessive idling and track information about the vehicle maintenance needs, repair history, tire pressure and fuel economy. Telematics have been shown to reduce emissions from new vehicles. Unfortunately, the in-use fleet lacks telematic systems--particularly heavy-duty engines in trucks, buses, construction equipment, locomotives, marine vessels and cargo handling equipment--have fairly long working lifetimes (up to 20 years due to remanufacturing in some cases). Even light-duty vehicles routinely have lifetimes exceeding 200,000 miles and 10 years. And it is the in-use fleet, especially the oldest vehicles, which are responsible for the majority of emissions.

This project category is to investigate near-term emissions control technologies that can be cost-effectively applied to reduce emissions from the in-use fleet. The first part of the project is to identify and conduct proof-of-concept demonstrations of feasible candidate technologies, such as:

- remote sensing for heavy-duty vehicles;
- annual testing for high mileage vehicles (>100,000 miles);
- replace or upgrade emissions control systems at 100,000 mile intervals;
- on-board emission diagnostics with remote notification;
- low-cost test equipment for monitoring and identifying high emitters;
- test cycle development for different class vehicles (e.g. four wheel drive SUVs);
- electrical auxiliary power unit replacements; and
- development, deployment and demonstration of smart vehicle telematic systems

**Potential Air Quality Benefits:**

Many of the technologies identified can be applied to light-duty and heavy-duty vehicles to identify and subsequently remedy high-emitting vehicles in the current fleet inventory. Estimates suggest that 5 percent of existing fleets account for up to 80 percent of the emissions. Identification of higher emitting vehicles would assist with demand-side strategies, where higher emitting vehicles have correspondingly higher registration charges.



## Stationary Clean Fuel Technologies

**Proposed Project:** Develop and Demonstrate Reliable, Advanced Emission Control Technologies, and Low-Emission Monitoring Systems and Test Methods

**Expected SCAQMD Cost:** \$100,000

**Expected Total Cost:** \$250,000

### **Description of Technology and Application:**

Currently, the inability of air/fuel ratio control (AFRC) systems to keep rich-burn engines in compliance contributes significantly to air pollution in the basin. Reliable, low-cost emission monitoring systems are needed for small-to-intermediate size combustion devices, including stationary engines, boilers, heaters, furnaces and ovens that are not large enough to justify a continuous emission monitoring system (CEMS). This class of combustion device is often permitted on the basis of a single demonstration or periodic demonstrations of NO<sub>x</sub> and CO emissions meeting SCAQMD rule requirements or a RECLAIM concentration limit. However, SCAQMD-unannounced tests on engines and boilers have found that in many cases NO<sub>x</sub> and/or CO levels have increased significantly above levels that have been initially or periodically demonstrated due to equipment malfunction and/or inadequate operator attention. It is suspected that the same may be true of heaters, furnaces and ovens.

A recent demonstration project funded in part by the SCAQMD consisted of retrofitting a biogas engine with a digester gas clean up system and catalytic oxidizer at the exhaust followed by SCR which resulted in significant reductions of NO<sub>x</sub>, VOC and CO. Based on the successful deployment of this project, further emission reductions may be achieved by other biogas combustion sources such as gas turbines and boilers by the continued development of specialized low cost biogas clean up systems that will allow for the use of catalytic after control systems.

Demonstrations of newer technologies in recent years could result in a commercially viable alternative to CEMS that is both reliable and feasible in terms of lower costs. For example, manufacturers of flue gas analyzers have, in recent years, developed low-cost multi-gas analyzers suitable for portable or stack-mounted use. Some preliminary testing of a new type of AFRC, which uses a different type of O<sub>2</sub> sensor known as a wide-band O<sub>2</sub> sensor, is another alternative that can be analyzed. Another technical approach might be to deploy technology utilizing the O<sub>2</sub> signature of a post-catalyst O<sub>2</sub> sensor and additional control concepts being developed by manufacturers. Since an underlying problem has been that engine, catalyst and AFRC manufacturers have developed systems independently, a system being co-developed to perform continuous diagnostics to assist operators in keeping rich-burn engines in compliance is possibly another alternative for demonstration.

### **Potential Air Quality Benefits:**

Stationary engines, boilers, heaters, furnaces and ovens account for approximately 11 percent of total NO<sub>x</sub> emissions and about 6 percent of total CO emissions. There has been a long-standing compliance problem with rich-burn IC engines in the basin and evidence indicates that many of these devices are operating with NO<sub>x</sub> and/or CO emissions above levels required in their permits. Projects could potentially reduce a significant class of NO<sub>x</sub> and CO emissions that are in excess of the assumptions in the AQMP and further enhance SCAQMD's ability to enforce full-time compliance.



**Proposed Project:** Develop and Demonstrate Clean Stationary Technologies

**Expected SCAQMD Cost:** \$250,000

**Expected Total Cost:** \$750,000

**Description of Technology and Application:**

Stationary sources, including VOC sources such as large printing facilities and furniture manufacturers, have become cleaner and cleaner due to the regulatory requirements for low emissions and the advancements in technology to meet those requirements. Best Available Control Technology (BACT) regulations, however, are only required for new, modified, or relocated sources. This project category is to develop and demonstrate new technologies that can provide emissions reductions in new installations or as retrofit modifications. Possible technology examples include:

- low NO<sub>x</sub> technologies (burners and ICEs);
- low-Btu gas technologies (e.g., digester, landfill, or dairy gases);
- alternative fuels and hydrogen blends;
- alternative diesel fuels (emulsified, gas-to-liquids, biodiesel with aftertreatment);
- low emission refinery flares;
- catalytic combustion;
- cost-effective fuel cell and fuel cell hybrid distributed generation;
- fumes-to-fuel technology to replace thermal oxidizers and capture VOC emissions for electricity generation while ensuring no emission of air toxics; and
- boiler optimization design and strategies to improve efficiencies.

Depending on the technology, a proof-of-concept project, demonstration, or pre-commercial deployment would be considered to garner further information on the technology. Issues to investigate include viability (reliability, maintainability and durability) of the technology, cost-effectiveness and operator ease-of-use in order to assess commercialization.

**Potential Air Quality Benefits:**

The SCAQMD has a substantial number of older, small, stationary source technologies within its jurisdiction. Since these devices are not subject to continuous emissions monitoring system requirements, evidence suggests that these devices may not be operating at their permitted NO<sub>x</sub>, CO, hydrocarbon and PM emissions levels. Replacing these devices with cleaner and more reliable technologies or technology/fuel combinations can have dramatic reductions in all of these criteria pollutants. VOC emission reductions may also be achieved at larger stationary VOC sources to achieve the new federal ozone and PM<sub>2.5</sub> standards.



**Proposed Project:** Develop and Demonstrate Renewables-Based Energy Generation Alternatives

**Expected SCAQMD Cost:** \$300,000

**Expected Total Cost:** \$1,000,000

**Description of Technology and Application:**

The objective of this proposed project is to support the development and demonstration of clean energy, renewable alternatives in stationary applications. The technologies to be considered include thermal, photovoltaic and other solar energy technologies; wind energy systems; energy storage potentially including vehicle to grid or vehicle to building functionalities for alternative energy storage; biomass conversion; and other renewable energy and recycling technologies. Innovative solar technologies, such as solar thermal air conditioning and photovoltaic-integrated roof shingles, are of particular interest. Also, in the agricultural sections of the Basin, wind technologies could potentially be applied to drive large electric motor-driven pumps to replace highly polluting diesel-fired pumps. Besides renewable technologies, electrolyzer technology could be used to generate hydrogen, a clean fuel. Hydrogen, when used in regular engines, can potentially reduce tail-pipe emissions, while in fuel cells the emissions are reduced to zero.

The project is expected to result in pilot-scale production demonstrations, scale-up process design and cost analysis, overall environmental impact analysis and projections for ultimate clean fuel costs and availability. This project is expected to result in several projects addressing technological advancements in these technologies that may improve performance and efficiency, potentially reduce capital and operating costs, enhance the quality of natural gas generated from renewable sources for injection into natural gas pipelines, improve reliability and user friendliness and identify markets that could expedite the implementation of successful technologies.

**Potential Air Quality Benefits:**

The 2016 AQMP identifies the development and ultimately the implementation of non-polluting power generation. To gain the maximum air quality benefit, polluting fossil fuel-fired electric power generation needs to be replaced with clean renewable energy resources or other advanced zero emission technologies, such as hydrogen fuel cells, particularly in a distributed generation context.

The proposed project is expected to accelerate the implementation of advanced zero emission energy sources. Expected benefits include directly reducing the emissions by the displacement of fossil generation; proof-of-concept and potential viability for such zero emission power generation systems; increased exposure and user acceptance of the new technology; reduced fossil fuel usage; and the potential for increased use, once successfully demonstrated, with resulting emission benefits, through expedited implementation. These technologies would also have a substantial influence in reducing global warming emissions.



## **Emission Control Technologies**

**Proposed Project:** Develop and Demonstrate Advanced Aftertreatment Technologies

**Expected SCAQMD Cost:** \$300,000

**Expected Total Cost:** \$5,000,000

**Description of Technology and Application:**

There are a number of aftertreatment technologies which have shown substantial emission reductions in diesel engines. These technologies include diesel particulate filters (DPFs), oxidation catalysts, selective catalytic reduction (SCR) systems and NO<sub>x</sub> adsorbers. This project category is to develop and demonstrate these aftertreatment technologies alone or in tandem with an alternative fuel to produce the lowest possible PM, ultrafine particles, nanoparticles, NO<sub>x</sub>, CO, carbonyl and hydrocarbon emissions in retrofit and new applications. With the increasing focus on zero- and near-zero emission goods movement technologies, this category should examine idle reduction concepts and technologies that can be employed at ports and airports.

Possible projects include advancing the technologies for on-road retrofit applications such as heavy-duty line-haul diesel engines, street sweepers, waste haulers and transit buses. Applications for non-road may include construction equipment, yard hostlers, gantry cranes, locomotives, marine vessels, ground support equipment and other similar industrial applications. Potential fuels to be considered in tandem are low-sulfur diesel, emulsified diesel, biodiesel, gas-to-liquids, hydrogen and natural gas. This project category will also explore the performance, economic feasibility, viability (reliability, maintainability and durability) and ease-of-use to ensure a pathway to commercialization.

**Potential Air Quality Benefits:**

The transfer of mature emission control technologies, such as DPFs and oxidation catalysts, to the off-road sector is a potentially low-risk endeavor that can have immediate emissions reductions. Further development and demonstration of other technologies, such as SCR and NO<sub>x</sub> adsorbers, could also have NO<sub>x</sub> reductions of up to 90%.



**Proposed Project:**    Demonstrate On-Road Technologies in Off-Road and Retrofit Applications

**Expected SCAQMD Cost:**        \$250,000

**Expected Total Cost:**        \$1,000,000

**Description of Technology and Application:**

Heavy-duty on-road engines have demonstrated progress in meeting increasingly stringent Federal and state requirements. New heavy-duty engines have progressed from 2 g/bhp-hr NO<sub>x</sub> in 2004 to 0.2 g/bhp-hr NO<sub>x</sub> in 2010, which is an order of magnitude decrease in just six years. Off-road engines, however, have considerably higher emissions limits depending on the engine size. For example, Tier-3 standards for heavy-duty engines require only 3 g/bhp-hr NO<sub>x</sub>. There are apparent opportunities to implement cleaner on-road technologies in off-road applications. There is also an opportunity to replace existing engines in both on-road and off-road applications with the cleanest available technology. Current regulations require a repower (engine exchange) to only meet the same emissions standards as the engine being retired. Unfortunately, this does not take advantage of recently developed clean technologies.

Exhaust gas cleanup strategies, such as SCR, electrostatic precipitators, baghouses and scrubbers, have been used successfully for many years on stationary sources. The exhaust from the combustion source is routed to the cleaning technology, which typically requires a large footprint for implementation. This large footprint has made installation of such technologies on some mobile sources prohibitive. However, in cases where the mobile source is required to idle for long periods of time, it may be more effective to route the emissions from the mobile source to a stationary device to clean the exhaust stream.

Projects in this category will include utilizing proven clean technologies in novel applications, such as:

- demonstrating certified LNG and CNG on-road engines in off-road applications including yard hostlers, switcher locomotives, gantry cranes, waste haulers and construction equipment;
- implementing lower emission engines in repower applications for both on-road and off-road applications; and
- applying stationary best available control technologies, such as SCR, scrubbers, baghouses and electrostatic precipitators, to appropriate on- and off-road applications, such as idling locomotives, marine vessels at dock and heavy-duty line-haul trucks at weigh stations.

**Potential Air Quality Benefits:**

The transfer of mature emission control technologies, such as certified engines and SCR, to the non-road and retrofit sectors offers high potential for immediate emissions reductions. Further development and demonstration of these technologies will assist in the regulatory efforts which could require such technologies and retrofits.



## **Health Impacts Studies**

**Proposed Project:** Evaluate Ultrafine Particle Health Effects

**Expected SCAQMD Cost:** \$100,000

**Expected Total Cost:** \$2,000,000

### **Description of Technology and Application:**

Reducing diesel exhaust from vehicles has become a high priority in the South Coast Air Basin since CARB identified the particulate phase of diesel exhaust as a surrogate for all of the toxic air contaminant emitted from diesel exhaust. Additionally, health studies indicate that the ultrafine portion of particulate matter may be more toxic on a per-mass basis than other fractions. Several technologies have been introduced and others are under development to reduce diesel emissions. These include among others low-sulfur diesel fuel, particulate matter traps and heavy-duty engines operating on alternative fuel such as CNG and LNG. Recent studies have shown that control technologies applied to mobile sources have been effective in reducing the mass of particulates emitted. However, there is also evidence that the number of ultrafine particles on and near roadways has increased, even while the mass of particulates has decreased. To have a better understanding of changes in ultrafine particulate emissions from the application of the new technologies and the health effects of these emissions, an evaluation and comparison of ultrafine particulate matter and the potential impacts on community exposures are necessary.

In this project, measurements and chemical composition of ultrafine particulates will be done, as well as studies conducted to characterize their toxicity. The composition of the particulates can further be used to determine the contribution from specific combustion sources. Additionally, engine or chassis dynamometer testing may be conducted on heavy-duty vehicles to measure, evaluate and compare ultrafine particulate matter, PAH and other relevant toxic emissions from different types of fuels such as CNG, low-sulfur diesel, biofuels and others. This project needs to be closely coordinated with the development of technologies for alternative fuels, aftertreatment and new engines in order to determine the health benefits of such technologies.

Furthermore, gasoline direct injection (GDI) vehicles are known for higher efficiency and power output but the PM emissions profile is not well understood especially on secondary organic aerosol (SOA) formation potential. As manufacturers introduce more GDI models in the market to meet new fuel economy standards, it is important to understand the SOA potential from these vehicles as it could lead to further impact on the ambient PM concentration in our region. Consequently, in 2015 a project was initiated with UCR/CE-CERT to investigate the physical and chemical composition of aerosols from GDI vehicles using a mobile environmental chamber that has been designed and constructed to characterize secondary emissions. Based on this initial results indicating an increase in particle numbers, follow-up in-use studies to assess PM emissions including with and without particle filters will be beneficial.

### **Potential Air Quality Benefits:**

The AQMP for the South Coast Basin relies on significant penetration of low emission vehicles to attain federal clean air standards. Reduction of particulate emissions from the combustion of diesel and other fuels is a major priority in achieving these standards. This project would help to better understand the nature and amount of ultrafine particulates generated by different types of fuels and advanced control technologies as well as provide information on potential health effects of ultrafine particles. Such an understanding is important to assess the emission reduction potentials and health benefits of these technologies. In turn, this will have a direct effect on the policy and regulatory actions for commercial implementation of alternative fuel vehicles in the Basin.



**Proposed Project:** Conduct Monitoring to Assess Environmental Impacts

**Expected SCAQMD Cost:** \$150,000

**Expected Total Cost:** \$500,000

**Description of Technology and Application:**

Facilities, buildings, structures, or highways which attract mobile sources of pollution are considered “indirect” sources. Ambient and saturation air monitoring near sources such as ports, airports, rail yards, distribution centers and freeways is important to identify the emissions exposure to the surrounding communities and provide the data to then conduct the health impacts due to these sources. This project category would identify areas of interest and conduct ambient air monitoring, conduct emissions monitoring, analyze the data and assess the potential health impacts from mobile sources. The projects would need to be at least one year in duration in order to properly assess the air quality impacts in the area.

**Potential Air Quality Benefits:**

The proposed project will assist in the evaluation of adverse public health impacts associated with mobile sources. The information will be useful in (a) determining whether indirect sources have a relatively higher impact on residents living in close proximity; and (b) providing guidance to develop some area-specific control strategies in the future should it be necessary.



**Proposed Project:** Assess Sources and Health Impacts of Particulate Matter

**Expected SCAQMD Cost:** \$150,000

**Expected Total Cost:** \$300,000

**Description of Technology and Application:**

Previous studies of ambient levels of toxic air contaminants, such as the MATES series of studies, have found that diesel exhaust is the major contributor to health risk from air toxics. Analyses of diesel particulate matter in ambient samples have been based on measurements of elemental carbon. While the bulk of particulate elemental carbon in the South Coast Air Basin is thought to be from combustion of diesel fuels, it is not a unique tracer for diesel exhaust.

The MATES III study collected particulate samples at ten locations in the South Coast Air Basin. Analysis of particulate bound organic compounds was utilized as tracers to estimate levels of ambient diesel particulate matter as well as estimate levels of particulate matter from other major sources. Other major sources that were taken into consideration include automobile exhaust, meat charbroiling, road dust, wood smoke and fuel oil combustion. Analyzing for organic compounds and metals in conjunction with elemental carbon upon collected particulate samples was used to determine contributing sources.

MATES IV, completed in 2015, included an air monitoring program, an updated emissions inventory of toxic air contaminants and a regional modeling effort to characterize risk across the Basin. In addition to air toxics, MATES IV also measured ultrafine particle concentrations and black carbon at the monitoring sites as well as near sources such as airports, freeways, rail yards, busy intersections and warehouse operations.

MATES V was launched in 2017 to update the emissions inventory of toxic air contaminants and modeling to characterize risks, including measurements and analysis of ultrafine particle concentrations typically emitted or converted from vehicle exhaust. Based on preliminary results of MATES V, further assessment may need to be performed.

This project category would include other related factors, such as toxicity assessment based on age, source (heavy-duty, light-duty engines) and composition (semi-volatile or non-volatile fractions) to better understand the health effects and potential community exposures. Additionally, early identification of new health issues could be of considerable value and could be undertaken in this project category.

**Potential Air Quality Benefits:**

Results of this work will provide a more robust, scientifically sound estimate of ambient levels of diesel particulate matter as well as levels of particulate matter from other significant combustion sources, including gasoline and diesel generated VOCs. This will allow a better estimation of potential exposures to and health effects from toxic air contaminants from diesel exhaust in the South Coast Air Basin. This information in turn can be used to determine the health benefits of promoting clean fuel technologies.



## **Technology Assessment and Transfer/Outreach**

**Proposed Project:** Assess and Support Advanced Technologies and Disseminate Information

**Expected SCAQMD Cost:** \$425,000

**Expected Total Cost:** \$800,000

### **Description of Project:**

This project supports the assessment of clean fuels and advanced technologies, their progress towards commercialization and the dissemination of information on demonstrated technologies. The objective of this project is to expedite the transfer of technology developed as a result of Technology Advancement Office projects to the public domain, industry, regulatory agencies and the scientific community. This project is a fundamental element in the SCAQMD's outreach efforts to expedite the implementation of low emission and clean fuels technologies and to coordinate these activities with other organizations.

This project may include the following:

- technical review and assessment of technologies, projects and proposals;
- support for alternative fuel refueling and infrastructure;
- advanced technology curriculum development, mentoring and outreach to local schools;
- emissions studies and assessments of zero emission alternatives;
- advanced technology vehicle demonstrations;
- preparation of reports, presentations at conferences, improved public relations and public communications of successful demonstrations of clean technologies;
- participation in and coordination of workshops and various meetings;
- support for training programs related to fleet operation, maintenance and refueling of alternative fuel vehicles;
- publication of technical papers, reports and bulletins; and
- production and dissemination of information, including web sites.

These objectives will be achieved by consulting with industry, scientific, health, medical and regulatory experts and co-sponsoring related conferences and organizations, resulting in multiple contracts. In addition, an ongoing outreach campaign will be conducted to encourage decision-makers to voluntarily switch to alternatively fueled vehicles and train operators to purchase, operate and maintain these vehicles and associated infrastructure.

### **Potential Air Quality Benefits:**

SCAQMD adopted fleet regulations requiring public and private fleets within the Basin to acquire alternatively fueled vehicles when making new purchases. Expected benefits of highlighting success stories in the use of advanced alternatively fueled vehicles could potentially expedite the acceptance and commercialization of advanced technologies by operators seeking to comply with the provisions of the SCAQMD fleet rules. The resulting future emissions benefits will contribute to the goals of the AQMP.



**Proposed Project:** Support Implementation of Various Clean Fuels Vehicle Incentive Programs

**Expected SCAQMD Cost:** \$325,000

**Expected Total Cost:** \$400,000

**Description of Project:**

This project supports the implementation of zero emission vehicle incentive programs, the Carl Moyer incentives program and the school bus incentives program. Implementation support includes application approval, grant allocation, documentation to the CARB, verification of vehicle registration and other support as needed. Information dissemination is critical to successful implementation of a coordinated and comprehensive package of incentives. Outreach will be directed to vehicle dealers, individuals and fleets.

**Potential Air Quality Benefits:**

As described earlier, the SCAQMD will provide matching funds to implement several key incentives programs to reduce diesel emissions in the Basin. Furthermore, the SCAQMD recently adopted fleet regulations requiring public and private fleets within the Basin to acquire alternatively fueled vehicles when making new purchases. Expected benefits of highlighting zero emission vehicle incentives could potentially expedite the acceptance and commercialization of advanced technologies by operators seeking to comply with the provisions of the recently adopted SCAQMD fleet rules. The resulting future emissions benefits will contribute to the goals of the AQMP. The school bus program and the Carl Moyer incentives program will also reduce large amounts of NO<sub>x</sub> and PM emissions in the basin in addition to reducing toxic air contaminants.



**[This Page Intentionally Left Blank]**



# **Appendix A**

## **SCAQMD Advisory Groups**



**[This Page Intentionally Left Blank]**



## Technology Advancement Advisory Group

Dr. Matt Miyasato, Chair ..... SCAQMD

\*Don Anair ..... Non-Governmental Organization

*Vacant* ..... California Air Resources Board

\*Dr. Sunita Satyapal ..... Department of Energy

Dr. John Froines..... Professor Emeritus  
University of California, Los Angeles

Gretchen Hardison ..... Los Angeles Department of Water and Power;  
Chair of Technical Advisory Committee of the Mobile  
Source Air Pollution Reduction Review Committee

Dawn Wilson ..... Southern California Edison

David Pettit ..... Natural Resources Defense Council

Randall Lewis ..... Lewis Group of Companies

Tim Olson ..... California Energy Commission

Nick Economides ..... Western States Petroleum Association

Cherif Youssef ..... Southern California Gas Company

\*Newly appointed members



## SB 98 Clean Fuels Advisory Group

Dr. Matt Miyasato, Chair .....	SCAQMD
Robert Bienenfeld .....	American Honda Motor Company Inc.
*Dr. Stephen Charlton .....	Independent Consultant in Combustion Technology
Dr. Mridul Gautam.....	West Virginia University, Adjunct Professor, & University of Nevada-Reno
Dr. Fritz Kalhammer.....	Independent Consultant in Energy and Process Technology
John Faust .....	California Environmental Protection Agency, Office of Environmental Health Hazard Assessment
Dr. Wayne Miller.....	University of California, Riverside, College of Engineering, Center for Environmental Research and Technology
<i>Vacant</i> .....	University of Florida, Professor Emeritus
Dr. Scott Samuelson.....	University of California, Irvine, Combustion Laboratory/National Fuel Cell Research Center
Dr. Robert Sawyer .....	Sawyer Associates
Kevin Walkowicz.....	National Renewable Energy Laboratory
*Andreas Truckenbrodt .....	Independent Consultant in Fuel Cell Technologies
Michael Walsh .....	Independent Consultant in Motor Vehicle Pollution Control

\*Newly appointed members



## **Appendix B**

### **Open Clean Fuels Contracts as of January 1, 2018**



**[This Page Intentionally Left Blank]**



Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
<b>Hydrogen and Mobile Fuel Cell Technologies and Infrastructure</b>						
11555	University of California Los Angeles	Construct Hydrogen Fueling Infrastructure	12/07/12	12/31/19	400,000	2,589,990
12057	Linde, LLC	Expand Hydrogen Fueling Infrastructure	11/02/12	04/01/19	80,000	160,000
14684	California Department of Food and Agriculture, Division of Measurement Standards	Conduct Hydrogen Station Site Evaluations for Site Certifications for Commercial Sale of Hydrogen	12/11/15	02/28/18	100,000	100,000
15150	Air Products and Chemicals Inc.	Install and Upgrade Eight Hydrogen Fueling Stations Throughout SCAB (including SCAQMD's Diamond Bar Hydrogen Station)	10/10/14	04/09/19	1,000,000	17,335,439
15366	EPC LLC	Operate and Maintain Publicly Accessible Hydrogen Fueling Station at SCAQMD's Headquarters	10/10/14	02/16/18	0	0
15609	ITM Power, Inc.	Installation of Riverside Renewable Hydrogen Fueling Station	10/06/15	10/05/19	200,000	2,325,000
15611	Ontario CNG Station, Inc.	Installation of Ontario Renewable Hydrogen Fueling Station	07/10/15	07/09/20	200,000	2,325,000
15618	FirstElement Fuel, Inc.	Installation of Eight Hydrogen Stations in Various Cities (two renewable, six delivered)	02/05/16	02/04/21	1,000,000	16,442,000
15619	H2 Frontier Inc.	Installation of Chino Renewable Hydrogen Station	12/04/15	12/03/20	200,000	4,558,274
15635	Center for Transportation and Environment	ZECT II: Develop and Demonstrate One Class 8 Fuel Cell Range-Extended Electric Drayage Truck	04/27/16	10/26/20	821,198	7,109,384
15641	Hardin Hyundai	Three-Year Lease of 2015 Tucson Fuel Cell Vehicle	06/15/15	06/14/18	22,862	22,862
16025	Center for Transportation and Environment	Develop and Demonstrate Fuel Cell Hybrid Electric Medium-Duty Trucks	02/05/16	08/04/20	980,000	7,014,000
16171	Longo Toyota	Three-Year Lease of 2015 Toyota Mirai Fuel Cell Vehicle	12/15/15	12/14/18	24,567	24,567
16251	H2 Frontier, Inc.	Develop and Demonstrate Commercial Mobile Hydrogen Fueller	05/06/16	05/05/21	200,000	1,665,654
17059	Calstart Inc.	Develop and Demonstrate Fuel Cell Extended-Range Powertrain for Parcel Delivery Trucks	10/27/16	04/26/18	589,750	1,574,250
17312	Hydrogenics USA Inc.	ZECT II: Develop Fuel Cell Range-Extended Drayage Truck	11/20/17	05/19/21	125,995	2,433,553
17316	Center for Transportation and the Environment	Develop and Demonstrate Ten Zero Emission Fuel Cell Electric Buses	06/09/17	04/30/20	1,000,000	45,328,859
17317	American Honda Motor Company, Inc.	Three Year Lease of One Honda 2017 Clarity Fuel Cell Vehicle for TAO's Fleet Demonstration Program	03/22/17	03/21/20	17,304	17,304



Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
----------	------------	---------------	------------	----------	-----------	------------------

**Hydrogen and Mobile Fuel Cell Technologies and Infrastructure (cont'd)**

17343	American Honda Motor Company, Inc.	Three Year Lease of One Honda 2017 Clarity Fuel Cell Vehicle for TAO's Fleet Demonstration Program	02/21/17	02/20/20	17,328	17,328
17385	American Honda Motor Company, Inc.	Three Year Lease of One Honda 2017 Clarity Fuel Cell Vehicle for TAO's Fleet Demonstration Program	05/17/17	05/16/20	17,304	17,304
17394	Energy Independence Now	Provide Analysis of Renewable Hydrogen Pathways, Economics and Incentives	10/20/17	03/19/18	25,000	140,000

**Engine Systems & Technologies**

15632	Gas Technology Institute	Develop Ultra Low-Emission Natural Gas Engine for On-Road Medium-Duty Vehicles	09/01/15	06/30/18	750,000	1,800,000
16205	Cummins Westport, Inc.	Develop, Integrate and Demonstrate Ultra-Low Emission 12-Liter Natural Gas Engines for On-Road Heavy-Duty Vehicles	06/03/16	06/30/18	5,250,000	6,250,000
17197	VeRail Technologies Inc.	Develop and Demonstrate Ultra-Low Emission Natural Gas Switcher Locomotive	03/03/17	09/02/19	1,000,000	5,100,000
18018	North American Repower LLC	Develop High Efficiency Near-Zero Emission Natural Gas Engines for Heavy-Duty Vehicles	12/14/17	12/12/19	200,000	1,958,096

**Electric/Hybrid Technologies and Infrastructure**

08063	Quantum Fuel Systems Technologies Worldwide, Inc.	Develop & Demonstrate 20 Plug-In Hybrid Electric Vehicles	01/22/08	01/31/18	2,165,613	2,899,057
13058	Capstone Turbine Corporation	Develop Microturbine Series Hybrid System for Class 7 Heavy-Duty Vehicle Applications	08/12/13	12/31/18	360,000	1,210,000
13426	Transportation Power, Inc.	Develop & Demonstrate Catenary Class 8 Trucks (1 Electric & 1 CNG Platform)	06/07/13	07/31/18	2,617,887	3,182,795
13433	U.S. Hybrid Corporation	Develop and Demonstrate Two Class 8 Zero-Emission Electric Trucks	06/26/13	09/30/18	75,000	150,000
13439	City of Carson	MOU for Catenary Zero Emission Goods Movement Project	10/01/13	07/31/18	0	0
14052	Altec Capital Services, LLC	Lease of Two Plug-In Hybrid Electric Vehicles	01/02/15	01/01/20	61,302	61,302
14062	Siemens Industry Inc.	Develop and Demonstrate Catenary Zero Emissions Goods Movement System and Develop and Demonstrate Diesel Catenary Hybrid Electric Trucks	07/14/14	07/13/18	5,500,000	14,780,000
14184	Clean Fuel Connection Inc.	DC Fast Charging Network Provider	04/04/14	06/30/20	920,000	1,220,000



Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
<b>Electric/Hybrid Technologies and Infrastructure (cont'd)</b>						
14222	Odyne Systems, LLC	Develop and Demonstrate Plug-In Hybrid Electric Retrofit System for Class 6 to 78 Trucks	04/24/14	05/31/18	389,000	2,226,571
14256	National Strategies LLC	Develop and Demonstrate Vehicle-2-Grid Technology	09/05/14	03/04/18	250,000	3,377,689
15382	ChargePoint, Inc.	Install Electric Charging Infrastructure	01/23/15	1/31/18	162,000	162,000
15650	University of California San Diego	Develop and Demonstrate Solar Forecasting for Larger Solar Arrays with Storage and EV Charging	07/17/15	01/16/18	98,908	1,655,278
16022	Gas Technology Institute	ZECT II: Develop and Demonstrate One Class 8 CNG Hybrid Electric Drayage Truck	12/04/15	06/30/20	1,578,802	5,627,319
16046	Transportation Power, Inc.	ZECT: Develop and Demonstrate Two Class 8 CNG Plug-In Hybrid Electric Drayage Trucks	12/04/15	09/30/18	195,326	2,103,446
16047	U.S. Hybrid Corporation	ZECT: Develop and Demonstrate Three Class 8 LNG Plug-In Hybrid Electric Drayage Trucks	11/06/15	09/30/18	22,896	1,996,675
16081	Broadband TelCom Power, Inc.	Provide EV Hardware and Control System at SCAQMD Headquarters including Installation Support, Warranty and Networking	04/27/16	04/26/22	367,425	367,425
16200	California State University Los Angeles	Cost-Share Regional Universities for U.S. DOE EcoCAR 3 Competition	04/14/16	04/15/20	100,000	300,000
16227	Selman Chevrolet Company	Lease One 2016 Chevrolet Volt Extended-Range Electric Vehicle for Three Years	02/01/16	01/31/19	15,677	15,677
17029	University of California Irvine	Demonstrate and Evaluate Plug-In Smart Charging at Multiple Electric Grid Scales	06/29/17	06/28/20	250,000	750,000
17065	Clean Fuel Connection, Inc.	EV Infrastructure Installer	12/02/16	12/31/21	805,219	805,219
17105	BYD Motors Inc.	Develop and Demonstrate Up to 25 Class 8 Battery Electric Drayage Trucks	04/14/17	10/13/23	794,436	8,942,400
17207	Peterbilt Motors	Develop and Demonstrate Up to 12 Class 8 Battery Electric Drayage Trucks	04/07/17	10/06/23	642,436	11,006,340
17225	Volvo Technology of America LLC	Develop and Demonstrate Up to Two Class 8 Battery Electric Drayage Trucks	06/09/17	06/08/20	1,741,184	9,458,446
17244	Kenworth Truck Company	Develop and Demonstrate Up to Two Class 8 Battery Electric Drayage Trucks	09/08/17	01/08/20	2,823,475	9,743,739
17353	Odyne Systems, LLC	Develop and Demonstrate Medium-Heavy-Duty (Class 5-7) Plug-In Hybrid Electric Vehicles for Work Truck Applications	06/09/17	09/08/20	900,000	6,955,281
18075	Selman Chevrolet Company	Lease Two 2017 Chevrolet Bolt All-Electric Vehicles for Three Years for TAO's Fleet Demonstration Program	08/18/17	08/17/20	26,824	26,824



Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
----------	------------	---------------	------------	----------	-----------	------------------

**Fueling Infrastructure and Deployment (NG/RNG)**

09364	Rim of the World Unified School District	Construct & Install a CNG Fueling Station	12/30/10	10/31/18	257,000	425,000
12667	West Covina Unified School District	Upgrade CNG Fueling Facility	10/12/12	03/01/20	60,000	60,000
12851	Clean Energy	Install, Operate and Maintain Three LNG Fueling Stations (Fontana, Coachella and Perris)	10/05/12	12/31/18	1,400,000	4,277,323
12852	City of Covina	Construct Public Access CNG Fueling Stations	10/12/12	12/31/18	200,000	618,429
12853	Rainbow Disposal Co. Inc.	Upgrade CNG Fueling Station	03/08/13	12/31/18	200,000	400,000
12854	Waste Management, Inc.	Upgrade LNG Fueling Station at Baldwin Park Facility	08/17/12	12/31/18	300,000	1,588,100
14219	City of West Covina	Upgrade CNG Station at City Yard	05/15/14	08/01/19	200,000	618,429
15438	United Parcel Service, Inc.	Refurbish/Upgrade Ontario UPS LCNG Infrastructure	12/31/14	06/30/18	246,707	484,535
15541	Foundation for California Community Colleges	Implement Enhanced Fleet Modernization Program	05/07/15	01/30/19	21,270	30,000
16075	City of Desert Hot Springs	Purchase One Heavy-Duty CNG-Powered Truck	03/11/16	03/10/20	38,000	63,000
16076	Coachella Valley Association of Governments	Purchase and Deploy One Heavy-Duty CNG Paratransit Vehicle	12/01/15	11/20/19	140,000	140,000
16244	CR&R, Inc.	Renewable Natural Gas Production and Vehicle Demonstration Project	09/03/16	03/02/20	900,000	55,000,000
16333	Ontario CNG Station, Inc.	Implement Alternative Fuel Station Expansion	05/13/16	11/12/19	200,000	798,535
17092	Kore Infrastructure, LLC	Construct RNG Production Facility and Demonstrate RNG with Next Generation Natural Gas Engine	10/14/16	10/13/21	2,500,000	25,500,000
17349	University of California Riverside/CE-CERT	Establish Renewable Natural Gas Center	08/03/17	08/02/18	100,000	261,110

**Fuels/Emission Studies**

15607	University of California Riverside/CE-CERT	Innovative Transportation System Solutions for NOx Reductions in Heavy-Duty Fleets	12/19/15	04/30/18	79,980	139,980
15625	University of California Riverside/CE-CERT	Evaluate SOA Formation Potential from Light-Duty GDI Vehicles	10/02/15	06/30/18	149,972	224,972
15636	University of California Riverside/CE-CERT	Evaluate PEV Utilization Through Advanced Charging Strategies in a Smart Grid System	12/15/15	06/30/18	170,000	270,000



Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
----------	------------	---------------	------------	----------	-----------	------------------

**Fuels/Emission Studies (cont'd)**

15680	National Renewable Energy Laboratory	ComZEV: Develop Detailed Technology and Economics-Based Assessment for Heavy-Duty Advanced Technology Development	08/25/15	06/30/18	520,000	540,000
17060	University of California Riverside	Bailment Agreement for Equipment Use for In-Use Emissions Testing of Heavy-Duty Inspection and Maintenance Program	10/13/16	10/12/18	0	0
17245	West Virginia University Research Corporation	Conduct In-Use Emissions Testing and Fuel Usage Profile on On-Road Heavy-Duty Vehicles	06/09/17	06/08/21	1,625,000	1,625,000
17276	University of California Riverside/CE-CERT	Develop ECO-ITS Strategies for Cargo Containers	08/03/17	08/02/20	543,000	2,190,233
17277	University of Southern California	Conduct Market Analysis for Zero Emission Heavy-Duty Trucks in Goods Movement	11/03/17	11/02/19	350,000	524,000
17278	University of Southern California	Develop Freight Loading Strategies for Zero Emissions Heavy-Duty Trucks in Goods Movement	11/03/17	11/02/19	200,000	1,001,000
17286	University of California Riverside/CE-CERT	Conduct In-Use Emissions Testing and Fuel Usage Profile on On-Road Heavy-Duty Vehicles	06/09/17	06/08/21	1,625,000	1,625,000
17331	University of California Riverside/CE-CERT	Conduct In-Use PM Emissions Study for Gasoline Direct Injection Vehicles	07/14/17	07/31/18	222,000	273,000
17352	California State University Maritime Academy	Develop and Demonstrate Vessel Performance Management Software and Vehicles	06/09/17	06/08/21	50,086	195,195
18090	University of California Riverside/CE-CERT	Study Secondary Organic Aerosol Formation from Heavy-Duty Diesel and Natural Gas Vehicles	12/05/17	12/04/18	85,000	85,000

**Stationary Clean Fuels Technology**

13045	ClearEdge (novated from UTC Power Corp.)	Energy Supply and Services Agreement to Install One 400 kW Phosphoric Acid Fuel Cell at SCAQMD Headquarters	09/28/12	09/27/22	450,000	4,252,680
-------	--	---	----------	----------	---------	-----------

**Technology Assessment/Transfer & Outreach**

08210	Sawyer Associates	Technical Assistance on Mobile Source Control Measures and Future Consultation on TAO Activities	02/22/08	02/28/18	10,000	10,000
09252	JWM Consulting Services	Technical Assistance with Review and Assessment of Advanced Technologies, Heavy-Duty Engines, and Conventional and Alternative Fuels	12/20/08	06/30/18	30,000	30,000
12376	University of California Riverside	Technical Assistance with Alternative Fuels, Biofuels, Emissions Testing and Zero-Emission Transportation Technology	06/13/14	05/31/18	75,000	75,000



Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
<b>Technology Assessment/Transfer &amp; Outreach (cont'd)</b>						
12381	Integra Environmental Consulting Inc.	Technical Assistance Related to Emission Inventories, Goods Movement and Off-Road Sources	04/06/12	04/30/18	110,000	110,000
12453	Tech Compass	Technical Assistance with Alternative Fuels, Fuel Cells, Emissions Analysis and Aftertreatment Technologies	06/21/12	05/30/18	75,000	75,000
14185	Three Squares Inc.	Conduct Education Outreach for the Basin DC Fast Charging Network Project	04/11/15	06/30/18	89,183	89,183
15380	ICF Resources LLC	Technical Assistance with Goods Movement, Alternative Fuels and Zero-Emission Transportation Technologies	12/12/14	12/11/18	30,000	30,000
15516	Cordoba Corporation	Technical Assistance with Construction of Zero Emissions Goods Movement Demonstration Project	03/27/15	03/31/18	74,500	74,500
17037	Clean Fuel Connection, Inc.	Technical Assistance with Alternative Fuels, Electric Vehicles, Charging and Fueling Infrastructure and Renewable Energy	11/18/16	11/17/18	100,000	100,000
17097	Gladstein, Neandross & Associates, LLC	Technical Assistance with Alternative Fuels and Fueling Infrastructure, Emissions Analysis and On-Road Sources	11/04/16	11/03/18	200,000	200,000
17282	Calstart	Cosponsor CALSTART's 25th Anniversary Symposium	03/22/17	01/31/18	15,000	150,000
17336	Three Squares Inc.	Conduct Education Outreach for the Basin DC Fast Charging Network Project	05/12/17	06/30/18	64,183	64,183
17358	AEE Solutions, LLC	Technical Assistance with Heavy-Duty Vehicle Emissions Testing, Analysis and Engine Development	06/09/17	09/08/19	100,000	100,000
18019	Ricardo Inc.	Technical Assistance with Heavy-duty Vehicle Emissions Testing, Analysis, and Engine Development and Applications	09/01/17	08/31/19	50,000	50,000
18120	Burke Rix Communications	Cosponsor the Southern California Energy Water & Green Living Summit 2018	12/06/17	02/28/18	5,000	150,000



## **Appendix C**

### **Final Reports for 2017**



**[This Page Intentionally Left Blank]**



SCAQMD Contract #10482

October 2017

# Install and Demonstrate a PEM Electrolyzer in Los Angeles, Providing Hydrogen Fueling for Vehicles and Utilizing the Technology in the Engineering Technology Curriculum at the University

## Contractor

California State University Los Angeles

## Cosponsors

The Ahmanson Foundation  
 Automobile Club of Southern California  
 California Air Resources Board (CARB)  
 California State University Los Angeles  
 U.S. Department of Energy (DOE)  
 Fran Morris-Rosman & Richard Rosman Trust  
 Kenneth Brasher ('62) Trust  
 MSRC/AB 2766 Discretionary Fund  
 South Coast Air Quality Management District

## Project Officer

Larry Watkins/Joseph Impullitti

## Background

The implementation of zero emission vehicles (ZEVs) is a key component in the effort to achieve air quality improvements in the South Coast Air Basin. Fuel cell electric vehicle (FCEV) technology is emerging at an accelerated pace and may play a crucial role in this effort. To accelerate this technology as a viable commercial alternative, the SCAQMD includes funding in its program allocations to support a network of hydrogen fueling stations throughout the Basin to support the operation and demonstration of FCEVs in the South Coast air basin. California State University Los Angeles (CSULA) submitted a proposal to SCAQMD and was awarded funding to construct and demonstrate a hydrogen research and fueling station with a polymer electrolyte membrane (PEM) electrolyzer. This project also complemented similar objectives and mandates of CARB and the DOE.

## Project Objective

The project objective was to construct, install and operate a hydrogen research and fueling station including a PEM electrolyzer system in Los Angeles for the generation, compression, storage

and dispensing of hydrogen on the CSULA campus. The station was intended to be a public access hydrogen station in support of FCEV technology as well as a research and educational tool as part of CSULA's engineering technology curriculum.

## Technology Description

The station PEM electrolyzer produces hydrogen onsite from the splitting of water molecules. As powered by renewable energy electricity sources, this results in hydrogen production with a "zero carbon" fuel cycle. The station is capable of producing 60 kg per day and is matched with 60 kg of hydrogen storage capacity in ASME storage vessels. Hydrogen compression is accomplished via one PDC diaphragm type and two Hydropac high-pressure reciprocating type compressors, providing for both 350 bar and 700 bar fueling. The dispenser has two hoses, for respective 350 bar and 700 bar fueling events, and is capable of point-of-sale transactions utilizing major credit cards. Hydrogen is chilled to -20C, with typical refueling times of 6-8 minutes. Based upon typical refueling volumes, the station can fuel upwards of 20 vehicles per day.

## Status

The CSULA fueling station encountered significant difficulties during construction. A lack of "buffer tanks" capacity, and a construction dispute over the same, stalled the project for over two years. Ultimately, the general construction



**Figure 1: CSULA's H<sub>2</sub> Station interior (from left to right): high pressure compressors, H<sub>2</sub> chiller, 350 bar compressor, electrolyzer, 350 bar storage banks, visitor gallery**



contractor could not finish the project, and CSULA took over construction and commissioning. After buffer tanks were installed, the station was for the first time capable of conducting fueling events on the 700 bar side without pressure pulsations. Another latent defect was discovered soon afterwards--incomplete NFPA leak detection in the dispenser programming. This was also a function of the previous lack of buffer tanks. However, permission to proceed with station operations was obtained from the State Fire Marshall, so long as protective measures in the form of attended fueling by trained personnel and manual leak monitoring were provided. With implementation of such an "attended fueling" protocol, improvement to station operations was able to proceed, pending the leak test programming upgrades. Quantum Technologies was tasked with leak test programming improvements.

The station successfully passed temporary certification to sell hydrogen by the kilogram from the California Division of Measurements Standards on October 23, 2014. Subsequently, the station made the first recorded sale of hydrogen by the kilogram on November 12, 2014, making the facility the first in the world to sell hydrogen fuel by the kilogram directly to retail customers. Furthermore, the station dispenser became the first in history to receive California commercial certification on January 8, 2014. Fueling contracts with several OEMs were also commemorated during these milestone events.

In its first few months, the station completed more than 250 vehicle fueling events. The station consistently makes 60 kgs of hydrogen available for fueling. Sufficient loading of the station is critical to maintain thermal balances and station reliability, and efforts continue to bolster utilization.

This contract closed in October 2017 following completion of data reporting and program management of the station for a three-year period. As of the closing of this contract, the station had limited access due to public accessibility issues.

## Results

To date FCEVs from GM, Hyundai, Honda, Mercedes-Benz, Volkswagen and Audi have fueled at the station. The station is capable of producing 1800 kilograms of hydrogen per month, enough to fuel hundreds of vehicles producing only water vapor emissions. This is consistent with projected performance results.

**Table 1: Three-year fueling throughput**

Period	# of Fueling Events	kg sold
Nov 2014-Oct 2015	742	1,682
Nov 2015-Oct 2016	779	1,722
Nov 2016-Oct 2017	716	1,523
<b>Total</b>	<b>2,237</b>	<b>4,927</b>

## Benefits

While no emission credits were associated with the construction of this station, hydrogen fuel displaces more traditional fossil fuels in mobile sources, thus reducing NO<sub>x</sub> and achieving co-benefits for GHG emission reductions.

## Project Costs

Projected costs for this project were \$4,565,110. Final costs by cosponsor were as follows:

Cosponsors	Funding Amount
The Ahmanson Foundation	\$200,000
Auto Club of Southern California	\$50,000
CARB	\$2,700,000
CSULA	\$560,588
Fran Morris-Rosman & Richard Rosman Trust	\$180
Kenneth Brasher (62') Trust	\$10,000
MSRC/AB 2766 Disc. Fund	\$250,000
SCAQMD	\$250,000
DOE	\$475,000
<b>Total</b>	<b>\$4,495,768</b>

## Commercialization and Applications

The station remains in operation despite public accessibility issues. However, CSULA and SCAQMD are evaluating solutions so the station can be utilized to its full capacity. Additionally, the hydrogen station was incorporated into CSULA's public outreach, research and education mission.



SCAQMD Contract #16039

April 2017

## Demonstrate Prototype Hydrogen Sensor and Electronics Package

### Contractor

Lawrence Livermore National Laboratory (LLNL)  
Subcontractor: Los Alamos National Laboratory (LANL)

### Cosponsors

U.S. Department of Energy (DOE)  
South Coast Air Quality Management District

### Project Officer

Lisa Mirisola

### Background

Hydrogen safety sensors, both for filling stations and vehicle monitoring, are an integral part of the overall development of a hydrogen economy. Department of Energy (DOE) workshops, held to review hydrogen safety sensor requirements, identified performance targets for a variety of applications, with a focus on hydrogen refueling infrastructure and on-board fuel cell vehicles. These workshops highlight the dearth of commercially available hydrogen sensors capable of meeting sensitivity, durability, reliability and operational requirements at a cost which can accommodate wide-scale deployment.

### Project Objective

The objective of this project was to co-fund demonstration of the LLNL/LANL hydrogen safety sensor at two hydrogen refueling stations - one in Burbank and one in Chino - and acquire performance data over a planned six-month demonstration period. Testing was conducted at the Burbank station operated by Hydrogen Frontier with positive results reported at the 2015 DOE Annual Merit Review. This project was also to continue monitoring at Burbank, including system upgrades for improved sensor communication and addition of a weather monitoring station.

### Technology Description

The hydrogen safety sensor demonstrated employs electrochemical principles, relying on yttria-stabilized zirconium oxide—the same solid electrolyte upon which the broadly successful oxygen lambda sensor is based. Unlike lambda sensors, which operate at high temperatures where electrode reactions are dominated by thermodynamics, this hydrogen sensor operates at far lower temperatures where electrode kinetics (rates of oxidation and reduction of reactants) generate a non-equilibrium potential that dominates its response. The non-equilibrium electrochemical potential (also called a “mixed potential”) develops due to differences in the redox kinetics of hydrogen at dissimilar electrode/electrolyte gas interfaces.



**Figure 1: A close-up of a sensor element (left). Hydrogen sensor prototypes were installed at fueling station in Burbank (right) and Chino to assess their performance and long-term stability.**

The demonstrated hydrogen safety sensor is unique, not only due to the mixed potential electrochemical phenomena, but because it uses a unique combination of electrode materials and a patented sensor design (U.S. Patent No. 7,264,700) that results in achieving stable and reproducible hydrogen response characteristics. The result is a new, highly sensitive electrochemical hydrogen safety sensor, designed with low cross-sensitivity and ultra-stable baseline, requiring minimal calibration and intrinsically resistant to false alarms.



## Status

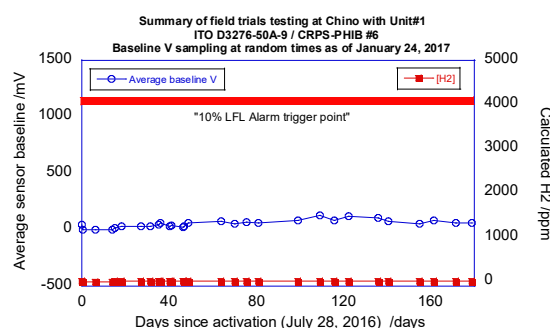
The demonstrations at Burbank and Chino hydrogen fueling stations were completed in April 2017 and were summarized in a final report due May 2017. Four progress reports are on file and the major tasks have been completed.

These tasks include:

- 1) selection of the Hyundai/Hydrogen Frontier fueling station in Chino, CA for the second demonstration site,
- 2) purchase and preparation of sensor elements, electronics and equipment necessary for field installation of two hydrogen sensor units and
- 3) sensor field trials unit/weather station installation and continuous monitoring for performance analysis.

## Results

Field demonstrations clearly indicate that the sensors experience: minimal baseline drift, H<sub>2</sub> spikes in accordance with logged station release events, good sensitivity/ability to measure small, normal H<sub>2</sub> releases during routine station operation, no false positives during the entire field trials program, fast response time in the laboratory ( $<<1$  s), which translates to the ability to clearly distinguish between filling events which occur within 10 minutes of each other, and low cross-sensitivity to water vapor and CO<sub>2</sub>.



**Figure 2: Sensor baseline voltage and corresponding H<sub>2</sub> measurement during prolonged exposure at the Chino fueling station over a 25-week period.**

## Benefits

This technology offers a solution for hydrogen emissions monitoring with minimal baseline drift, requiring infrequent calibrations/maintenance. The sensor responds rapidly to hydrogen releases with excellent sensitivity. Based on the performance

recorded during this study, mixed potential sensors using an indium tin oxide electrode can meet U.S. DOE hydrogen safety sensor requirements.

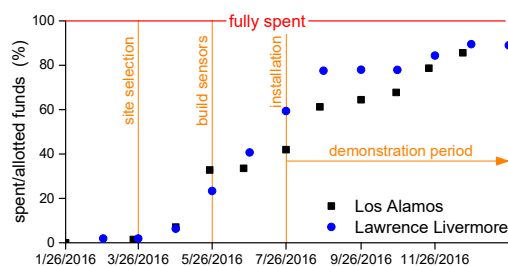
**Table 1: LANL/LLNL sensors meet U.S. DOE requirements**

	EERE Table 3.7.2 [1]	LANL/LLNL sensor
Response time	$< 1$ s	$<<1$ s
Min detection limit	0.10%	10 ppm
Max detection limit	10%	5%
Accuracy	5% of full scale	$<5\%$ of full scale
Ambient temperature	-30 to 80 C	-30 to 125 C
Ambient humidity	10-98% RH	0-100% RH

[1] Buttner WJ, Post MB, Burgess R, Rivkin C (2011) International Journal of Hydrogen Energy 36(3):2462-2470

## Project Costs

Project costs match projected spending. Of the SCAQMD funding allocated for this effort, \$75,000 was applied to station selection, sensor installation, monitoring and analysis, and project management and reporting, \$100,000 was used for sensor materials, deposition, construction, station selection, installation support and sensor monitoring/analysis. The total project costs were \$350,000 with the U.S. DOE providing the remaining funding.



**Figure 3: Expense over project duration, with milestone indicators.**

## Commercialization and Applications

This hydrogen safety sensor technology is an excellent candidate for commercial development to support hydrogen monitoring in fueling stations, hydrogen transportation vehicles, storage tanks and hydrogen fuel cell consumer vehicles. Efforts to optimize platform deposition and design for scale-up are underway. (If you wish to view the final report in its entirety, it has been assigned the release ID# LLNL-TR-725120.)



## Participate in California Fuel Cell Partnership for CY 2017 and Provide Support for Regional Coordinator

### Contractor

Frontier Energy

### Cosponsors

7 Automakers  
6 Public agencies  
1 Technology provider  
28 Associate members

### Project Officer

Lisa Mirisola

- Coordinate nationally and internationally to share and align approaches

### Status

The members of the CaFCP intend to continue their cooperative demonstration effort. This final report covers the SCAQMD for 2017 membership. This contract was completed on schedule.

### Background

Established with eight members in 1999, the California Fuel Cell Partnership (CaFCP) is a collaboration in which private and public entities are independent participants. It is not a joint venture, legal partnership or unincorporated association. Therefore, each participant contracts with Frontier Energy (previously Bevilacqua-Knight, Inc./BK) for their portion of CaFCP administration. SCAQMD joined the CaFCP in April 2000, and the CaFCP currently includes 42 organizations interested in demonstrating fuel cell vehicle and fueling infrastructure technology.

### Project Objectives

Goals for 2017:

- Decrease hydrogen station development time lines and costs
- Identify technology challenges and information gaps within the state's hydrogen station network
- Coordinate and collaborate on consensus approaches to achieving first 100 hydrogen stations in California
- Identify new concepts & approaches to initiate exponential station network growth
- Communicate progress of Fuel Cell Electric Vehicles (FCEVs) and hydrogen to current and new stakeholder audiences.
- Facilitate implementation of two FCEB (Fuel Cell Electric Bus) Centers of Excellence (No. and So. Calif.)
- Increase awareness and market participation of fuel cell electric trucks, including supporting the deployment of funded pilot projects



Figure 1: CaFCP organized tours of the El Dorado manufacturing plant in Riverside in August 2017 to look at fuel cell buses under assembly.

### Technology Description

The CaFCP members together or individually are demonstrating fuel cell passenger cars and transit buses and associated fueling infrastructure in California. The passenger cars include Honda's Clarity, Hyundai's Tucson, and Toyota's Mirai. The fuel cell transit buses include 13 placed at AC Transit and five placed at Sunline Transit, one placed with Orange County Transportation Authority and one placed with UC Irvine Student Transportation.

### Results

Specific accomplishments include:

- More than 3,000 consumers and fleets have purchased or leased passenger category FCEVs since they entered the commercial market in 2015;
- Transit agency members have 20 fuel cell electric buses currently in operation and more than 30 funded in 2016;
- There are 31 retail and four other non-retail hydrogen fueling stations in operation in California and 34 in development.



- CaFCP staff and members continue to conduct outreach and education in communities throughout California;
- CaFCP, the Governor's Office of Business and Economic Development and the California Energy Commission, continue advising and responding to city staff across the state of California to optimize station permitting.
- CaFCP created and maintains the Station Operational Status System (SOSS) that more than 30 hydrogen stations in the U.S. use to report status. This data, in turn, feeds real-time information (address, availability, etc.) to consumers through a CaFCP mobile-friendly website and several other apps and systems that support consumers.

### **Benefits**

Compared to conventional vehicles, fuel cell vehicles offer zero smog-forming emissions, reduced water pollution from oil leaks, higher efficiency and much quieter and smoother operation. When renewable fuels are used as a source for hydrogen, fuel cell vehicles also encourage greater energy diversity and lower greenhouse gas emissions (CO<sub>2</sub>).

By combining efforts, the CaFCP can accelerate and improve the commercialization process for all categories of vehicles: passenger, bus, truck, etc. The members have a shared vision about the potential of fuel cells as a practical solution to many of California's environmental issues and similar issues around the world. The CaFCP provides a unique forum where infrastructure, technical and interface challenges can be identified early, discussed, and potentially resolved through cooperative efforts.

### **Project Costs**

Auto members provide vehicles, and the staff and facilities to support them. Energy members engage in fueling infrastructure activities. The CaFCP's annual operating budget is about \$2 million, and includes facility operating costs, program administration, joint studies and public outreach and education. Each full member makes an annual contribution of approximately \$70,000 towards the common budget. Some government agencies contribute additional in-kind products and services. SCAQMD provides an additional \$50,000 annually to support a Southern California Regional Coordinator and provides office space

for additional staff in-kind at SCAQMD. SCAQMD's contribution for 2017 was \$120,000.

### **Commercialization and Applications**

While research by multiple entities will be needed to reduce the cost of fuel cells and improve fuel storage and infrastructure, the CaFCP has played a vital role in demonstrating fuel cell vehicle reliability and durability, fueling infrastructure and storage options and increasing public knowledge and acceptance of the vehicles and fueling.

CaFCP's goals relate to preparing for and supporting market launch through coordinated individual and collective effort. CaFCP members, individually or in groups, are focusing on the following important goals:

- Prepare for larger-scale manufacturing, which encompasses cost reduction, supply chain and production.
- Reduce costs of station equipment, increase supply of renewable hydrogen at lower cost, and develop new retail station approaches.
- Support cost reduction through incentives and targeted research, development and demonstration projects.
- Continue research, development and demonstration of advanced concepts in renewable and other low-carbon hydrogen.
- Provide education and outreach to the public and community stakeholders on the role of FCEVs and hydrogen in the evolution to electric drive.

In 2018, the primary goals are the same as the 2017 goals listed above.



SCAQMD Contract #15626

July 2017

# Develop, Integrate and Demonstrate Ultra-Low Emission Natural Gas Engines for On-Road Heavy-Duty Vehicles

## Contractor

Cummins Westport, Inc.

## Cosponsors

California Energy Commission (CEC)  
Southern California Gas Company  
South Coast Air Quality Management District

## Project Officer

Richard Carlson/Joseph Lopat

## Background

Heavy-duty on-road diesel vehicles are currently one of the largest sources of NO<sub>x</sub> emissions in the South Coast Air Basin. This source category is still projected to be one of the largest contributors to NO<sub>x</sub> emissions, even as the legacy fleet of older and higher-polluting vehicles are retired from operation and replaced by the cleanest available vehicles meeting the most stringent emission levels required by 2010 U.S. EPA emissions standards. The development of ultra-low emissions natural gas engines would significantly reduce emissions from this on-road heavy-duty source category and assist the region in meeting federal ambient air quality standards in the future.

## Project Objective

Cummins Westport Inc.'s (CWI) objectives for this project were to develop and demonstrate an 8.9 liter natural gas engine suitable for on-road heavy-duty vehicle applications such as buses, refuse service, goods movement, and/or drayage trucks. The 'production-intent' engines and associated exhaust after-treatment technologies must be commercially viable and capable of:

- Achieving emissions targets of 0.02 g/bhp-hr NO<sub>x</sub>, 0.01 g/bhp-hr PM, 0.14 g/bhp-hr NMHC, and 15.5 g/bhp-hr CO,
- Keeping exhaust NH<sub>3</sub> emissions as low as achievable while targeting 10 ppm,
- Being thermally and fuel efficient, to achieve minimal fuel economy penalties relative to 2010 U.S. EPA and CARB certified diesel engines in similar duty cycle, and
- Being certified by the U.S. EPA and CARB.

## Technology Description

An extensive process was undertaken to evaluate hardware and software changes on the engine and aftertreatment in order to achieve the project goals while being conscious about the impact on product costs and time for commercial development.

The selected technology architecture consisted of:

- Addition of a closed crankcase ventilation (CCV) system with pressure sensor,
- Addition of mid-catalyst temperature sensor,
- Aftertreatment size increase and improved composition of washcoat and precious metals, and
- Implementation of improved software with various emission optimizing control strategies.

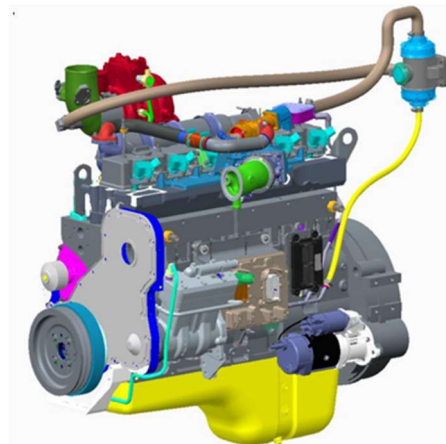


Figure 1: Cummins 8.9 liter ISL-G engine.

The CCV system consisted of a filter and hose assembly. The hoses route crankcase emissions to the filter where oil is separated and returned to the engine sump. The vapor is returned to the air intake where it mixes with intake air, fuel and EGR and enters the combustion chamber.

The additional CCV pressure sensor allows the control system to monitor pressure in the CCV system and alert the operator to issues as part of system diagnostics. The additional temperature sensor located mid-length on the catalyst allows the control



system to more quickly and accurately adjust fueling to minimize emissions. The combination of increased aftertreatment size and improved composition of washcoat and precious metals increases the overall conversion efficiency of the catalyst, thereby reducing emissions. The optimized control software targets high NO<sub>x</sub> forming portions of the duty cycle and utilizes the above-mentioned hardware changes to reduce tailpipe emissions

## Status

The project was successfully completed. While originally scheduled to be completed at the end of December 2016, the demonstration task was extended through to June 2017. The final report is on file with technical details of the project.

A variety of potential hardware and software changes were investigated early on in this project, resulting in the selection of engine and aftertreatment architecture. Prototype engines were built and tested in engine dynamometers and in engineering vehicles to further develop and validate the changes.

Full emissions certification testing was completed and submitted to CARB and U.S. EPA. In late 2015, CWI received emissions certification approvals from both CARB and U.S. EPA, meeting CARB's Optional Low NO<sub>x</sub> 0.02g standard.

Thirteen pre-production engines were installed in seven refuse trucks and six transit buses and successfully operated in commercial service, accumulating over 560,000 miles and 61,000 hours of operation. Third-party chassis dynamometer testing of one of the demonstration refuse trucks was conducted by UC Riverside. The test showed the ISL G Near Zero "met and exceeded the target NO<sub>x</sub> emissions of 0.02 g/bhp-hr and maintained those emissions during a full ration of duty cycles found in the South Coast Air Basin".

## Results

The objectives of this project were achieved. Emissions certification was received from CARB and U.S. EPA to meet the CARB Optional Low NO<sub>x</sub> 0.02g standard. While the stretch NH<sub>3</sub> target of 10 ppm was not achieved, ammonia emissions were reduced to less than 87 ppm measured in the cold hot emissions test cycle.

Thirteen demonstration vehicles successfully operated in commercial service accumulating 564,306 miles and 61,805 hours. Fuel efficiency was demonstrated on the transit demonstration vehicles at 3.39 to 3.83 mpdgc (miles per diesel gallon equivalent), while UC Riverside estimated the fuel efficiency as 4.5 mpdgc for the regional port cycle and

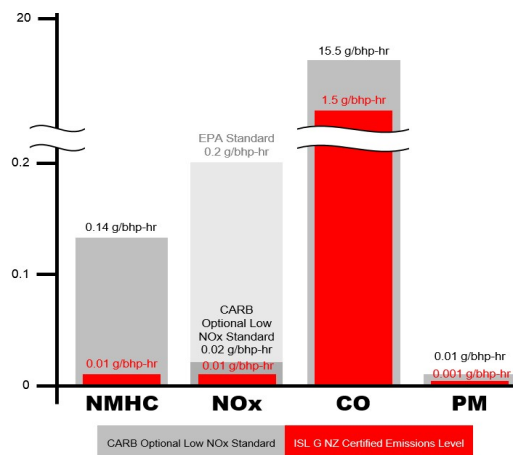


Figure 2: ISL-G emissions out-put

2.5 mpgc for the CBD cycle. Notably, the technology development from this project initiated the commercial development of the ISL G NZ engine and aftertreatment.

## Benefits

Parallel to this project, the ISL G NZ engine was commercialized and offered as a first-fit engine to vehicle OEMs covering refuse, transit and truck markets. The availability of an ultra-low emissions engine, specifically one that reduces NO<sub>x</sub> by over 90% from the current federal standard, enables air districts in North America to carry out their emissions reduction plans to meet ambient air quality goals, specifically reducing NO<sub>x</sub> emissions from heavy-duty on-road vehicles. To put the emissions reduction potential of vehicles powered by this ultra-low NO<sub>x</sub> engine into perspective, ten ISL G NZ powered buses produce the same NO<sub>x</sub> emissions as only one bus powered by a 2010 EPA-certified engine.

## Project Costs

SCAQMD, CEC and SoCalGas contributed \$3.5M. CWI's cost-share was approximately \$3.7M, consistent with the expected project cost-share of \$3,733,033. The total project cost was approximately \$7.2M.

## Commercialization and Applications

In parallel to this technology development and demonstration project, development of the ISL G NZ engine was successfully completed and the engine commercially launched in mid-2016. This engine is intended to be offered by the same wide range of vehicle OEMs and address the same applications as the current production ISL G engine. At project completion, the ISL G NZ powered vehicles were in commercial service in the transit and refuse service markets in California.



SCAQMD Contract #12028

September 2017

## Demonstrate and Replace UPS Delivery Trucks with Zero Emission Medium-Duty Trucks

### Contractor

Electric Vehicles International

### Cosponsors

California Air Resources Board

United Parcel Service

South Coast Air Quality Management District

### Project Officer

Joseph Impullitti

### Background

Electric Vehicles International (EVI), United Parcel Service (UPS), SCAQMD and the California Air Resource Board (CARB) partnered together to create the Zero Emission Community-Level Goods Movement and Delivery Demonstration project in San Bernardino. This collaborative project provided funding for 40 zero emission vehicles at the San Bernardino UPS facility. As part of the project, the SCAQMD asked UPS to decommission one older diesel vehicle for every new zero emission vehicle.

### Project Objective

EVI proposed to assemble and deliver 28 EVI walk-in medium-duty trucks to replace UPS diesel delivery trucks, which are located and operated in the City of San Bernardino. The replacement trucks will then be demonstrated in the UPS commercial fleet for a period of five years, during which UPS and EVI will collect data to evaluate performance, reliability, durability and emissions benefits of the EVI technology.

Shortly after the SCAQMD Board approved this project, CARB increased the incentive funding, which allowed an additional 12 vehicles to be delivered to San Bernardino for the same SCAQMD investment amount.

### Technology Description

EVI, utilizing their signature all electric powertrain, worked with UPS to develop a zero

emission, medium-duty and return-to-base delivery truck ideal for package delivery service providers. The new, class 6 vehicles use a Daimler Freightliner chassis with EVI's signature powertrain to create a zero emission, aerodynamic model of the walk-in vehicles that UPS drivers are accustomed to. The power system includes a 99 kWh lithium-iron magnesium-phosphate battery pack, which has a guaranteed battery life of 1,500 cycles, equivalent to five years of service in the UPS fleet.



**Figure 1: Class 6 medium-duty return-to-base delivery vehicle**

### Status

As of May 2012, EVI delivered all vehicles to UPS in San Bernardino. Shortly after, a few of the initial vehicles returned to EVI for upgrades to increase durability. In early 2014, UPS placed all 40 electric vehicles into service at their San Bernardino facility.

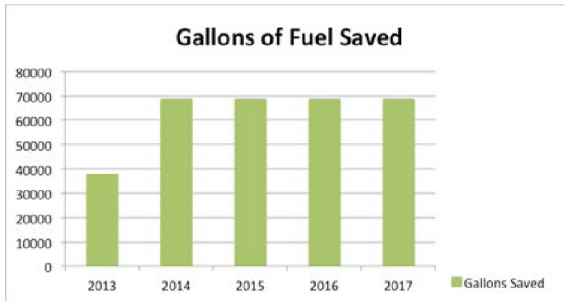
As an integral part of this project, EVI and UPS continued to collect telematics from each vehicle for the five-year demonstration period. At the conclusion of this contract, EVI was required to submit a final report and two-page project synopsis including data on the five-year demonstration period.

### Results

UPS placed the majority of the vehicles into service in mid-to-late 2013. EVI has calculated the



environmental benefits for calendar year 2013, with anticipated reductions in fuel usage and commensurate benefits for calendar years 2014-2017.



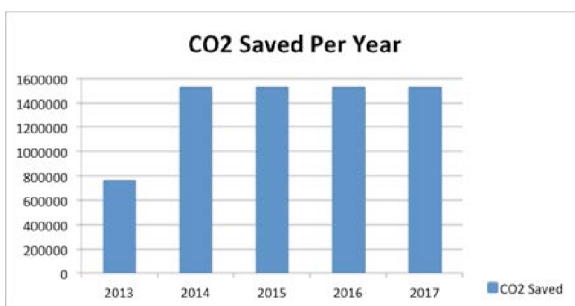
**Figure 2: Fuel savings over reporting period**

In 2013, over 300,000 zero emission miles were driven in San Bernardino. In 2013, UPS saved over 34,000 gallons of diesel fuel for a total dollar savings of roughly \$145,000, which is estimated to be doubled over the remaining four years of the project.

### Benefits

Estimates show this demonstration project will provide an annual reduction of 8.39 short tons of NO<sub>x</sub> and .30 short tons of PM<sub>2.5</sub> per year.

Additionally, in terms of co-benefits for criteria pollutant reductions, it is anticipated that almost three million zero emission miles will be driven, resulting in a total CO<sub>2</sub> reduction of roughly seven million pounds through the term of this project, as summarized below.



**Figure 3: CO<sub>2</sub> savings over reporting period**

### Project Costs

The initial project cost for the 28-vehicle deployment was just over \$4.8 million. The final project cost for the 40-vehicle demonstration

deployment including the infrastructure funding for UPS San Bernardino facility was \$7.4 million.

EVI's initial vehicle cost was just over \$168,000 per truck. With the durability upgrades, the current vehicle price was approximately \$186,000.

SCAQMD's initial investment of \$1.4 million remained unchanged. The cost of the additional 12 vehicles added to the demonstration was provided by CARB.

### Commercialization and Applications

Zero emission electric vehicles are on the brink of transforming the return-to-base delivery vehicle market, providing significant emission reductions.

One of the biggest obstacles to fleet commercialization is the higher vehicle incremental cost. With the right amount of incentive funding, however, it is anticipated that delivery fleets would be willing to transition away from diesel vehicles.

Additional large vehicle orders will also help manufacturers lower vehicle costs, ultimately providing a more competitive vehicle cost compared to their gas or diesel counterparts.



SCAQMD Contract #13396

September 2017

## Develop and Demonstrate Seven Class 8 Zero Emission Electric Trucks

### Contractor

Transportation Power, Inc. (TransPower)

### Cosponsors

California Energy Commission (CEC)  
U.S. Department of Energy (DOE)  
Port of Long Beach  
Port of Los Angeles  
South Coast Air Quality Management District

### Project Officer

Brian Choe

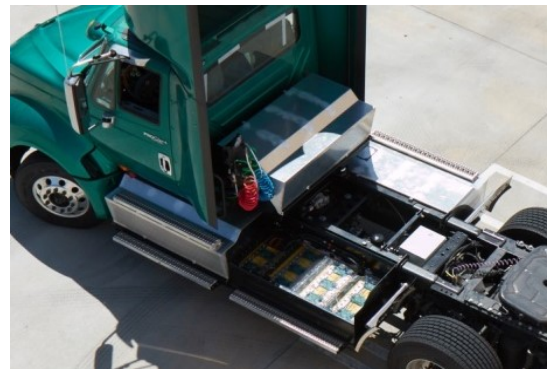
### Background

On-road heavy-duty diesel trucks are a significant source of diesel particulate matter and NO<sub>x</sub> emissions with serious health effects. The impact on public health is more pronounced in the surrounding communities along the goods movement corridors near the Ports of Los Angeles and Long Beach, and next to major freeways in Southern California. Recognizing the significant impact diesel trucks have on air quality and public health, the SCAQMD has been working with other regional stakeholders, including the Ports of Los Angeles and Long Beach, to promote and support the development and deployment of advanced zero emission cargo transport technologies in the South Coast Air Basin. Deployment of zero emission trucks in this region may also be a future requirement for conforming to rules, regulations, and mandates of SCAQMD, CARB, EPA, and DOE, while also helping to foster economic development in the region.

### Project Objective

The initial objective of this project was to develop, build, and demonstrate four zero emission Class 8 battery electric drayage trucks in real world drayage service operations to accelerate the introduction and penetration of electric transportation technologies into the cargo transport sector. This project was one of four zero emission drayage truck technologies funded by a

grant from the Department of Energy under the Zero Emission Cargo Transport (ZECT) Demonstration program. The vehicles were intended to be demonstrated in real world drayage service for two years in partnership with Transportation Services, Inc. or other SCAQMD approved fleets in the Basin. This objective did not evolve significantly during the contracting procedure, but the technologies enabling this demonstration did evolve substantially, as discussed in the next section. In addition, the total size of the TransPower demonstration fleet was increased from four to seven trucks.



**Figure 1: A demonstration vehicle equipped with Inverter-Charger Unit**

### Technology Description

The TransPower ElecTruck™ drive system uses a unique combination of two 150 kW permanent magnet motors that were originally developed for the Fisker Karma hybrid passenger car. The demonstration vehicles were equipped with Inverter-Charger Units (ICUs) that combine the functions of the vehicle inverter and battery charger. This innovation minimizes external charging infrastructure and charges each truck in less than 4 hours, providing operational flexibility and reducing capital costs. An Automated Manual Transmission uses proprietary software to control a transmission shift mechanism, enabling operation in multiple gears to maximize vehicle efficiency. High-energy battery modules using lithium iron phosphate cells were installed on all trucks, providing 70-100 miles of range under



normal operating conditions. A proprietary vehicle control system optimizes vehicle efficiency, maximizes battery life, and protects key components such as batteries and power electronics from excessive temperatures, voltage spikes, or current surges.

The ElecTruck™ principle of operation differed from other equipment available at the start of the ZECT project, but by the end of the project multiple competitors were offering electric drive options employing onboard chargers and AMT technology, which were demonstrated in Class 8 trucks for the first time on this project.

## Status

The ZECT project was completed in September 2017. Testing of one of the ZECT trucks on a chassis dynamometer at the University of California, Riverside (UCR) in 2014 showed the ElecTruck™ technology to be nearly twice as efficient as competing electric drive technologies. The major unanticipated problem encountered during the project was the reluctance of fleet operators to use drayage trucks with the 70-100 mile range limitation. Despite this challenge, the seven trucks accumulated 43,000 miles of use during the project, far surpassing the number of miles accumulated on any other fleet of electric Class 8 trucks to date. On-going advances in battery technology are expected to address the range limitation issue, making electric trucks of this type attractive to an expanding array of users over the next several years.

## Results

The UCR final report documenting the results of its dynamometer tests concluded that “The TransPower electric HDV [heavy-duty vehicle] was almost two times more energy efficient than an all-electric HDVs tested at UCR in 2011 over the same cycles. This suggests the current all-electric HDV is a significant improvement in the state of the art HDVs.” This testing, along with in-service demonstrations, showed the practicality of zero-emission operation of Class 8 trucks. The UCR report also concluded “the all-electric HDV performed well on all the cycles and showed a very reliable operation from full to 20% SOC load,” while concluding that the energy cost of operating the TransPower electric truck compared favorably with the costs of operating diesel trucks or competing electric trucks.

In this case, there were few performance tradeoffs. Achievement of emissions reductions, improved efficiency, and lower operating cost all worked

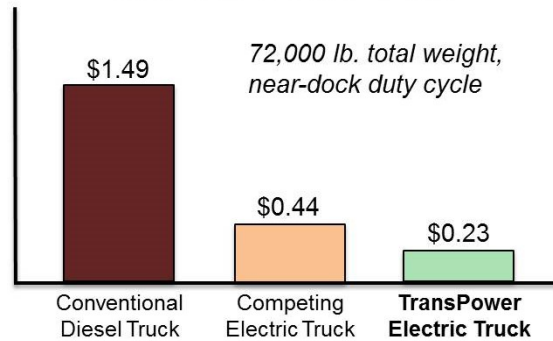


Figure 2: Energy Cost per mile - Class 8 On-Road truck

hand in hand.

## Benefits

The actual benefits of the ZECT project compare favorably with the benefits anticipated at the project's start. The technology can clearly reduce air pollutants while helping to address global warming because it offers a zero-emission solution for goods movement, one of the leading sources of criteria pollutants and carbon emissions.

## Project Costs

The total cost of the ZECT project was approximately \$5.1 million, of which the SCAQMD's funding contribution was just over \$1.5 million, including \$375,000 from the Clean Fuels Fund. These costs exceeded initial estimates due to expansion of the fleet from four to seven trucks and more intensive technology development.

## Commercialization and Applications

Evidence is mounting that electrification of Class 8 trucks has great commercial potential, driven by reductions in battery costs and the market entry of major players such as Tesla and Cummins. Two months after the conclusion of the ZECT project, major OEM supplier Meritor made a significant investment in TransPower. The potential size of the U.S. electric Class 8 truck market is in the tens of thousands of trucks per year, and if long-haul trucks can eventually be addressed, as some believe, hundreds of thousands of trucks per year.



SCAQMD Contract #14224

February 2017

## Develop and Demonstrate Long Range All-Electric Transit Bus

### Contractor

Complete Coach Works (CCW)

### Cosponsors

EV Grid

Denso

South Coast Air Quality Management District

### Project Officer

Brian Choe

### Background

Electrification of the current US transit is seen as a method of reducing one of the large contributors of greenhouse gas emissions in urban areas. Through the efforts in this project to further the technology in targeted areas, Complete Coach Works (CCW) hopes to expand the overall effectiveness of its all-electric transit busses.

By increasing the energy efficiency and improving the overall range of the bus, CCW gets closer to developing a product that can rival existing internal combustion engine vehicles.

### Project Objective

Electric buses are transforming the transit industry. This project developed and deployed a third generation all-electric transit bus, increasing the range on a single charge, reducing the vehicle curb weight, and improving the vehicle efficiency. The bus will deploy an advanced high energy density battery to reduce the battery pack weight and improve the vehicle range from 120 to 150 miles.

### Technology Description

In order to improve the overall efficiency of the existing all-electric transit bus, CCW targeted six specific areas; the propulsion, HVAC, auxiliary and lighting systems as well as focusing on weight reduction and low rolling resistance tires.

**Propulsion System:** Installing a 130 kW high efficiency, high power, liquid cooled drive system which improved the acceleration and speed performance of the electric bus. The new drive system also significantly improved the regenerative braking performance allowing longer range on a single charge.

**HVAC System:** Using direct DC 300V system instead of 240V AC system eliminated the DC to AC conversion requirement which in turn eliminated energy losses associated with this conversion.

**Auxiliary Systems:** Using 220V DC auxiliary systems such as power steering pump and air compressor improved the efficiency and performance of these systems.

**Weight Reduction:** Using higher energy density batteries and using light weight battery packaging is the key for achieving the balance between the range and the vehicle weight. After careful analysis and engineering design, CCW selected lithium ion NMC batteries. The new design batteries have almost twice the energy density of lithium iron phosphate batteries currently used.

**Lighting System:** Using advanced low power LED systems for interior and exterior lighting improved the rider experience and conserved energy.

**Low Rolling Resistance Tires:** Tire rolling resistance is a major aspect of the vehicle range. As the transit bus operates in the stop-and-go driving pattern, the average speed is less than 15 MPH. At these speed levels, road drag is higher than aerodynamic drag. CCW addressed this issue by using low rolling resistance tires, enhancing the range on a single charge and improving the energy efficiency of the vehicle.

### Status

Complete Coach Works has completed the SCAQMD sponsored demonstration project for an



all-electric repower package exclusively designed for the transportation industry in February 2017. CCW has successfully operated from coast to coast with the transit bus, promoting CCW's electric bus conversion technology to various transit agencies, including Orange County Transportation Authority in Southern California.

## Results

Through this project, CCW has been able to demonstrate an operating range of more than 150 miles on a single charge on this unit. Depending on the driver and environmental conditions, the goal of between 120-150 miles on a single charge is achievable.

**Table 1: Comparison of Gen 2 and Gen 3 Buses**

<i>Description</i>	<i>Gen 2 Bus</i>	<i>As Built Gen 3 Bus</i>
<i>Launch Date</i>	May 2013	Aug 2015
<i>Bus Chassis</i>	Low Floor 40 Foot	Gillig Low Floor 40 Foot
<i>Battery Pack Size</i>	242 KWh	311 KWh
<i>Battery Chemistry</i>	Lithium Iron Phosphate	Lithium ion NMC
<i>BMS System</i>	Voltage and temp monitoring	Voltage and temp monitoring with optical communication
<i>Battery System Weight</i>	5,900 lbs	3,800 lbs
<i>Motor peak kW rating</i>	150 kW	150 kW
<i>Maximum Motor torque</i>	2000 NM	2500 NM
<i>On Board Charger</i>	40 kW	50 kW
<i>Charging input</i>	480V	480V /208V

## Benefits

Through significant weight reductions and efficiency gains wherever possible, CCW was able to increase the operating range for the Gen 3 Bus in an effort to reach comparable ranges with a conventional engine bus. It still needs further improvement, but CCW has shown that as the technology evolves, it is getting closer to provide sufficient ranges with these electric buses in commercial applications.

There are more than 4,000 transit buses operating in Southern California. If most of these units can

be replaced with all-electric zero emission buses, a significant reduction in air pollution as well as greenhouse gases as co-benefit can be achieved for the region.

## Project Costs

Total project cost was \$1,039,649 and SCAQMD funded \$395,000 with CCW cost sharing the remaining \$644,649.

## Commercialization and Applications

Demonstration projects help identify improvements in efficiencies around the climate in which the buses operate. For instance, a bus that operates perfectly in Palm Springs, California in the winter and summer time may not represent the same performance that will be expected in Central Washington. As CCW learns and identifies the expectations of agencies across the country, CCW can continue to fine tune its system. It will also continue to improve the vehicle efficiency by applying lessons learned from the past and on-going demonstrations.

As can be expected, cost essentially revolves around volume. Typically, the greater the volume, the more that the cost can be driven down. Cost effectiveness however comes with experience. CCW has had a steady stream of orders and continues to identify areas of improvement, while maintaining a cost parameter which is still about 40% less than what an agency can buy a new zero emission bus.

The North American Bus Market is roughly 6,500 buses sold per year, and Complete Coach Works' Zero Emission Propulsion System (ZEPS) is now commercially available. With that said, remanufactured vehicles do not fit every agencies business model or replacement cycle. As budget concerns loom with the new administration, agencies everywhere are looking for a more cost effective way to operate its fleets, and this is where CCW can fill a niche. The numbers are hard to predict, but CCW is in full force making transit authorities across the country aware of the electric repower option. On average a CCW ZEPS bus is on par with the cost of a new diesel product, so CCW is confident that agencies that would want to adopt electric buses will be able to do so.



SCAQMD Contract #07246

June 2017

## Purchase and Install New LNG Storage Tank at Long Beach LNG Refueling Station

### Contractor

USA Waste of California Inc., a subsidiary of Waste Management

### Cosponsors

Waste Management  
South Coast Air Quality Management District

### Project Officer

Larry Watkins/Phil Barroca

### Background

Waste Management (WM) owns and maintains a facility for waste hauling trucks located at 1970 E. 213th Street in Long Beach, CA 90810. WM is dedicated to doing business in sustainable ways possible, as well as offering its customers more ways to live green via the air quality benefits of natural gas heavy duty vehicles. Consequently, of the nearly 1,000 vehicles operating in WM's Los Angeles metropolitan territory, almost half are natural gas vehicles. In fact, WM has one of the largest fleets of heavy-duty natural gas trucks in North America. To fuel this natural gas fleet and to provide limited access to other public and private fleets, WM planned for the installation of an additional above-ground LNG 16,000 gallon storage tank at its Long Beach facility. WM applied for and received \$200,000 co-funding from the SCAQMD as cost-share for the installation of the storage tank as well as related work for site improvements.

### Project Objective

WM's objective was to add approximately 16,000 gallons of additional LNG storage capacity to an existing 16,000 gallons for a total capacity of approximately 32,000 gallons at its existing limited-access LNG fueling station in Long Beach. Proposed related work would include site improvements and process piping and controls related to the added storage capacity. Installation also would include services to survey, cut, saw and

remove asphalt, change grade and install a new concrete pad in the fueling area.

The purpose of the project was to reduce emissions from heavy-duty refuse collection vehicles by expanding existing infrastructure to fuel extremely low-emission natural gas vehicles, as well as to provide the infrastructure needed in order to make alternative fuels like natural gas a commercially viable and preferable fueling option. WM would operate the expanded LNG station at its Long Beach facility.



Figure 1: LNG Tank Installation

### Technology Description

Equipment to be installed includes one additional above-ground storage tank with a capacity of approximately 16,000 gallons, an offload pump/transfer pump and all associated civil work, and a 50 SCFM vapor compressor with associated hardware. All equipment meets AGA, ANSI, API, ASME, ASTM, NEC, NFPA, OSHA and SAE requirements.

### Status

WM chose Northstar LNG as its contractor to procure and install the equipment including the additional LNG tank. The new station became operational in June 2012. No significant problems were encountered during the construction of the project. Waste Management will operate the expanded station for a minimum of five years and



continue reporting to the SCAQMD during that period, as required under this contract.

## Results

Now that the additional LNG storage installation and related work is complete, the station can adequately fuel its natural gas fleet plus offer limited access to other public and private fleets. The availability of natural gas fueling at the expanded station will result in cost savings due to the lower cost of natural gas as a fuel coupled with the air quality benefits achieved by displacing diesel fuel.

WM exceeded SCAQMD's required throughput of 1,000,000 DGE by the end of the third full year of operation. By the end of the full five years of reporting, cumulative DGE was 1,450,655 annually.

**Table 1: Five-Year Fuel Throughput Snapshot**

Period	WM LNG Usage	Third-Party LNG Usage
July 2012-June 2013	1,032,187	222,610
July 2013-June 2014	1,031,451	190,068
July 2014-June 2015	1,143,306	177,696
July 2015-June 2016	1,184,761	276,158
July 2017-June 2017	1,191,766	258,889
<b>Total</b>	<b>5,583,471</b>	<b>1,125,421</b>

## Benefits

Natural gas (NG) is a clean, safe and abundant fuel that is domestically produced, with 99 percent of NG used in the U.S. coming from North America. The successful installation of this additional storage tank will provide increased fueling capacity to fuel natural gas vehicles operated by WM and other public and private fleets. Additionally, WM will continue to expand its natural gas fleet in Southern California in order to replace diesel fuel use in its operations.

In addition to cost savings realized with lower costs of natural gas (costing less per energy unit than diesel), natural gas contains less carbon than other fossil fuel and thus produces lower CO<sub>2</sub> and GHG emissions annually. In fact, natural gas vehicles produce 20-30 percent less GHG emissions than comparable diesel vehicles.

## Project Costs

The anticipated cost of the tank installation and related site improvements was \$440,000. Final project costs, however, were \$822,604. While the \$440,000 budget covered the cost of equipment, the additional costs over that amount included further site improvements that were necessary in order for WM to install the additional equipment. Specifically, the bulk of the additional costs were the result of installing the offload pump and all associated civil improvements.

## Commercialization and Applications

This project will provide the additional infrastructure needed in order to make alternative fuels like natural gas a commercially available and preferable fueling option. Commercial fleet drivers and owners of LNG-equipped vehicles can now fuel at WM's newly upgraded Long Beach station.



**Figure 2: Rear View of Tank Installation and New Equipment and Components**

Additionally, public and private fleets may consider switching to natural gas as additional infrastructure is available, due to both the environmental and cost-savings benefits. This project is also beneficial to those vehicles subject to Rule 1193, which requires public and private solid waste collection fleets having exclusive contracts with public entities and greater than 15 trucks to purchase or replace existing vehicles with alternative fuel vehicles.



SCAQMD Contract #08098

April 2017

## Purchase and Install New CNG Fueling Station

### Contractor

Redlands Unified School District (RUSD)

### Cosponsor

South Coast Air Quality Management District

### Project Officer

Larry Watkins/Phil Barroca

### Background

In 2003, the Redlands Unified School District (RUSD) initiated participation in the SCAQMD's Lower-Emission School Bus Replacement Program, desiring to replace its fleet of older diesel-powered school buses with alternative fueled vehicles. The first CNG-powered school buses acquired by the RUSD were fueled at the City of Redlands transportation yard. As additional CNG-powered school buses were acquired, the RUSD realized its fiduciary responsibility required installation of a permanent on-site time-fill CNG fueling facility. The RUSD applied for and received funding from the SCAQMD under its Clean Fuels Program to construct a CNG fueling station. At that time the RUSD had 11 CNG school buses in its fleet, with plans to add at least one additional CNG bus to its fleet every year.

### Project Objective

The objective of this project was to construct a combination slow-fill and buffered fast-fill natural gas vehicle refueling facility for the RUSD to refuel its natural gas school buses on-site, both to meet present and projected future needs. The station would be located at 955 E. Citrus Ave. in Redlands, CA 92374. This objective was to be accomplished in two phases. The first phase, funded primarily by the SCAQMD through its Lower-Emission School Bus Replacement Program using AB 923 funds, was to install fueling posts and a temporary slow-fill fueling station. The second phase, primarily funded under this contract award, consisted of three parts:

- 1) electrical upgrades of the transportation facility;
- 2) installation of a permanent combination slow-fill and buffered fast-fill natural gas station; and
- 3) additional infrastructure improvements required by the City of Redlands.

### Technology Description

The new station would be comprised of a compressor pad to mount equipment (east side of existing garage), two 100 SCFM Greenfield skid-mounted compressors, gas conditioning equipment, controls and all ancillary equipment, two 33.5 cubic feet CNG storage spheres, 9 new and 13 upgraded time-fill fueling posts, one buffered fast-fill dispenser, and installation of safety features including emergency shutdown devices. Subsequently, RUSD determined electrical upgrades would be required to meet electrical needs of the new station.



Figure 1: Skid-Mounted Compressors and CNG Storage Spheres

### Status

The RUSD hired a consultant to develop station bid specifications. The job was publicly bid, with Allsup Corp. eventually awarded the contract in March 2010 to build the facility and FBA Engineering to design electrical upgrades for installation by Beaumont Electric. During preliminary construction, the City of Redlands moved to impose a Conditional Use Permit (CUP) process on the job, requiring the RUSD to submit construction documents for review.

While the RUSD was initially reluctant to accept the CUP because it would delay the work and increase costs, after considerable discussion, the RUSD agreed and contracted with Epic Engineering to assist. Construction plans as well as civil drawings were submitted for review. It took one year from the time the City of Redlands requested the RUSD submit a CUP application to the City issuing the CUP.



The City of Redlands, as a condition of approval, required the school district to construct curbing and sidewalks along Citrus Ave. and new drive approaches (ADA-compliant), as well as planting fast-growing vines along the exterior fence. Finally, the school district was required to grant the City unrestricted access to a storm drain which traverses the property. Phase II including the permanent combination station was completed in mid-February with RUSD Board of Education project approval on April 24, 2012. Within one year of the new station going online, the RUSD had added five new CNG school buses to its fleet, displacing five diesel school buses.



**Figure 2: Bus Fueling with Slow-Fill Nozzle**

This contract ended in April 2017, after RUSD provided five years of annual reporting on throughput and station status.

**Table 1: Throughput for Five-Year Snapshot**

Period	Throughput (Therms)
Mar 2012-Feb 2013	58,593
Mar 2013-Feb 2014	52,960
Mar 2014-Feb 2015	99,079
Mar 2015-Feb 2016	107,210
Feb 2016-Mar 2017	107,210

## Results

For the first 11 months of operation, from February to December 2012, a total of 48,829 CCFs (hundred cubic feet) were consumed. Using a conversion formula of 1.2119205298 CCFs per gallon (U.S.) of gasoline, the CNG station saved 42,290 gallons of diesel fuel. In terms of NO<sub>x</sub> and PM emissions, 5.1278 tons of NO<sub>x</sub> were taken out of the air and PM has been reduced as well. These reductions will increase as RUSD replaces more of its diesel and gasoline school buses with CNG-fueled school buses.

Indeed, at the conclusion of this contract, the RUSD's fleet of 74 buses now comprises: Propane-6; CNG-33; Gasoline-12; and Diesel-23. And in 2017, RUSD added three dual-nozzle timefill posts to enable fueling of six more buses.

## Benefits

In addition to the air quality benefits achieved (e.g., reduced NO<sub>x</sub> and PM emissions) by switching from diesel to natural gas, construction of the fueling facility has allowed the RUSD's Transportation Services to significantly cut operational costs. In addition to a surcharge added to the fuel cost by the City of Redlands shortly after construction, the department was scheduling approximately 1,400 additional hours annually to fuel at the City's transportation yard. Within one year of station construction, fuel and labor cost savings to the school district equaled \$35,000 annually.

## Project Costs

Projected bid costs were anticipated at \$657,918, including \$26,103 for electrical work. Actual project costs were as follows:

**Table 2: Actual Project Costs**

Task	Cost
Development of bid specifications	\$12,665
Electrical upgrades to the Transportation Facility	\$37,755
Installation of slow-fill and buffered fast-fill NGV refueling station	\$673,297
Facility upgrades imposed by the City of Redlands Conditional Use Permit	\$98,186
<b>TOTAL STATION COST</b>	<b>\$821,903</b>

Of this \$821,903, the SCAQMD funded Phase II under this contract award in the amount of \$525,000, with an additional \$14,000 through the Lower-Emission School Bus Program. The RUSD contributed \$282,903.

## Commercialization and Applications

Of the 23 diesel-powered school buses still remaining in RUSD's fleet, 11 were manufactured prior to 1994. RUSD, however, recently applied for funding through SCAQMD's Lower-Emission School Bus Replacement Program to replace all 11 with new CNG-fueled school buses. Construction of the permanent on-site station allowed for the conversion of RUSD's fleet to alternative fuel and continues to reap benefits to the school district.



SCAQMD Contract #12135

November 2017

## Upgrade CNG Fueling Station

### Contractor

Placentia-Yorba Linda Unified School District (PYLUSD)

### Cosponsors

Southern California Gas Company (SoCalGas)  
South Coast Air Quality Management District

### Project Officer

Larry Watkins/Phil Barroca

### Background

Following the enactment in 2001 of SCAQMD's Rule 1195 – Clean On-Road School Buses, which requires school districts with 15 or more buses in their fleet to purchase alternative-fueled buses when adding or replacing buses in their fleet, Placentia-Yorba Linda Unified School District (PYLUSD) has been committed to achieving the environmental benefits available by transitioning to alternative-fueled school buses. However, at that time, of the 82 buses in the District's fleet, only six were eligible for replacement under the SCAQMD's Lower-Emission School Bus Replacement Program. Prior to the purchase of these six CNG buses, PYLUSD's fleet was fueled exclusively by diesel and unleaded gasoline.

In addition to assisting PYLUSD with the purchase of the six CNG-fueled school buses, the SCAQMD provided funding for a slow-fill fueling system which was installed at the district bus yard. Unfortunately, the fueling system, manufactured by Fuelmaker which later went bankrupt, barely met district needs and irreparably broke down in January 2010. This required PYLUSD to travel up to 40 miles per day to off-site fueling facilities. Furthermore, the capacity of the existing CNG compressor had limited the school district to the six existing CNG buses.

### Project Objective

The primary objective of this project was to replace the existing natural gas compressor with a larger capacity compressor, enabling reliable on-site refueling as well as the capacity to enlarge PYLUSD's natural gas fleet. The project would

also increase electrical supply and gas flow and add two more slow-fill posts to the existing four slow-fill posts. PYLUSD also wanted to ensure that parts would be available for future repairs from a variety of sources.

### Technology Description

By upgrading compressor capacity from 8 SCFM to 25 SCFM, additional CNG-fueled vehicles could be added to the PYLUSD's fleet, displacing even more diesel-fueled vehicles from operation. The compressor installed was a reconditioned Bauer/P500 air-cooled high pressure unit at 3600 psi. New electrical equipment included a dedicated circuit (480 volt/3 phase/40 amp) coming from the main transformer.



Figure 1: PYLUSD Bauer/P500 Compressor

### Status

PYLUSD initially hired Environmental Vehicle Services to determine the design output required to reliably fuel its existing six CNG buses yet have the capacity for growth in its natural gas fleet. The school district then solicited bids and awarded a contract to S-W Compressors to complete the project, which is now 100% completed. The electrical supply to the compressor pad was upgraded to 480v3 as of December 2011. The compressor unit was delivered in January 2012, with final start-up and testing in August 2012. SoCalGas also upgraded the gas meter to handle the additional throughput. Commissioning of the equipment occurred on September 4, 2012. There were no unanticipated problems during this project. Under the SCAQMD contract, the upgraded station must operate for a minimum of five years during



which annual reporting will be provided to the SCAQMD.

During the first seven months of operation, a total of 14,138 therms of natural gas were used to fuel the school district's fleet, averaging about 2,020 therms per month.

The following table shows throughput for the first five years of station operation as required under this contract:

**Table 1: Throughput for Five-Year Period**

Period	Therms
Sept 2012 - Aug 2013	18,505
Sept 2013 – Aug 2014	29,839
Sept 2014 – Aug 2015	35,662
Sept 2015 – Aug 2016	33,178
Sept 2016 – Aug 2017	18,531

## Results

All objectives of this project were accomplished without any major problems from design phase to start-up. Additionally, the project was accomplished under budget. The overall project has successfully enabled PYLUSD to fuel its existing natural gas fleet on-site. In fact, another four CNG school buses were ordered soon after completion of the upgrade and it is anticipated that the upgraded station will be capable of fueling the new buses as well. As of the conclusion of this contract term, PYLUSD has 11 natural gas vehicles in its fleet.

## Benefits

By re-establishing on-site fueling for the school district's CNG-fueled school buses, the benefits are substantial. It has allowed the PYLUSD to eliminate 8,000 miles of travel annually to and from off-site fueling facilities and reduced fueling costs because off-site NG stations were not passing on the 50 cent per gallon federal tax rebate plus adding a price markup as well. Combined, it is estimated this will result in a cost savings of \$40,000 annually to PYLUSD.

The air quality benefits are also substantial. One study concluded CNG-fueled trucks produce 75% less CO, 49% less NO<sub>x</sub> and 95% less PM than comparable diesel trucks. In such a heavily trafficked community, continuing this level of pollution was not a viable option for the school district. The cleaner NG school buses also provide a co-benefit in GHG emission reductions.

## Project Costs

PYLUSD anticipated up to \$60,000 in expenses for the replacement of its CNG compressor and related work. However, final costs came in under budget as follows:

**Table 2: Actual Project Costs**

Equipment	Cost
Electrical Upgrades	\$4,305
Reconditioned Compressor (including labor)	\$50,000
<b>Total Project Costs</b>	<b>\$54,305</b>

The SCAQMD paid 100% of the project costs with PYLUSD simply providing in-kind costs to administer the project. As noted, however, SoCalGas provided in-kind services by upgrading the gas meter to handle higher output.

## Commercialization and Applications

PYLUSD is located in the north east corridor of Orange County where there is significant traffic around the intersections of the 91, 55 and 57 freeways. The school district's school bus fleet is located at 1301 E. Orangethorpe Avenue, Placentia, CA 92870. PYLUSD owns the fueling station and will be responsible for its maintenance and operation. Maintenance and support have been contracted out and the new system has exceeded the school district's performance expectations. The upgraded on-site fueling station is benefitting the school district, its students and the surrounding community.



SCAQMD Contract #14311

December 2017

## Construct CNG Fueling Station in Murrieta

### Contractor

Southern California Gas Company (SoCalGas)

### Cosponsors

California Energy Commission (CEC)  
 Mobile Source Air Pollution Reduction Review  
 Committee (MSRC)  
 South Coast Air Quality Management District

### Project Officer

Phil Barroca

### Background

The widespread use of alternative fuel powered vehicles in the South Coast air basin play an important role in helping this region meet national ambient air quality standards for fine particulates and ozone. To support the local deployment and expansion of alternative fuel vehicles, the SCAQMD has leveraged its funds with other funding sources and fleet operators to increase the network of both public and private alternative fueling stations within the South Coast air basin. Under this project, the SCAQMD was awarded a grant from the CEC under AB 118 Program PON-11-602 to install a new public/private CNG station with the Southern California Gas Company (SoCalGas) located at their facility in Murrieta, CA.

### Project Objective

This project with SoCalGas cost-shares the purchase of equipment for the installation and upgrade of a CNG fueling station located at their facility at 41376 Guava St. Murrieta, CA 92562. This station is positioned near the junction of the I-15 and I-215 freeways and is projected to provide greater accessibility to CNG fuel, which in turn will help foster greater deployment and expansion of CNG vehicles in this region. The station will serve the needs of SoCalGas's growing natural gas-powered vehicle fleet as well as the public and surrounding fleets. The station design is intended to easily accommodate large trucks and buses. The publicly accessible dispensers will be open 24 hours/day, seven days/week. The station

hosts two dual-hose fast-fill dispensers and significant on-site storage will provide the 24/7 public access side of this facility with improved filling speed and increased reliability. The facility will also include 10 time-fill posts that can fill 36 vehicles concurrently.



Figure 1: Public Access Fast-Fill

### Technology Description

This station includes a 125 horsepower, 500 standard cubic feet (scf) per minute compressor, two fast-fill dispensers and ten time-fill posts. Eight of the time-fill posts are equipped with four hoses and the other two posts have two hoses for a total of 36 hoses to provide simultaneous overnight fueling. The station includes a 34,000 scf compressed gas storage system. The public access portion of the station is located outside the SCG facility gate and consists of a new fueling island with two fast-fill dispensers each with two nozzles, rated at a minimum of five gasoline gallon equivalents (GGEs) per minute, a universal card reader and the capacity to add a second compressor in the future.

### Status

The SoCalGas Murrieta CNG station was successfully commissioned and opened for business in September 2015. Throughput during Calendar Year 2016 was 53,767 GGE. Throughput for Calendar Year 2017 increased to 176,000 GGE, with public fueling accounting for 90% of total annual throughput. Assuming a 50:50 gasoline-diesel displacement and 176,000 GGE



per year of CNG, the estimated GHG reductions are 400 metric tons/yr.<sup>1</sup>

## Results

The primary goal of this project was to increase availability of CNG infrastructure, to enhance California's energy independence by reducing



Figure 2: Time-fill Posts Figure 3: Public Signage

petroleum-based transportation fuel consumption, and to reduce criteria and toxic air pollutants and greenhouse gas emissions. The annual throughput projected in the proposal for this project was 210,000 GGE per year at full utilization (after three years). Original annual throughput projections were estimated based on the following key assumptions: the Riverside Transit Agency (RTA) indicated their intention to fuel ten transit buses at this station and SoCalGas had vehicle procurement plans to place 40 NGVs at the Murrieta base by 2015. From the time the original proposal was prepared and submitted (early 2012) to the time the station was deemed operational in late 2015, RTA built its own station in Hemet. Located 23 miles East Northeast of the Murrieta station. Furthermore, the growth of the SoCalGas fleet was curtailed because of the delays in station commissioning and a shift in corporate plans. With full commissioning, SoCalGas domiciles 16 NGVs and reported 176,000 GGE throughput in 2017. However, two local school districts use this facility as a back-up to their own fueling stations: Temecula Valley USD has a slow-fill, and Murrieta Valley USD has both slow and fast-fill operations. Murrieta Valley and SoCalGas have a Mutual Aid agreement for emergency fueling.

## Benefits

This CNG station project was commissioned in September 2015 and has been operating successfully and continuously for more than two years. The original projections placed throughput at 210,000 GGE/year. The annual throughput for 2017 totaled 176,000 GGE which equates to approximately 400 metric tons of CO<sub>2</sub>e of GHG reduction. Although the station is not achieving the projected throughput yet, there is significant public usage. Most importantly, this publically accessible CNG station helps fill a critical gap in CNG fueling infrastructure as it is now the southern-most public access CNG fuel station in Riverside County since the Downs Energy-Temecula LCNG station closed business in 2017. Indeed, it is the only publicly accessible station along 60 miles of the I-15 corridor between Corona and San Marcos, CA.

## Project Costs

Original project estimates were \$878,200; final project costs, \$1.6 million. The higher costs were due in part to the prolonged timeframe between project start and finish as well as the decision to add a second dispenser, additional infrastructure required by the City of Murrieta, and upgrading the facility to accommodate an additional compressor in the future. The SCAQMD administered the project, providing \$217,000 in CEC pass-through funds, and cost-share of \$150,000 was also provided by the MSRC.

## Commercialization and Applications

The design and convenience of the new Murrieta station is expected to appeal to consumers based on location along an important transportation route in Riverside County, and its ability to handle large trucks and buses with ease. The facility is expected to provide heavy-duty vehicle operators with a great experience at the pump where they can fill very quickly, using a large enough compressor and making sure the station has enough space so that the large vehicles can easily maneuver. Other features that help provide an improved experience for customers include ergonomic fuel dispensing nozzles that swivel easily to attach to the vehicle, drought-tolerant landscaping and a well-lit canopy that covers the fueling dispensers day or night, rain or shine. Additionally, the station's monument sign clearly shows the price so people can see from the road how relatively inexpensive the fuel is relative to gasoline or diesel.

<sup>1</sup> Appendix D. Quantification Methodology for Determining Emission Reductions and Cost Effectiveness. Low Carbon Transportation and Fuels Investments and the Air Quality Improvement Program, CARB May, 19 2017.



SCAQMD Contract #10722

September 2017

## Re-Establish Testing Facility and Quantify PM Emission Reductions from Charbroiling Operations

### Contractor

University of California, Riverside, Center for Environmental Research and Technology (CE-CERT)

### Cosponsors

U.S. Environmental Protection Agency  
South Coast Air Quality Management District

### Project Officer

Michael Laybourn

### Background

The South Coast Air Quality Management District (SCAQMD) is classified as “serious” non-attainment area for PM<sub>2.5</sub>. Studies have shown that PM emissions from the under-fired charbroiler process are primarily in the submicron range (greater than 85% by mass <1.0µm).

Recent Air Quality Management Plans (AQMPs) have included control measures intended to reduce PM<sub>2.5</sub> emissions from under-fired charbroilers at commercial restaurants. CE-CERT previously developed a testing protocol for chain-driven charbroilers and was selected to conduct a preliminary screening analysis to determine the effectiveness of several under-fired charbroiler control devices in reducing PM emissions.

### Project Objective

The main project objective was to re-establish the testing facility at CE-CERT and provide additional funds to help defray testing costs for control device manufacturers. After completing the necessary test kitchen upgrades, CE-CERT evaluated promising commercial or near-commercial control technologies using established procedures. It should be noted that this effort represented initial screening tests of the control devices and more detailed “protocol” testing would be necessary to further document control device effectiveness in reducing PM emissions. The re-established test kitchen has also been used for subsequent CE-

CERT testing with additional funds provided by SCAQMD, Bay Area AQMD and U.S. EPA.



Figure 1: CE-CERT Test Kitchen Facility

### Technology Description

A total of three emissions control technologies were selected for initial testing. The first technology, InnovaTech, was an aerosol grease removal prototype that is based on a patented technology for particle (solid or liquid) separation from an incoming flow stream via Boundary Layer Momentum Transfer (BLMT) theory.



Figure 2: InnovaTech NovaMist™ Unit

The second technology, OdorStop™2000C developed by Green Kitchen Designs, featured three stages of progressively more efficient



filtration with additional screening tests conducted on modified systems.

The third technology was an electrostatic precipitator (ESP) developed by Airquest International, Inc. The technology removes particles, which range in size from 0.01 micron to 10 microns, with high efficiency.

### Status

This program has been completed. The test kitchen was re-established and screening tests on three control technologies was performed according to the contract requirements. Final reports have been received. No anticipated problems were encountered during the screening tests, however, the contract was extended until June 2017 to conduct additional testing using supplemental funds provided by U.S. EPA and SCAQMD.

### Results

Table 1 shows results from the screening tests performed on the following control technologies; InnovaTech, Green Kitchen, and Airquest. The screening tests showed that all three technologies resulted in large PM<sub>2.5</sub> reductions compared to baseline testing (i.e., without control technology). These reductions ranged from 59.6% to 93%.

Project results can be used in support of future efforts to reduce PM emissions from under-fired charbroilers. As noted, these results are from screening tests which are based on real-time air monitoring equipment. Protocol evaluations based on U.S. EPA method 5.1 and SCAQMD testing procedures are necessary to further evaluate control device effectiveness.

**Table 1: Screening test results for PM emissions**

	PM (mg/m3)	% PM Reduced
<b>InnovaTech Screening Tests</b>		
Baseline	250.5	
InnovaTech	101.2	59.60%
<b>Green Kitchen Concepts Screening Tests</b>		
Baseline 1	218.9	
HEPA Filter	18.6	91.5%
99% Filter	15.8	92.8%
95% Filter	26.3	88.0%
Baseline 2	581.5	
99% Filter	157.3	>72.9%
95% Filter w/fog	67.7	>88.3%
99% Filter w/PCO double pass	100.1	>82.8%
<b>Airquest Screening Tests</b>		
Baseline	161.9	
Airquest Single Pass	17.1	89.40%

### Benefits

This program has helped to identify promising control technologies to reduce PM<sub>2.5</sub> emissions from under-fired charbroilers. This study will also support the efforts of other PM<sub>2.5</sub> non-attainment areas, such as the San Joaquin Valley, in efforts to identify cost-effective control technologies for this source category.

### Project Costs

The total cost of this project was \$321,700 with \$60,000 funded by Clean Fuels. Approximately half of SCAQMD Clean Fuels project costs were allocated to test kitchen re-establishment and the other half to fund control device testing. Total project funding is summarized in the table below:

**Table 2: Actual Project Costs**

Cosponsor	Amount
U.S. EPA	\$45,700
<b>SCAQMD</b>	
Fund 31-Clean Fuels	\$60,000
Rule 1309.1 Priority Reserve Fund	\$216,000
<b>Total</b>	<b>\$321,700</b>

### Commercialization and Applications

Testing conducted by CE-CERT and demonstration projects conducted in the San Joaquin Valley show control technology for under-fired charbroilers has continued to develop over the past few years. However, identification of affordable, commercially-available PM<sub>2.5</sub> control technologies, especially for retrofit projects at existing restaurants, remains elusive. The 2016 AQMP adopted by the SCAQMD Governing Board includes a contingency control measure to develop a regulation intended to reduce PM<sub>2.5</sub> emissions from under-fired charbroilers which could be implemented if necessary to meet Clean Air Act requirements, provided appropriate control devices can be identified. Results from this and other studies could be used in support of any potential rule development effort.



SCAQMD Contract #14162

June 2017

## Utilize Fleet DNA Approach and Capabilities to Provide Vehicle Vocational Analysis within SCAQMD

### Contractor

National Renewable Energy Laboratory (NREL)

### Cosponsors

U. S. Department of Energy  
South Coast Air Quality Management District

### Project Officer

David Coel/Phil Barroca

### Background

With highway transportation responsible for over half of the oil demand in the U.S., medium- and heavy-duty vehicles (MDVs and HDVs) consume a significant portion of on-road fuels annually and consequently contribute significantly to regional air pollution, particularly in the high vehicle populated and goods movement area of Southern California's South Coast basin. OEMs, commercial fleets and research organizations have identified a lack of usage data for MDVs and HDVs as a barrier to intelligent vehicle design and deployment. Compiling and analyzing in-use vehicle data helps identify average and extreme use patterns for various types of vehicle vocations as well as identifying similar use patterns across dissimilar vocations, potentially leading to more optimized and efficient designs that are appropriate for multiple uses.

The National Renewable Energy Laboratory (NREL) and U.S. Department of Energy (DOE) have been conducting research, development and demonstration projects to facilitate the deployment of advanced vehicle technology and alternative fuels into the marketplace in order to reduce petroleum use and enhance the reduction of mobile source emissions in California and the U.S. In a joint collaboration, NREL and the SCAQMD agreed to conduct a project to collect and analyze data on MDVs and HDVs in the South Coast air basin to analyze usage characteristics and develop an approach which could enable the SCAQMD to better understand vocational differences and associated vehicle performance.

### Project Objective

The project objective was to acquire and analyze field data from MDVs and HDVs operating in the SCAQMD. NREL was to identify and work with local and regional commercial fleet operators and

collect in-use data using NREL supplied hardware and personnel. The data collected is to be processed through NREL's Drive-Cycle Rapid Investigation, Visualization, and Evaluation (DRIVE) analysis software tool to add to the FleetDNA database that houses performance



**Figure 1: DRIVE™ Analysis Tool**

characteristics of multiple sets of vehicles operating throughout the country. SCAQMD data will be analyzed, compared, and reported back to the SCAQMD. Additional analysis will utilize NREL's Future Automotive Systems Technology Simulator (FASTSim) to explore and identify powertrain options and technologies that match the observed drive/duty cycles.



**Figure 2: FASTSim**

### Technology Description

NREL performed an assessment to categorize the medium- and heavy-duty (Class 3–8) on-road commercial vehicle vocations predominant in the SCAQMD. The size and age of the vehicle population was ascertained by acquiring and mining data from the R.L. POLK MDV and HDV registration database. Estimated annual vehicle miles travelled and estimated fuel usage were ascertained by leveraging the U.S. DOT's Vehicle In-Use Survey (VIUS) database, the Oak Ridge National Laboratory's Transportation Energy Data Book and CARB's EMFAC model. NO<sub>x</sub> emissions from the various vehicle types, weight classes and model years were calculated by an NREL developed method that relates NO<sub>x</sub> emissions from different engine emission certification levels to fuel economy. Data collected and developed were



inputted into NREL's Scenario Evaluation, Regionalization & Analysis (SERA) model to estimate the contribution of each vocational category to the total emissions inventory in the SCAQMD.

### **Status**

Using fleets recommended by SCAQMD, from May to August 2015, NREL deployed data loggers to collect data from 60 Class 8 drayage and transfer vehicles within the SCAQMD. NREL also leveraged recent data logging activities within these vocations that took place within SCAQMD boundaries including data collected by NREL under the California Hybrid Truck and Bus Voucher Incentive Project (HVIP) and phase 1 of the DOE-funded Zero Emission Cargo Transport (ZECT 1) Project. In the HVIP, NREL collected 1 hertz (defined as one cycle per second) vehicle data between October 2012 and September 2013 from 62 delivery vehicles for 2 to 3 weeks, each including model year 2007-2013 vehicles from UPS, Aramark and FedEx. Data from the ZECT 1 project included data logging of drayage service from the TTSI fleet, including 149 days of conventional baseline vehicle operation on 2 trucks and 26 days of operation of the TransPower electrified drayage trucks.

### **Results**

NREL modeled the effects of rolling resistance, aerodynamic drag, vehicle mass reduction, CNG engines and vehicle electrification. Over 2,100 real-world delivery truck (Class 3-7) trips were recorded. The results show that the stop-and-go nature of delivery trucks will benefit more from mass reduction than from rolling resistance reduction or aerodynamic improvements, saving fuel from reduced mass on every acceleration. Conversely, they do not typically drive enough miles for rolling resistance improvements to have the same impact and they do not drive enough at high speeds for aerodynamic improvements to save substantial amounts of energy. When routes are within the range of EV powertrains, large savings can be realized but payback due to the cost of batteries and electric rate structure must be considered on an individual site basis. Simulations of delivery truck routes showed EVs using significantly less energy than their diesel counterparts (approx. 1.3 kWh/mile EV vs. 4.4 kWh/mile diesel). The duty cycle data showed that approximately 80% of daily driving was less than 70 miles per day, which could be accomplished with a 100 kWh battery pack. CNG, while somewhat less efficient on an energy basis, may

offer fuel cost savings when natural gas prices remain below diesel without negative emissions contribution. Refueling infrastructure costs and on-board storage limitations must also be considered when considering CNG vehicles.

Over 800 real-world transfer truck (Class 8) trips were also recorded. EVs were not considered because of the long daily driving distances—90% of the daily driving was over 100 miles. Transfer trucks will benefit more from mass reduction and rolling resistance reduction than from aerodynamic improvements. While current EV technology cannot provide the range needed, CNG engines can provide the range needed and offer possible fuel cost savings when natural gas prices remain below diesel.

Over 1,800 real-world drayage truck (Class 8) trips were recorded. Drayage trucks will benefit more from mass reduction than from rolling resistance reduction or aerodynamic improvements and mass reduction on the tractor is the aspect most under the control of the fleet operator. CNG and EV powertrains offer advantages that are completely separate from the chassis and container designs. EV powertrains are a good fit for drayage vehicles if the daily driving distance is within the range of a specific vehicle design and battery usage can be maximized. CNG vehicles also work well and can provide the range needed for the full spectrum of drayage operations and offer possible fuel cost savings for the full spectrum of routes.

### **Benefits**

An analysis and assessment of the drive and duty cycles of various commercial vehicles can provide insights into improving vehicle energy efficiencies that in turn translate into lower emissions or less energy needs. The study also provided analyses on the alternative fuel technologies available for these vehicle vocations that could further reduce emissions from the transportation sector.

### **Project Costs**

Project costs totaled \$199,985, with SCAQMD providing \$174,985 and DOE in-kind of \$25,000.

### **Commercialization and Applications**

Vehicle use data can help with intelligent vehicle design and deployment and identify average and extreme use patterns for various types of vehicle vocations or similar use patterns across dissimilar vocations which could lead to more optimized and efficient designs that are appropriate to multiple uses.



# Evaluate Ozone and SOA Formation from Gasoline and Diesel Components

## Contractor

University of California, Riverside, College of Engineering Center for Environmental Research and Technology (CE-CERT)

## Cosponsors

South Coast Air Quality Management District

## Project Officer

Naveen Berry

## Background

Direct evaporation from unburned gasoline and diesel fuels is an established source of ozone and secondary organic aerosol (SOA) forming precursors. As new vehicle control technologies continue to decrease primary organic aerosol and gas-phase emissions, whole fuel evaporation becomes a more significant potential source of ambient organic aerosol. Therefore, determining the SOA forming potential of whole gasoline and diesel vapor is of significant interest. While SOA formation from some gasoline components such as aromatics have been individually studied under controlled conditions, there are only a few studies on how these complex mixtures behave in the atmosphere.

Given changes in fuel formulations over time, it is important to revisit whole gasoline as an important SOA precursor, especially in light of increased knowledge on the impact of reactivity on aerosol formation and improved atmospheric chambers and instrumentation.

## Project Objective

### Objective 1: Evaporative Loss Study

- Collect gasoline and diesel fuels from local fueling stations. (Ten samples each)
- Evaluate the evaporative emissions for select diesel fuels using a modified version of CE-CERT evaporative chamber system.
- Measure the vapor pressure of gasoline and diesel.

### Objective 2 – Ozone and SOA Study – Gasoline and Diesel

- Perform a series of environmental chamber experiments to evaluate the ozone and SOA formation from whole gasoline and diesel in the presence of a surrogate mixture. Follow standard environmental chamber operating procedures to measure and characterize particle formation and ozone generation.
- Conduct detailed hydrocarbon analysis for gasoline sample.

- Modify injection method for injection of whole diesel fuel using systems developed for (low vapor pressure-volatile organic compounds) LVP-VOC injection.

## Technology Description

The UCR U.S. EPA chamber consists of two ~90,000-liter Teflon® reactors located inside a 16,000 cubic foot temperature-controlled “clean room” that is continuously flushed with purified air. The clean room design is employed in order to minimize background contaminants into the reactor due to permeation or leaks. The primary light source used in this study consists of 272 115W Sylvania 350BL blacklights. The interior of the enclosure is covered with reflective aluminum panels in order to maximize the available light intensity and to attain sufficient light uniformity, which is estimated to be  $\pm 10\%$  or better in the portion of the enclosure where the reactors are located. The reactors are attached to a semi-flexible moveable framework that allows the reactors to be emptied between experiments and reduces the volume under positive pressure control to prevent dilution due to sampling or leaks during experiments. A high-volume mixing system with Teflon® pipes and Teflon®-coated flanges is used to mix the reactors and to exchange reactants between the reactors to achieve equal concentrations when desired.

An AADCO air purification system that provides dry purified air at flow rates up to 1500 liters min<sup>-1</sup> is used to supply the air to flush the enclosure and to flush and fill the reactors between experiments. The air is further purified by passing it through cartridges filled with Purafil® and heated Carulite 300® which is a Hopcalite®-type catalyst and also through a filter to remove particulate matter. The measured NO<sub>x</sub>, CO, and non-methane organic concentrations in the purified air were found to be less than the detection limits of the instrumentation employed.

The chamber enclosure is located on the second floor of a two-floor laboratory building that was designed and constructed specifically to house this facility. Analytical instrumentation (except for the PM instrumentation) is located on the ground floor beneath the chamber or on the second floor immediately adjacent to the chamber enclosure. The particle sizing instrumentation is located within the enclosure to ensure sizing is conducted at the same temperature as the experiment to prevent evaporation and/or condensation during analysis.

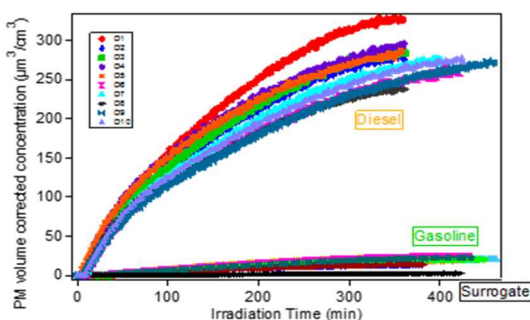


## Status

The project was completed in December 2016. The final report is on file with complete technical details of the project.

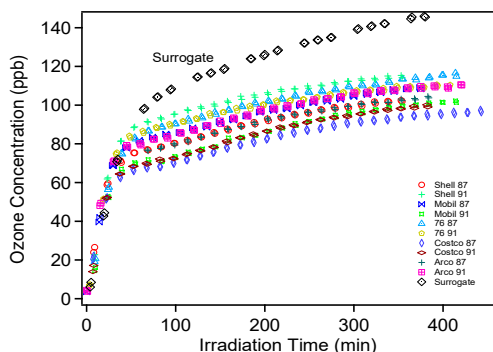
## Results

The SOA formation observed from the diesel fuel was 15 times higher than that of the gasoline samples. Trends of SOA formation with aromatic content are not observed, possibly because the surrogate mixture used is normalizing the reactivity of the system whereas in the previous work the aromatics were serving as both SOA precursors and as a source of increased system reactivity. Aromatic content of the diesel fuel cannot nearly explain the SOA formation observed for diesel and therefore other precursors (e.g., intermediate VOCs or LVP-VOCs) are much more significant contributors to SOA formation than previously observed.



**Figure 1: SOA formation from gasoline and diesel with surrogate and H<sub>2</sub>O<sub>2</sub>**

Compared with ozone formation from the surrogate and H<sub>2</sub>O<sub>2</sub> only run, the ozone formation from winter blend gasoline reduced the O<sub>3</sub> formed from the surrogate mixture. Similar trends were observed for diesel experiments; ozone formation from all the diesel samples was reduced with surrogate and H<sub>2</sub>O<sub>2</sub>. This may be attributed to larger changes in radical concentrations, NO<sub>x</sub> loadings, etc. occurring within the environmental chamber than are expected to occur within the more complex ambient atmosphere with its more significant reservoir.



**Figure 2: Ozone formation from individual winter blend gasoline with surrogate H<sub>2</sub>O<sub>2</sub>**

The higher the NO<sub>x</sub> concentration, the higher the ozone and SOA formed for both gasoline and diesel. This indicates that the fuels are likely acting within the environmental chamber system as a NO<sub>x</sub> sink reducing the total reactivity of the system. Therefore, addition of greater quantities of NO<sub>x</sub> are leading to greater consumption of SOA precursors than in systems with lower NO<sub>x</sub> concentrations. However, in the atmosphere there are continued sources of NO<sub>x</sub>, which allows the reactivity to be maintained. The trends here demonstrate the importance of NO<sub>x</sub> but do not actually imply that lower NO<sub>x</sub> levels in the atmosphere will actually lead to lower SOA formation.

The volatility for gasoline and diesel SOA decreased during the period of the experiments. Gasoline SOA was more volatile than diesel SOA. Both gasoline and diesel SOA are very hydrophobic. Compared with gasoline SOA, diesel SOA was not oxidized that much.

## Benefits

The current work provides estimates of the relative SOA and ozone formation from whole evaporated gasoline and diesel fuels under reactive conditions similar to South Coast air basin needed to more accurately evaluate evaporated fuel impacts on SOA within the South Coast air basin. The work clearly demonstrates a far more significant role of non-aromatic IVOC precursors in SOA formation and provides preliminary analysis of the impacts of SOA formation from the whole fuel as NO<sub>x</sub> loadings are reduced in the South Coast air basin.

## Project Costs

The actual total project cost was \$75,000.

## Commercialization and Applications

The research conducted in this work provides fundamental ozone and SOA formation data from a variety of in-use diesel and gasoline fuels within the South Coast air basin. More accurate representation of the SOA formation of the whole evaporated fuel was determined by utilizing a surrogate atmospheric mixture designed for the South Coast air basin. VOC precursors beyond that of the simple monocyclic aromatics were identified as important SOA precursors suggesting the need for further evaluation of the impact of these VOCs from fuels and other sources on fine particulate pollution within the South Coast air basin. Preliminary results further suggests SOA formation dependence on atmospheric NO<sub>x</sub> loadings that requires additional future research to best project changes in SOA formation as the South Coast air basin NO<sub>x</sub> loadings are reduced. No new physical technology was developed for commercialization.



## Study Opportunities and Benefits of Deploying Next Generation Heavy-Duty Natural Gas Vehicles Operating on Renewable Natural Gas

### Contractor

Gladstein, Neandross & Associates (GNA)

### Cosponsors

California Natural Gas Vehicle Partnership (CVGNP)  
Pacific Gas & Electric (PG&E)  
American Gas Association (AGA)  
Clean Energy Fuels, Inc.  
Southern California Gas Company (SoCalGas)  
Agility Fuels Corporation  
South Coast Air Quality Management District

### Project Officer

Phil Barroca

### Background

The SCAQMD, Southern California Gas Company (SoCalGas), Pacific Gas & Electric (PG&E), the American Gas Association (AGA), the California Natural Gas Vehicle Partnership (CNGVP), and Agility Fuels Corporation joined to cosponsor a white paper exploring the Opportunities and Benefits of Deploying Next Generation Heavy-Duty Natural Gas Vehicles Operating on Renewable Natural Gas (RNG). Next generation refers to the latest near-zero-emission (NZE) technology for heavy-duty vehicles (HDVs) recently certified by Cummins Westport, Inc. (CWI) to CARB's optional ultra-low  $\text{NO}_x$  standard of 0.02g/bhp-hr. The wide-scale use of NZE HDVs in the South Coast air basin would have significant air quality benefits relative to HDVs certified to the current  $\text{NO}_x$  standard (0.2g/bhp-hr). The emission benefits of NZE technology is complemented further by the use of RNG which has carbon intensity values far below conventional fuels and fossil-based natural gas resulting in significantly lower greenhouse gas (GHG) emissions.

### Project Objective

The objective of this project was to prepare a major government-industry funded white paper that describes the opportunities, environmental benefits, challenges and costs associated with deploying NZE  $\text{NO}_x$  heavy-duty natural gas engines using increasing

volumes of RNG. A specific objective of this study was to demonstrate how NZE engines in HDVs can help the South Coast air basin cost effectively attain federal ozone standards by key deadlines, while helping California meet aggressive State goals to reduce GHGs through the increased use of RNG to displace fossil-based conventional and natural gas fuels.



Figure 1: White paper completed in April 2016

### Technology Description

In 2015, CWI introduced the world's first CARB-certified NZE heavy-duty engine, the L9N. The L9N is an 8.9L spark-ignited natural gas-powered engine that employs a closed crankcase and larger three-way catalyst (TWC) system lowering tailpipe  $\text{NO}_x$  by more than 90% relative to the federal  $\text{NO}_x$  standard and tailpipe methane emissions by 70 percent to reduce this engine system's fuel-cycle GHG emissions and short-lived climate pollutants (SLCP). Complementing this system's lower GHG emission is the use of RNG as the engine fuel. RNG is produced from organic products such as disposed of green and food wastes that are collected in municipal refuse. These organic materials that would normally decompose and produce GHGs in a landfill are contained, converted, cleaned and compressed into CNG for use as a transportation fuel or for introduction to the natural gas pipeline system. CARB's Low Carbon Fuel Standard program (LCFS) and EPA's Renewable Fuel Standard program are designed to quantify and reduce the carbon intensity (CI) or GHGs of transportation fuels as well as the nation's dependency on petroleum-based fuels. These programs incentivize the production and use of renewable fuels through the issuance and tracking of LCFS and Renewable Identification Number (RIN) credits that can be traded in their respective markets. RNG has been identified as having some of the lowest CI values which result in higher credit value.



## Status

The “Game Changer” white paper was completed in April 2016 and released at the ACT Expo 2016 conference in Long Beach. The paper has been widely cited by regulators like SCAQMD, clean transportation advocates, the heavy-duty NGV industry, providers of renewable fuels, and municipalities seeking to address environmental justice issues.

## Results

With help from SCAQMD and the other project cosponsors, GNA was highly successful in widely disseminating the technical white paper. It has helped pave the way in California (and nationwide) for government clean-vehicle grant funding programs to identify new, larger streams of funding to deploy near-zero-emission heavy-duty NGVs, especially when using RNG. In sum, the paper is being used in the South Coast air basin and across the U.S. as an important tool to expand commercialization and deployment of HDVs powered by NZE natural gas engines and bring greater awareness of RNG.

## Benefits

Near-zero-emission natural gas engines provide a commercially proven, broad-based and affordable strategy to immediately achieve major reductions in emissions of criteria pollutants, toxic air contaminants and GHGs from America’s on-road HHDT sector. As documented in the report, the key to achieve National Ambient Air Quality Standards (NAAQS) for ozone and PM<sub>2.5</sub> in the South Coast air basin, and other air basins is to aggressively control NO<sub>x</sub> from HHDTs. Analysis indicates that attaining the ozone NAAQS in the South Coast air basin will require rapid, very large NO<sub>x</sub> reductions from HHDTs over the next five to 10 years. The report describes how heavy-duty NZE natural gas engines provide a major tool to achieve such large NO<sub>x</sub> reductions, as rapidly and cost-effectively as possible.

Wide-scale use of RNG can provide major GHG reduction benefits. Moreover, the act of producing RNG can offer an array of localized environmental and economic benefits, including job creation, improved air quality, and a number of environmental waste stream management improvements. RNG production is a highly sustainable process via multiple pathways; various types of waste streams (that are otherwise environmental hazards requiring costly treatment or processing) are converted to energy-rich, locally-produced renewable energy

sources that ultimately displace higher-pollution non-renewable fuels. This simultaneously generates significant economic value and multiple other benefits, as documented in the report.

Used together to replace conventional diesel HDVs, this fuel/engine technology can immediately and uniquely begin delivering 90 percent (or greater) reductions in NO<sub>x</sub> emissions for the large U.S. fleet of on-road HDVs, while simultaneously proving GHG reductions of 80 percent or greater.

## Project Costs

Total project costs are broken down by organization as follows:

Organization	Amount
American Gas Association	\$50,000
CNGVP	\$50,000
Clean Energy	\$50,000
SoCal Gas	\$50,000
Pacific Gas & Electric	\$50,000
Agility Fuels Corporation	\$10,000
SCAQMD	\$50,000
<b>Total</b>	<b>\$310,000</b>

## Commercialization and Applications

Heavy-duty NGVs with NZE engines are already helping to transform America’s diesel-dominated freight movement system. CWI’s L9N engine is now commercially available in a broad range of HDV sectors that power freight movement and public transportation systems (transit buses, refuse haulers, and short-haul delivery trucks).

In 2018, CWI will certify and commercialize a NZE 11.9 liter natural gas powered engine, the ISX12N. This engine will expand on-road applications of NZE HDVs into HHDTs used in high-fuel-use goods movement applications, including for-hire long-haul trucking. CWI has also certified its 6.7-liter B6.7N engine to CARB’s 50 percent optional low-NO<sub>x</sub> standard (0.1 g/bhp-hr), and it is now commercially available for certain applications. Spurred on by CWI’s achievement, other heavy-duty engine manufacturers are now working to certify and commercialize other near-zero-emission heavy-duty gaseous fuel engines.

Finally, production and use of RNG continues to grow in California, and across the U.S. Today, approximately 60% of the natural gas consumed in California transportation applications is RNG.



SCAQMD Contract #16254

December 2017

## Evaluate Ozone and Secondary Aerosol Formation from Diesel Fuels

**Contractor**

University of California, Berkeley

**Cosponsors**Gulf of Mexico Research Initiative  
South Coast Air Quality Management District**Project Officer**

Naveen Berry/Diana Thai

**Background**

Diesel vehicle exhaust and unburned diesel fuel are major sources of intermediate volatile organic compounds (IVOCs) and may contribute to the formation of urban ozone and secondary organic aerosol (SOA), which is an important component of fine particulate matter (PM<sub>2.5</sub>). The characterization of IVOC emissions is critical in assessing ozone and SOA production rates in urban locations, such as the South Coast air basin.

**Project Objective**

Traditionally, laboratory measurements of IVOCs have been prohibitively difficult. For this project, novel experiments, measurements, and emissions modeling of several diesel blends under varying temperatures and wind speeds were used to determine potential ozone and SOA formation related to evaporative emissions, particularly in urban areas.

**Technology Description**

This project combines wind tunnel experiments with state of the art gas chromatography with mass spectrometry (GC-MS) quantification methods. These experiments and measurements verify and allow the application of a thermodynamic model of diesel evaporation that combines current knowledge of ozone and SOA formation to estimate pollutant production under varying conditions. The combination of cutting edge measurements and modeling with reliable wind tunnel experiments is a major advancement in prediction of pollutant formation from evaporation of complex mixtures

containing IVOC, which include low-vapor pressure VOC.

**Status**

The project was completed in December 2017. Major project milestones were enhancing an existing wind tunnel apparatus to allow temperature control of the evaporating liquid. The next milestone was verifying agreement between our thermodynamic model and measurements for all 100+ species that showed significant evaporation under our experimental conditions. Finally, our model showed the importance of IVOC emissions from complex mixtures such as diesel to the formation of both ozone and SOA on timescales relevant to ambient air quality standards (8 hrs, 24 hrs). In addition to the initial goals, emissions and pollutant formation were modeled for 1 month time periods to show longer term effects.

An unanticipated problem was unreliable analysis of many diesel samples using our novel GC-MS methods. Our soft ionization source, which allows unprecedented detail in composition, did not initially provide results that were comparable from day to day. We worked extensively with the manufacturer to resolve this issue for our samples. After ensuring a sound data set for this work, several more days of intensive work revealed that we could modify the ionization voltage in the mass spectrometer to give not only reliable results but also the potential for enhanced composition information in future analyses.

**Results**

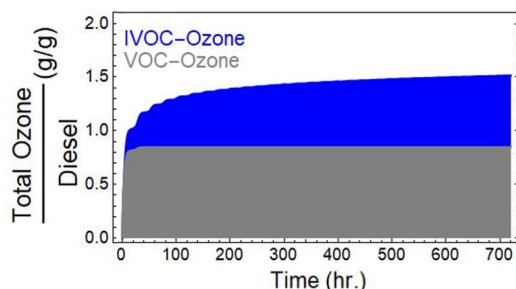
Key results from this work include:

- 1) Detailed composition of several diesel blends during evaporation experiments
- 2) Modeled ozone formation from evaporative emissions
- 3) Modeled SOA formation from evaporative emissions.

The compositions of several diesel blends were analyzed utilizing a new technique, gas chromatography with soft-electron-impact-ionization time-of-flight mass spectrometry (GC-SEI-MS), which gave unprecedented composition.

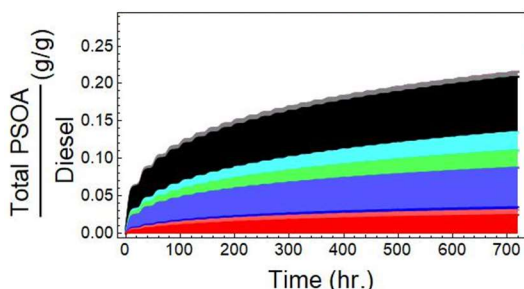


Commercially available blends had similar compositions, with about 25% aromatic content and aliphatic content that was dominated by branched, cyclic compounds. Two synthetic blends covered lower (15%) and higher (45%) aromatic content. Our model of evaporation accurately modeled the composition of all these blends during evaporation over 24 hours for all evaporation conditions spanning 1-3 m/s wind speed and 20-40°C.



**Figure 1: Ozone formation during 1 month of diesel evaporation.**

As illustrated in Figure 1, it is clear that IVOC are consistently an important part of ozone formation, culminating in 45% of ozone formation after 1 month of evaporation. The rest of the ozone formation is due to VOC emissions. Yields for the mixture presented here (Mobile) are also significant, ranging from 1 to 1.5 g-ozone/g-Diesel released.



**Figure 2: Potential SOA (PSOA) formation during 1 month of diesel evaporation. Aromatics are most important during the first 24 hours of evaporation.**

As Figure 2 shows, for SOA the contribution of IVOC is always dominant, ranging from 55% after 24 hours to 85% after a month of evaporation. Yields for this mixture are also significant, ranging from 0.06 to 0.2 g-SOA/g-Diesel released.

The procedures and methods here require extensive characterization using GC-SEI-MS or a similar technique, which is currently not widely available. Verification of the model prediction of evaporation indicates that when composition analysis is needed, only the initial composition is required. Because

commercial diesel blends appear to be fairly similar, the results here will be good first approximations for all refinery stream diesel blends.

## Benefits

The project directly improves the ability to predict the rate of emissions from evaporative sources from very complex mixtures that include material with a wide range of volatilities. The detailed composition of our modeled emissions directly enables prediction of ozone and SOA formation. This model is easily updated as future laboratory experiments reveal new chemistry related to SOA and ozone formation. This model can also be incorporated into existing emissions models written for other computing platforms.

The results of this project directly inform the level of detail needed in emissions inventories and allow a clear assessment of current health risks associated with evaporative emissions. Most notably, we clearly show that evaporative emissions of IVOC are major contributors to both ozone and SOA from evaporative sources that span this volatility range. We are now able to more accurately assess the potential for both ozone and SOA formation from commercial products containing low-vapor pressure VOC or IVOC.

## Project Costs

The project utilized the full contracted amount of \$106,361 by the SCAQMD. Funds on the order of \$1,000,000 from the Gulf of Mexico Research Initiative were used to develop and validate the research strategy.

## Commercialization and Applications

The findings of this study are central to future strategies to improve air quality in urban areas. As vehicular emissions continue to be reduced, contributions from sources such as evaporation of complex mixtures like diesel will play a more significant role in pollutant formation. Our results may be applied as updates to emissions models in assessing impacts of evaporative emissions. The evident importance of IVOC emissions over long time periods shows the need for future work analyzing other types of complex mixtures containing material with a wide range of volatilities, such as coatings or solvents.



SCAQMD Contract #13408

September 2017

# Demonstrate Building Integration of Electric Vehicles, Photovoltaics and Stationary Fuel Cells

**Contractor**

Advanced Power and Energy Program, UC Irvine

**Cosponsors**California Energy Commission (CEC)  
South Coast Air Quality Management District**Project Officer**

Lisa Mirisola

2) reliable, transparent, and consistent system operation to facilitate PEV charging.

**Technology Description**

The technology modeled and demonstrated in this project consists of pricing methodologies for electric vehicle charging to support integrated building operation and distributed generation. Demonstration will occur at the Multi-Purpose Science and Technology Building (MSTB) at UC Irvine.

**Background**

California's goal to grow the zero emission vehicle (ZEV) market to 1.5 million ZEVs by 2025 will require expanded charging infrastructure since most of these ZEVs will be plug-in electric vehicles (see Executive Order B-16-2012). In fact, limited charging infrastructure is among the barriers that have been cited as preventing wide-scale PEV adoption. Currently, most charging takes place at home, but there is an increasing number of commercial charging stations that are being installed. These stations will address issues of charging access away from home and increase PEV range. As more charging stations are installed at commercial areas, there is a need to develop pricing methods that are attractive to PEV owners and promote the use of newly installed charging infrastructure. Additionally, these pricing methods must also be economical to the owner and integrate with any existing or future distributed generation (DG) technologies.

**Project Objective**

The objective of this project was to investigate the interactions and optimization of PEV charging in combination with local photovoltaic solar power generation, distributed fuel cell electricity, and utility operation and pricing with goals of:

1) renewable PEV charging, and

**Status**

This project was initiated in October 2013 and was completed in September 2017. Initial delays resulted from delayed installation of the chargers themselves, which occurred in November 2014. Additional delays in the project resulted from competition with other electric vehicle charging stations on the university campus. These charging stations were free, and therefore, attracted all potential customers on the campus. Implementing pricing on these chargers required transfer of ownership to the university since these chargers were a part of a previous research project (Irvine Smart Grid Demonstration). While this represented a delay and limited some of the pricing methodology testing, it reinforced the importance of competition from other lower-priced charging stations.



Figure 1: Demonstration project location



## Results

The results from this research project originate from its modeling and demonstration phases. From the modeling phase, the MSTB charging station (6 charger ports) was determined to increase PEV trip feasibility on all-electric miles for a population of 800 vehicles in a scenario with no parking management and 2,000 vehicles in a scenario with a valet-type management. It was also found that in order to minimize utility costs the owner should integrate the building and chargers on the same commercial meter if the maximum demand of the chargers exceeds 20 kW. This is the case for the system installed at the MSTB which has a maximum possible demand of 39.6 kW. The presence of solar PV reduces overall utility costs but it does not change the decision-making process of whether to integrate or separately meter the building and charging load.

Level 3 charging was also investigated and findings indicated that it typically does not provide a benefit to the building by integration and potential tariff changes. The dynamics of a building's electricity consumption have a large effect on overall demand charge cost reductions. A high load factor building provides the least cost reduction potential.

Findings from the demonstration include: strong effect on usage from competition from nearby charging station with free charging; pricing effective in shaping load; pricing also effective in minimizing energy consumption per customer.

## Benefits

The potential benefits of utilizing pricing to encourage use of on-site renewable electricity for charging electric vehicles could be significant for GHG emission and pollutant emission reductions. For 1.5 million ZEVs in California, assuming 50% of these within the SCAQMD, a GHG emission reduction potential of 8,370 tons per year (assuming 30 miles average daily travel, 25 mpg, and 100% renewable on-site electricity).

## Project Costs

The MSTB charging station was funded by the California Energy Commission (\$90,000). The PV system installed was funded by UCI. The SCAQMD funding for this research project to test pricing methods was \$150,000.

## Commercialization and Applications

The potential market size for these pricing methods is on the order of thousands of charging stations. The pricing strategies investigated here will be applied in another SCAQMD-supported project investigating smart charging of EVs on the UCI Microgrid in collaboration with Kia Motors and Hyundai America Technical Center.

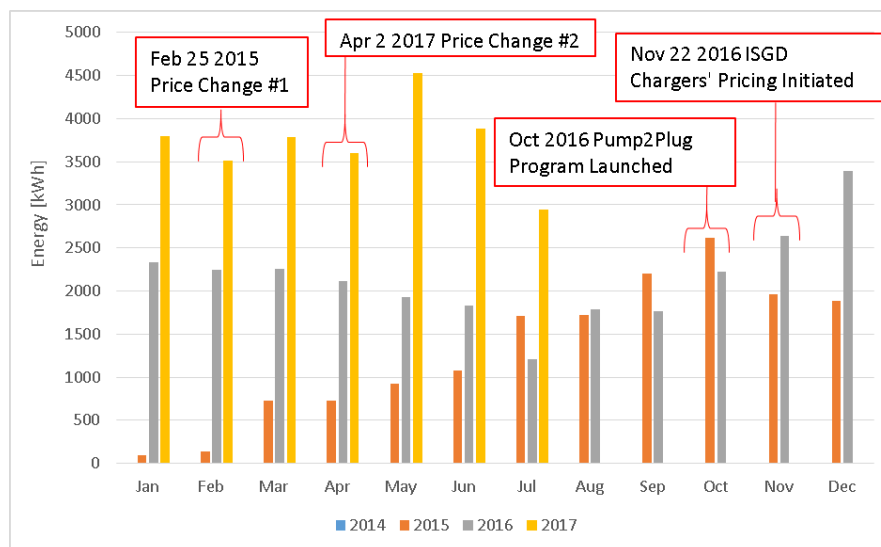


Figure 2: Energy consumption of MSTB charging station during demonstration



SCAQMD Contract #14171

May 2017

## Study Air Pollution Health Effects on In-Utero Exposure to Traffic-Related Pollutants

### Contractor

Southern California Research Center/Allergy and Asthma Associates of Southern California

### Cosponsors

British Petroleum (BP)  
South Coast Air Quality Management District

### Project Officer

Dr. Jean Ospital

### Background

This pilot project is one of the first to study the risk of asthma among children from in-utero exposure to in-vehicle traffic-related air pollutants. We also studied traffic-related air pollutants from multiple fixed locations. This study serves to lay the ground work for future investigations and validated analytic tools to be used in the field for further study, it is thus fundamental to the advancement of the study of asthma risk from traffic-related air pollutant exposure in-utero. Additionally, a preliminary finding was that in-utero residential exposure to CALINE4 (a dispersion model for predicting air pollutant concentrations near roadways) traffic-related air pollutants was associated with risk for asthma development but not in-vehicle CALINE4 exposure, despite that in-vehicle exposure was twice as high as residential exposure, which was within EPA standards. Note that residential exposure is far more sustained so cumulative exposure is much higher. This preliminary finding begs further study in the hope of providing recommendations for risk avoidance during pregnancy in order to decrease the development of asthma in children. Moreover, we hope the results of this project will inspire further investigations and funding opportunities in order to better understand the contributing role of traffic-related air pollutant exposure in-utero to the etiology of pediatric asthma.

### Project Objective

The aim of this case-control study was to assess the risk of asthma among children living in Orange County from in-utero exposure to traffic-related air pollution.

### Technology Description

This pilot project accomplished four tasks in order to study the association of in-utero exposure to traffic-related air pollutants and the risk of developing asthma in children. Particularly important was the development of the field procedures in Task 1 and the experience garnered.

#### Task 1: Produce an Asthma and Health Outcomes Dataset:

1. Comprehensive participant questionnaire packets were developed.
2. Secure electronic questionnaire packets were designed and implemented.
3. Participants were enrolled:
  - a. 5,660 subjects were screened for enrollment.
  - b. 533 subjects were enrolled in the study.
  - c. 303 subjects completed the study questionnaires.
4. An Asthma and Health Outcomes Datasheet was produced.

#### Task 2: Estimate traffic-related air pollution exposures at fixed locations:

1. Spatially interpolated monthly concentrations of regionally distributed pollutants (PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, NO<sub>2</sub>, O<sub>3</sub> and CO) from 1990 to 2013 were used for estimations at fixed locations.
2. A modified Gaussian line source dispersion model (CALINE4) was employed to estimate local traffic-generated air pollutants from traffic emissions.

#### Task 3: Estimate traffic-related air pollution exposures during times commuting in vehicles:

1. Concentrations were estimated of traffic-related pollutants [polycyclic aromatic hydrocarbon (PAH), particle number



concentration (PNC), NO<sub>x</sub>, and PM<sub>2.5</sub>] by roadway type based on our previous work that measured and modeled on-road concentrations of these pollutants.

2. Commuting time of the subjects were obtained by three different measures.
3. Average on-road pollutant concentrations for commuting were calculated by weighting pollutant concentration on each type of road by commuting time spent on the specific road for each individual subject.

**Task 4:** Evaluate the risk of asthma among children from in-utero exposure to traffic-related air pollution:

1. A case-control study design was used to compare exposures between asthma cases and controls without asthma.
2. Analyses were performed using unconditional logistic regression to model the odds of asthma diagnosis as a function of exposure to traffic-related air pollution near subject homes, work, and commute routes.
3. Models were adjusted for age, socioeconomic status (mother's education level), and the subject's recruitment source.

## Status

Project completed in May 2017. Final report on file with complete details of the project.

## Results

1. We found no associations of asthma risk with either GIS-estimated commute travel time during pregnancy or questionnaire-reported commute travel time during pregnancy.
2. There were also no associations with modeled in-vehicle exposures during pregnancy with all odds ratios less than 1.00.
3. In univariate models there were positive associations of increased asthma risk from exposure to both ambient residential exposures during pregnancy (except O<sub>3</sub>) and CALINE4 traffic-related residential exposures during pregnancy.
4. Estimated daily 24-hour concentrations of PM<sub>2.5</sub> and PM<sub>10</sub> at residential locations never exceeded EPA National Ambient Air Quality Standards of 35 µg/m<sup>3</sup> and 150 µg/m<sup>3</sup>, respectively.
5. In-vehicle concentrations were around twice as high for NO<sub>x</sub> and PM<sub>2.5</sub> compared with

residential exposures, although this exposure would be for a much shorter duration of time.

6. Multivariate regression models that adjusted for all covariates except age showed that CALINE4 and ambient air pollution variables were still significantly associated with increased risk of asthma from exposure to traffic-related air pollution (NO<sub>2</sub>, NO<sub>x</sub>, CO).

## Benefits

In conclusion, although we found little evidence for an association of asthma risk from air pollution exposure occurring during the pregnancy period, a preliminary finding was that in-utero residential exposure to CALINE4 traffic-related air pollutants was associated with risk for asthma development but not in-vehicle CALINE4 exposure, despite that in-vehicle exposure was twice as high as residential exposure, which was within EPA standards. It is hoped that findings from the present study will inform and energize plans to evaluate asthma risk from in utero air pollution exposure in future studies. Two of the main benefits cited by the study include:

1. Validated analytic tools to study asthma risk from traffic-related air pollutant exposure in-utero, and
2. Improved the understanding of the risk of asthma among children from in-utero exposure to in-vehicle and fixed location exposures to traffic-related air pollutants.

## Project Costs

The total project cost was \$317,119, on target with the projected budget. Of this, the SCAQMD funded \$99,670 and BP funded \$217,449 of the total project costs.

## Commercialization and Applications

There were no commercial applications yielded by this project.



SCAQMD Contract #15610

December 2017

## Conduct Engineering Services at SCAQMD Headquarters

### Contractor

Goss Engineering, Inc.

### Cosponsor

South Coast Air Quality Management District

### Project Officer

Patricia Kwon

### Background

Goss Engineering, Inc. was hired through a competitive RFP process to provide required engineering services in anticipation of a release of a RFP for installation of EV chargers. The SCAQMD planned to install 92 Level 2 electric vehicle (EV) charging ports at SCAQMD headquarters in Diamond Bar, CA 91765. Goss Engineering prepared construction plans to obtain a permit from the City of Diamond Bar, and assisted with engineering services as required during the installation of EV chargers in 2016-2017.

### Project Objective

Goss Engineering assisted in the release of an RFP for installation services by performing the following services: field investigation, 30-day load testing of all electrical panels servicing areas of the parking lot to receive EV chargers, review of as-built drawings for the SCAQMD headquarters facility, preparation of a conceptual engineering design for the entire project, preparation of electrical specifications including sizing of transformers, electrical panels, conduit and wire, preparation of CAD electrical as-built drawings from contractor redlines, and preparation of 90% and 100% construction documents to be submitted to the City of Diamond Bar Plan Check department. Additional services included involvement and standard engineering technical assistance during all phases of construction including coordination of all plan check efforts, participation in the bidder's conference for

installation contractors, review of installation bids, provide final punch list, and perform final job walk with SCAQMD staff and installation contractor.

### Technology Description

Due to the wide range of cutting edge alternative fuel technologies that are demonstrated at the SCAQMD headquarters facility, even a moderately large scale construction project impacting six areas of the parking lot including upgrade and replacement of three transformers and seven electrical panels presents technical challenges. In addition, there was an inability to shut down power at the facility for even a short 30 minute interval due to the need to have continuous power at the facility for AQMP modeling runs and laboratory analyses for resolving toxics issues at metal processing plants in Paramount. Due to the need to comply with SCAQMD's Rule 1470 (prohibiting use of a backup natural gas generator to provide power during routine maintenance), replacement of the transformer in the main electrical room took place with the power still on through a "hot connect" procedure.



Figure 1: Aerial photo of SCAQMD headquarters denoting areas for EVSE upgrade

### Status

Goss Engineering played a critical role in the completion of construction to install 92 Level 2 EV charging ports at SCAQMD headquarters. This project was completed in April 2017.



## **Results**

The engineering services provided at key stages during the EV charger installation project such as the preparation of detailed engineering construction plans to accompany the RFP for installation services and construction documents (and required revisions) to the City of Diamond Bar Plan Check department enabled the construction project to be carried out successfully and with a minimum of delays despite technical challenges, delays in receiving equipment, and unprecedented heavy rainfall.



**Figure 2: SCAQMD solar carport featuring upgraded EVSE**

The most recent EV charging transaction report shows that there were over 1,329 charging sessions dispensing 15,309 kWh of electricity for EV chargers serving SCAQMD staff, visitors, and the general public.

## **Benefits**

This project showcases the benefits of providing Level 2 charging for EVs at a large workplace to provide the ability for staff, visitors and the general public. On average, SCAQMD staff have a 20 mile one-way commute to work, with some staff having as much as a 45 mile one-way commute. Without workplace charging, staff would be unable to drive their EVs to work and be able to return home. This results in increased zero emission vehicle miles traveled, particularly during critical morning and evening commuting hours when congestion impacts are at their greatest.

## **Project Costs**

Total project costs were \$60,000, all funded by the SCAQMD from the Clean Fuels Fund. The initial contract was \$50,000, with an additional \$10,000 added through an amendment to cover unanticipated site plan and permitting expenses.

Specifically, permitting requirements which were not anticipated included a site survey to address American with Disabilities Act requirements and a short circuit study to address National Electrical Code requirements.

## **Commercialization and Applications**

The utilization of engineering services to define the installation phase of the project assisted greatly in allowing the installation to stay within budget and to be completed within the desired time frame. It is recommended that for the installation of workplace charging at large facilities such as SCAQMD headquarters that an engineering firm be available to provide the necessary technical assistance at key points during the project. In particular, engineering services were critical to define the load of existing panels and ensure proper specifications and upsizing of transformers, panels, conduit and wiring. This upsizing incorporated not only the planned installation of 92 EV charging ports but also anticipated future deployments of EV chargers that were likely to occur within the next 5-10 years to future proof the facility. This future proofing enabled staff to later serve as a site host for a new 50 kW DC fast charger with CHAdeMO and CCS connectors at the front lobby parking area to better serve EVs capable of fast charging.



## **Appendix D**

### **Project Ranking**



**[This Page Intentionally Left Blank]**



## Project Ranking

For each of the core technologies discussed earlier in this report, staff considers numerous factors that influence the proposed allocation of funds, ranging from overall Environment & Health Benefits, Technology Maturity and Compatibility, and Cost, summarized in the proposed ranking system.

Within the broad factors included above, staff has included sub-factors for each specific type of project that may be considered, as summarized below:

### Environment and Health

Criteria Pollutant Emission Reduction potential continues to receive the highest priority for projects that facilitate the NO<sub>x</sub> reduction goals outlined in the 2016 AQMP. Technologies that provide co-benefits of Greenhouse Gas and Petroleum Reduction are also weighted favorably, considering the Clean Fuels Program is able to leverage funds available through several state and federal programs, as well as overall health benefits in reducing exposure to Ozone and PM<sub>2.5</sub>, especially along disadvantaged communities.

### Technology Maturity & Compatibility

Numerous approaches have been used to evaluate technology maturity and risk that include an evaluation of potential uncertainty in real world operations. This approach can include numerous weighting factors based on assessed importance of a particular technology. Some key metrics that can be considered include Infrastructure Constructability that would evaluate the potential of fuel or energy for the technology and readiness of associated infrastructure, Technology Readiness that includes not only the research and development of the technology, but potential larger scale deployments that consider near-term implementation duty and operational compatibility for the end users. These combined factors can provide an assessment for market readiness of the technology.

### Cost/Incentives

The long-term costs and performance of advanced technologies are highly uncertain, considering continued development of these technologies is likely to involve unforeseen changes in basic design and materials. Additionally, economic sustainability – or market driven – implementation of these technologies is another key factor for the technology research, development, demonstration and deployment projects. Therefore, in an effort to accelerate the demonstration and deployment, especially some pre-commercialization technologies, incentive programs such as those available from local, state and federal programs are key, but may be underfunded for larger scale deployments. As a part of the 2016 AQMP, staff has also included the Draft Financial Incentives Funding Action Plan to address the funding necessary for full implementation of the control measures included.

Staff has proposed a simplified approach to ranking the core technologies, especially some of the specific platforms and technologies discussed in the draft plan and annual report. The rankings below take into account experience with implementing the Clean Fuels Program for numerous years, as well as understanding the current development and deployment state of the technologies and associated infrastructure, and are based on the following “Consumer Reports” type approach:

● Excellent    ● Good    ○ Satisfactory    ● Poor    ● Unacceptable

The table below summarizes staff ranking of the potential projects anticipated in the draft plan, and it is noted that technology developers, suppliers, and other experts may differ in their approach to ranking these projects. For example, staff ranks Electric/Hybrid Technologies and Infrastructure as Excellent or Good for Criteria Pollutant and GHG/Petroleum Reduction, but Poor to Good for Technology



Maturity & Compatibility, and Satisfactory to Unacceptable for Costs and Incentives to affect large scale deployment. It is further noted that the Clean Fuels Fund's primary focus remains on-road vehicles and fuels, and funds for off-road and stationary sources are limited.

This approach has been reviewed with the Clean Fuels and Technology Advancement Advisory Groups, as well as the Governing Board.

Technologies & Proposed Solutions	Environment & Health			Technology Maturity & Compatibility				Cost	
	Emissions Reduction	GHG/Petroleum Reduction	Health Benefits	Infrastructure Constructability	Technology Readiness	Near-Term Implementation/ Duty Cycle Fulfillment Capability	Operations Compatibility	Relative Cost & Economic Sustainability	Incentives Available
<b>Electric/Hybrid Technologies &amp; Infrastructure</b>									
Plug-In Hybrid Heavy-Duty Trucks with Zero-Emission Range	●	○	●	●	○	●	●	●	●
Heavy-Duty Zero-Emission Trucks	●	●	●	●	●	●	○	●	●
Medium-Duty Trucks	●	●	●	●	○	●	●	●	●
Medium- and Heavy-Duty Buses	●	●	●	●	○	●	○	●	●
Light-Duty Vehicles	●	●	●	●	●	●	●	●	●
Infrastructure	-	-	-	●	●	●	●	○	●
<b>Hydrogen &amp; Fuel Cell Technologies &amp; Infrastructure</b>									
Heavy-Duty Trucks	●	●	●	○	●	●	●	●	●
Heavy-Duty Buses	●	●	●	○	●	●	●	●	●
Off-road – Locomotive/Marine	●	●	●	○	●	●	●	●	●
Light-Duty Vehicles	●	●	●	○	●	○	○	○	●
Infrastructure – Production, Dispensing, Certification	-	-	-	○	○	●	●	●	●
<b>Engine Systems</b>									
Ultra-Low emissions Heavy-Duty Engines	●	●	●	●	○	○	●	●	○
Alternative Fuel Medium- and Heavy-Duty Vehicles	●	●	●	●	●	●	●	●	○
Off-Road Applications	●	●	●	●	●	●	●	●	○
<b>Fueling Infrastructure &amp; Deployment</b>									
Production of Renewable Natural Gas – Biowaste/Feedstock	●	●	●	●	●	●	●	○	○
Synthesis Gas to Renewable Natural Gas	●	●	●	●	●	●	●	○	○
Expansion of Infrastructure/Stations/Equipment/RNG Transition	●	●	●	●	●	●	●	●	○
<b>Stationary Clean Fuel Technologies</b>									
Low-Emission Stationary & Control Technologies	●	●	●	●	○	○	●	○	○
Renewable Fuels for Stationary Technologies	○	●	●	●	○	○	○	○	○
Vehicle-to-Grid or Vehicle-to-Building/Storage	●	●	●	○	○	●	○	○	●
<b>Emission Control Technologies</b>									
Alternative/Renewable Liquid Fuels	●	●	●	●	○	○	●	●	○
Advanced Aftertreatment Technologies	●	○	●	○	○	●	●	●	○
Lower-Emitting Lubricant Technologies	○	○	●	-	●	●	●	●	○
<span>● Excellent</span> <span>● Good</span> <span>○ Satisfactory</span> <span>● Poor</span> <span>● Unacceptable</span>									



## **Appendix E**

### **List of Acronyms**



**[This Page Intentionally Left Blank]**



## LIST OF ACRONYMS

AB—Assembly Bill	DC—direct connection
AC-absorption chiller	DCM—dichloromethane
ADA—American with Disabilities Act	DEG—diesel equivalent gallons
AER—all-electric range	DGE—diesel gallon equivalents
AFRC—air/fuel ratio control	DF—deterioration factor
AFVs—Alternative Fuel Vehicles	DME—dimethyl ether
APCD—Air Pollution Control District	DMS—Division of Measurement Standards
AQMD—Air Quality Management District	DMV—Department of Motor Vehicles
AQMP—Air Quality Management Plan	DOC—diesel oxidation catalysts
ARB—Air Resources Board	DOE—Department of Energy
ARRA—American Recovery & Reinvestment Act	DOT—Department of Transportation
AWMA—Air & Waste Management Association	DPF—diesel particulate filters
BACT—Best Available Control Technology	DPT3-Local Drayage Port Truck (cycle) - where 3=local (whereas 2=near-dock, etc.)
BET—battery electric truck	DRC—Desert Resource Center
BEV—battery electric vehicle	DRI—Desert Research Institute
BSNOx—brake specific NOx	ECM—emission control monitoring
BMS—battery management system	EDD-electric drayage demonstration
CAAP—Clean Air Action Plan	EDTA—Electric Drive Transportation Association
CAFR—Comprehensive Annual Financial Report	EGR—exhaust gas recirculation
CaFCP—California Fuel Cell Partnership	EIA-Energy Information Administration
CARB—California Air Resources Board	EIN—Energy Independence Now
CATI—Clean Air Technology Initiative	EMFAC-Emission FACTors
CBD-Central Business District (cycle) - a Dyno test cycle for buses	EPRI—Electric Power Research Institute
CCF—California Clean Fuels	E-rEV—extended-range electric vehicles
CCHP—combined cooling, heat and power	ESD—emergency shut down
CDFA/DMS—California Department of Food & Agriculture/Division of Measurement Standards	EV—electric vehicle
CEC—California Energy Commission	EVSE-electric vehicle supply equipment
CE-CERT—College of Engineering – Center for Environmental Research and Technology	FCV—fuel cell vehicle
CEMS—continuous emission monitoring system	FTA—Federal Transit Administration
CEQA—The California Environmental Quality Act	FTP—federal test procedures
CFCI—Clean Fuel Connection, Inc.	g/bhp-hr—grams per brake horsepower per hour
CFD—computational fluid dynamic	GC/MS—gas chromatography/mass spectrometry
CHBC—California Hydrogen Business Council	GCW—gross combination weight
CNG—compressed natural gas	GDI—gasoline direct injection
CNGVP—California Natural Gas Vehicle Partnership	GGE—gasoline gallon equivalents
CO <sub>2</sub> —carbon dioxide	GGRF—Greenhouse Gas Reduction Relief Fund
CO—carbon monoxide	GHG—Greenhouse Gas
ComZEV—Commercial Zero-Emission Vehicle	GNA—Gladstein, Neandross & Associates, LLC
CPA—Certified Public Accountant	GTL—gas to liquid
CPUC—California Public Utilities Commission	H&SC—California Health and Safety Code
CRDS—cavity ring-down spectroscopy	HCCI—Homogeneous Charge Combustion Ignition
CRT—continuously regenerating technology	HCNG—hydrogen-compressed natural gas (blend)
CVAG—Coachella Valley Association of Governments	HDDT—highway dynamometer driving schedule
CWI-Cummins Westport, Inc.	HD-FTP—Heavy-Duty Federal Test Procedure
CY—calendar year	HDV—heavy-duty vehicle
	HEV—Hybrid electric vehicle
	HOA—Homeowners Association



## LIST OF ACRONYMS (cont'd)

HQSA—hydrogen quality sampling adapter	NextSTEPS—Next Sustainable Transportation Energy Pathways
HPDI—High Pressure Diesel Injection	NG/NGV—natural gas/natural gas vehicle
HPLC—high-performance liquid chromatography	NH <sub>3</sub> —ammonia
HT—high throughput	NHTSA—National Highway Traffic Safety Administration
HTFCs—high-temperature fuel cells	NMHC—non-methane hydrocarbon
H2NIP—Hydrogen Network Investment Plan	NO—nitrogen monoxide
HTPH—high throughput pretreatment and enzymatic hydrolysis	NO <sub>2</sub> —nitrogen dioxide
HyPPO—Hydrogen Progress, Priorities and Opportunities report	NO + NO <sub>2</sub> —nitrous oxide
Hz—Hertz	NOPA—Notice of Proposed Award
ICE—internal combustion engine	NO <sub>x</sub> —oxides of nitrogen
ICEV—internal combustion engine vehicle	NRC—National Research Council
ICU—inverter-charger unit	NREL—National Renewables Energy Laboratory
ICTC—Interstate Clean Transportation Corridor	NSPS—New Source Performance Standard
IVOC—intermediate volatility organic compound	NSR—New Source Review
kg—kilogram	NZ—near zero
LACMTA—Los Angeles County Metropolitan Transit Authority	OBD—On-Board Diagnostics
LADWP—Los Angeles Department of Water and Power	OCS—overhead catenary system
LCFS—Low Carbon Fuel Standard	OCTA—Orange County Transit Authority
Li—lithium ion	OEHHA—Office of Environmental Health Hazard Assessment
LIMS—Laboratory Information Management System	OEM—original equipment manufacturer
LLNL—Lawrence Livermore National Laboratory	PAH—polyaromatic hydrocarbons
LNG—liquefied natural gas	PbA—lead acid
LPG—liquefied petroleum gas or propane	PCM—powertrain control module
LSM—linear synchronous motor	PEMFC—proton exchange membrane fuel cell
LSV—low-speed vehicle	PEMS—portable emissions measurement system
LUV—local-use vehicle	PEV—plug-in electric vehicle
LVP—low vapor pressure	PHET—plug-in hybrid electric truck
MATES—Multiple Air Toxics Exposure Study	PHEV—plug-in hybrid vehicle
MECA—Manufacturers of Emission Controls Association	PM—particulate matter
MOA—Memorandum of Agreement	PM <sub>2.5</sub> —particulate matter ≤ 2.5 microns
MPa—MegaPascal	PM <sub>10</sub> —particulate matter ≤ 10 microns
MPFI—Multi-Port Fuel Injection	POS—point of sale
MPG—miles per gallon	ppm—parts per million
MPGde—miles per gallon diesel equivalent	ppb—parts per billion
MSRC—Mobile Source Air Pollution Reduction Review Committee	PSI—Power Solutions International
MSW—municipal solid wastes	PTR-MS—proton transfer reaction-mass spectrometry
MY—model year	RD&D—research, development and demonstration
MTA—Metropolitan Transportation Authority (Los Angeles County “Metro”)	RDD&D (or RD3)—research, development, demonstration and deployment
NAAQS—National Ambient Air Quality Standards	REC—renewable energy certificates
NAFA—National Association of Fleet Administrators	RFP—Request for Proposal
NFPA—National Fire Protection Association	RFS—renewable fuel standards
NCP—nonconformance penalty	RI—reactive intermediates
NEV—neighborhood electric vehicles	RNG—renewable natural gas
	RPS—Renewable Portfolio Standard
	RRC—rolling resistance co-efficient



## **LIST OF ACRONYMS (cont'd)**

RTA—Riverside Transit Agency	WVU—West Virginia University
RTP/SCS—Regional Transportation Plan/Sustainable Communities Strategy	ZECT—Zero Emission Cargo Transport
SAE—Society of Automotive Engineers	ZEV—zero emission vehicle
SB—Senate Bill	
SCAB—South Coast Air Basin or “Basin”	
SCAQMD—South Coast Air Quality Management District	
SCFM—standard cubic feet per minute	
SCE—Southern California Edison	
SCR—selective catalytic reduction	
SHR—Steam Hydrogasification Reaction	
SI—spark ignited	
SI-EGR—spark-ignited, stoichiometric, cooled exhaust gas recirculation	
SIP—State Implementation Plan	
SJVAPCD—San Joaquin Valley Air Pollution Control District	
SOAs—secondary organic aerosols	
SoCalGas—Southern California Gas Company (A Semptra Energy Utility)	
SULEV—super ultra-low emission vehicle	
SUV—Sports Utility Vehicle	
TAO—Technology Advancement Office	
TAP-(Ports’) Technology Advancement Program	
TC—total carbon	
TEMS—transportable emissions measurement system	
THC—total hydrocarbons	
TO—task order	
tpd—tons per day	
TRB—Transportation Research Board	
TSI—Three Squares, Inc.	
TTSI—Total Transportation Services, Inc.	
TWC—three-way catalyst	
UCR—University of California Riverside	
UCLA—University of California Los Angeles	
UDDS—urban dynamometer driving schedule	
µg/m <sup>3</sup> —microgram per cubic meter	
ULEV—ultra low emission vehicle	
UPS—United Postal Service	
U.S.—United States	
U.S.EPA—United States Environmental Protection Agency	
V2B—vehicle-to-building	
V2G—vehicle-to-grid	
V2G/B-vehicle-to-building functionality	
VMT—vehicle miles traveled	
VOC—volatile organic compounds	



BOARD MEETING DATE: March 2, 2018

AGENDA NO. 35

REPORT: Annual RECLAIM Audit Report for 2016 Compliance Year

SYNOPSIS: The annual report on the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM program is prepared in accordance with Rule 2015 - Backstop Provisions. The report assesses emission reductions, availability of RECLAIM Trading Credits (RTCs) and their average annual prices, job impacts, compliance issues, and other measures of performance for the twenty-third year of this program. In addition, recent trends in trading future year RTCs are analyzed and presented in this report. Further, a list of facilities that did not reconcile their emissions for the 2016 Compliance Year is included with the report.

COMMITTEE: Stationary Source, February 16, 2018, Reviewed

RECOMMENDED ACTION:  
Approve the attached annual report.

Wayne Nastri  
Executive Officer

LT:DL

---

### **Background**

The Board adopted the RECLAIM program in October 1993 to provide a more flexible compliance program than command-and-control for specific facilities, which represent SCAQMD's largest emitters of NO<sub>x</sub> and SO<sub>x</sub>. Although RECLAIM was developed as an alternative to command-and-control, it was designed to meet all state and federal Clean Air Act and other air quality regulations and program requirements, as well as a variety of performance criteria in order to ensure public health protection, air quality improvement, effective enforcement, and the same or lower implementation costs and job impacts. RECLAIM is what is commonly referred to as a "cap and trade" program. Facilities subject to the program were initially allocated declining annual balances of RECLAIM Trading Credits (RTCs, denominated in pounds of emissions in a specified year) based upon their historical production levels and upon emissions factors established in the RECLAIM regulation. RECLAIM facilities are required to reconcile



their emissions with their RTC holdings on a quarterly and annual basis (*i.e.*, hold RTCs equal to or greater than their emissions). These facilities have the flexibility to manage how they meet their emission goals by installing emission controls, making process changes or trading RTCs amongst themselves. RECLAIM achieves its overall emission reduction goals provided aggregate RECLAIM emissions are no more than aggregate allocations.

RECLAIM Rule 2015 - Backstop Provisions, requires staff to conduct annual program audits to assess various aspects of the program and to verify that program objectives are met. Staff has completed audits of facility records and completed the annual audit of the RECLAIM program for Compliance Year 2016 (which encompasses the time period for Cycle 1 from January 1, 2016 to December 31, 2016 and for Cycle 2 from July 1, 2016 to June 30, 2017). Based on audited emissions in this report and previous annual reports, staff has determined that RECLAIM met its emissions goals for Compliance Year 2016, as well as for all previous compliance years with the only exception of NO<sub>x</sub> emissions in Compliance Year 2000. For that year, NO<sub>x</sub> emissions exceeded programmatic allocations (by 11%) primarily due to emissions from electric generating facilities during the California energy crisis. For Compliance Year 2016, audited NO<sub>x</sub> emissions were 19% less than programmatic NO<sub>x</sub> allocations and audited SO<sub>x</sub> emissions were 29% less than programmatic SO<sub>x</sub> allocations.

### **Audit Findings**

The audit of the RECLAIM Program's Compliance Year 2016 and trades of RTCs that occurred during calendar year 2017 show:

- **Overall Compliance** – Audited NO<sub>x</sub> and SO<sub>x</sub> emissions from RECLAIM facilities were significantly below programmatic allocations.
- **Universe** – The RECLAIM universe consisted of 268 facilities as of June 30, 2016. Three facilities were included, one facility was excluded, and eight facilities in the RECLAIM universe shut down during Compliance Year 2016. Thus, 262 facilities were in the RECLAIM universe on June 30, 2017, the end of the Compliance Year 2016.

Three facilities were newly included in NO<sub>x</sub> RECLAIM. One facility was included because it reported NO<sub>x</sub> emissions from permitted sources in excess of four tons. Two other facilities were created through a change of operator; one was a partial change of operator of an existing RECLAIM facility (one facility was split in two), and the other was created through a complete change of operator from a previously shutdown RECLAIM facility. One facility was excluded from the NO<sub>x</sub> RECLAIM universe because its operation was taken over by another RECLAIM facility at the same location, and eight other facilities shut down. Of the eight facilities that shut down, one facility ceased operations, citing more attractive use of its land and resources. Three facilities liquidated or consolidated their operations and moved



their operation outside of the region. The fifth facility ceased operations citing the high cost of manufacturing, production, and raw materials. The sixth facility inactivated all of its permits and consolidated its operations with two other company-owned facilities, one within the region and one outside the country. The seventh facility sold its property to a new operator with no permitted equipment remaining onsite. The eighth facility shutdown due to declining demand for its products. Seven of the eight facilities permanently ceasing operations were in NO<sub>x</sub> RECLAIM and one facility was in both NO<sub>x</sub> and SO<sub>x</sub> RECLAIM. None of the eight RECLAIM facilities that shut down during Compliance Year 2016 cited RECLAIM as a contributing factor to the decision to shut down.

- **Facility Compliance** – The vast majority of RECLAIM facilities complied with their allocations during the 2016 compliance year (95% of NO<sub>x</sub> facilities and 97% of SO<sub>x</sub> facilities). Thirteen facilities (five percent of total facilities) exceeded their allocations (12 facilities exceeded their NO<sub>x</sub> allocations, and one facility exceeded its NO<sub>x</sub> and SO<sub>x</sub> allocations) during Compliance Year 2016. The 13 facilities that exceeded their NO<sub>x</sub> allocations had total NO<sub>x</sub> emissions of 278.6 tons and did not have adequate allocations to offset 8.3 of those tons. The exceedances represent 0.09% of total RECLAIM NO<sub>x</sub> universe allocations and 3.0% of total NO<sub>x</sub> emissions from the 13 facilities. The one SO<sub>x</sub> facility that exceeded its SO<sub>x</sub> allocation had total SO<sub>x</sub> emissions of 0.15 tons and did not have adequate allocations to offset 0.10 tons. This exceedance represents less than 0.01% of total RECLAIM SO<sub>x</sub> universe allocations and 66.7% of total SO<sub>x</sub> emissions from this facility. Pursuant to Rule 2010(b)(1)(A), all 13 facilities had their respective exceedances deducted from their annual allocations for the compliance year subsequent to SCAQMD's determination that the facilities exceeded their Compliance Year 2016 allocations.
- **Job Impacts** – Based on a survey of the RECLAIM facilities, the RECLAIM program had minimal impact on employment during the 2016 compliance year, which is consistent with previous years. RECLAIM facilities reported an overall net loss of 982 jobs, representing 0.88% of their total employment. None of the eight RECLAIM facilities that shut down during Compliance Year 2016 cited RECLAIM as a contributing factor to the decision to shut down. One facility reported a loss of 15 jobs due to RECLAIM, but they did not shut down operations. The job loss and job gain data are compiled strictly from reports submitted by RECLAIM facilities, and staff is not able to verify the accuracy of the reported job impacts data.
- **Trading Activity** – The RTC trading market activity during calendar year 2017 was lower in terms of number of trades (by 8%), lower with respect to volume (by 5%), and significantly lower with respect to total value (by 94%) when compared to calendar year 2016. A total of over \$1.48 billion in RTCs has been traded since the adoption of RECLAIM, of which \$6.86 million occurred in calendar year 2017 (compared to \$118.6 million in calendar year 2016), excluding swaps.



The annual average prices of discrete-year NO<sub>x</sub> and SO<sub>x</sub> RTCs for Compliance Years 2016, 2017, and 2018 and infinite-year block (IYB) NO<sub>x</sub> and SO<sub>x</sub> RTCs traded in calendar year 2017 were below the applicable review thresholds for average RTC prices. The annual average prices of RTCs traded during calendar years 2016 and 2017 are summarized and compared to the applicable thresholds in Tables 1 and 2 below:

**Table 1 – Average Prices for Discrete-Year RTCs Traded during Calendar Years 2016 and 2017**

Year Traded	Average Price (\$/ton)				Review Thresholds (\$/ton)	
	2015 NO <sub>x</sub> RTC	2016 NO <sub>x</sub> RTC	2017 NO <sub>x</sub> RTC	2018 NO <sub>x</sub> RTC	Rule 2015 (b)(6)	Health and Safety Code §39616(f)
2016	\$1,626	\$2,932	\$6,606	None traded	\$15,000	\$44,070
2017		\$2,203	\$4,182	\$10,639		
Year Traded	2015 SO <sub>x</sub> RTC	2016 SO <sub>x</sub> RTC	2017 SO <sub>x</sub> RTC	2018 SO <sub>x</sub> RTC	Rule 2015 (b)(6)	Health and Safety Code §39616(f)
2016	\$540	\$1,255	None traded	None traded	\$15,000	\$31,730
2017		\$636	\$1,386	None traded		

**Table 2 – Average Prices for IYB RTCs Traded during Calendar Years 2016 and 2017**

RTCs	Average Price (\$/ton)		Review Threshold (\$/ton) [Health and Safety Code §39616(f)]
	Traded in 2016	Traded in 2017	
NO <sub>x</sub>	\$380,057	\$39,673	\$661,045
SO <sub>x</sub>	\$50,000	\$22,820	\$475,952

- **Role of Investors** – Investors were active in the RTC market. Based on both overall trading values and volume of NO<sub>x</sub> trades with price, investors' involvement in 2017 was less when compared to calendar year 2016. However, with respect to value and volume of SO<sub>x</sub> trades with price, investors' involvement increased. Investors were involved in 128 of the 193 discrete NO<sub>x</sub> trades with price, and 6 of the 7 discrete SO<sub>x</sub> trades with price. With respect to IYB trades, investors' participation was significant and investors were involved with all six of the IYB NO<sub>x</sub> trades with price, and all four IYB SO<sub>x</sub> trade with price. Compared to calendar year 2016, investor holdings of total IYB NO<sub>x</sub> RTCs and IYB SO<sub>x</sub> RTCs increased from 3.1% to 3.3% for IYB NO<sub>x</sub> RTCs, and from 5.0% to 6.0% for IYB SO<sub>x</sub> RTCs at the end of calendar year 2017. Investors purchase RTCs, but are not RECLAIM facilities or brokers. (Brokers typically do not purchase RTCs, but facilitate trades.)



- ***Other Findings*** – RECLAIM also met other applicable requirements including meeting the applicable federal offset ratio under New Source Review and having no significant seasonal fluctuation in emissions. Additionally, there is no evidence that RECLAIM resulted in any increase in health impacts due to emissions of air toxics. RECLAIM facilities and non-RECLAIM facilities are subject to the same requirements for controlling air toxic emissions.

**Attachments**

1. Annual RECLAIM Audit Report for 2016 Compliance Year
2. Board Meeting Presentation



# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

## **Annual RECLAIM Audit Report for 2016 Compliance Year**

**March 2, 2018**

**Executive Officer**

Wayne Natri

**Deputy Executive Officer**

**Engineering & Permitting**

Laki Tisopulos, Ph.D., P.E.

**Assistant Deputy Executive Officer**

**Engineering & Permitting**

Amir Dejbakhsh

**Senior Manager**

**RECLAIM Administration, Refinery Permitting**

Danny Luong, P.E.

---

**Authors:**

Bob Sanford, Senior Air Quality Engineer  
Chris Hynes, Air Quality Specialist  
Kyu-Kyu Leong Remillard, Air Quality Engineer II  
George Illes, Air Quality Specialist  
Bettina Burleigh, Air Quality Engineer II  
Ryan Maxwell, Air Quality Engineer I

**Contributors:**

Mark Bassett, Air Quality Specialist  
Mark Coleman, Air Quality Specialist  
Tom Lee, Senior Air Quality Engineer

**Reviewed by:**

Laki Tisopulos, Ph.D., P.E., Deputy Executive Officer  
Amir Dejbakhsh, Assistant Deputy Executive Officer  
Danny Luong, P.E., Senior Enforcement Manager  
Barbara Baird, Chief Deputy Counsel  
William Wong, Principal Deputy District Counsel



---

## **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

### **GOVERNING BOARD**

Chairman: Dr. William A. Burke  
Speaker of the Assembly  
Appointee

Vice Chairman: Dr. Clark E. Parker, Sr.  
Senate Rules Committee  
Appointee

Members:

Marion Ashley  
Supervisor, Fifth District  
County of Riverside

Ben Benoit  
Mayor, Wildomar  
Cities of Riverside County

Joe Buscaino  
Councilmember, 15<sup>th</sup> District  
City of Los Angeles Representative

Michael A. Cacciotti  
Councilmember, South Pasadena  
Cities of Los Angeles County/Eastern Region

Joseph K. Lyuu, Ph.D.  
Governor's Appointee

Larry McCallon  
Mayor, Highland  
Cities of San Bernardino County

Judith Mitchell  
Mayor Pro Tem, Rolling Hills Estates  
Cities of Los Angeles County/Western Region

Shawn Nelson  
Supervisor, Fourth District  
County of Orange

Dwight Robinson  
Councilmember, Lake Forest  
Cities of Orange County

Janice Rutherford  
Supervisor, Second District  
County of San Bernardino

Hilda L. Solis  
Supervisor, First District  
County of Los Angeles

### **EXECUTIVE OFFICER**

Wayne Nastri

---



**TABLE OF CONTENTS**

---

<b>List of Abbreviations</b>	<b>i</b>
<b>Executive Summary</b>	<b>ES-1</b>
<b>INTRODUCTION</b>	<b>I-1</b>
Chapter 1: RECLAIM Universe	1-1
Chapter 2: RTC Allocations and Trading	2-1
Chapter 3: Emission Reductions Achieved	3-1
Chapter 4: New Source Review Activity	4-1
Chapter 5: Compliance	5-1
Chapter 6: Reported Job Impacts	6-1
Chapter 7: Air Quality and Public Health Impacts	7-1
<b>Figures</b>	
Figure 1-1: Universe Changes in Compliance Year 2016	1-6
Figure 2-1: NOx RTC Supply	2-7
Figure 2-2: SOx RTC Supply	2-7
Figure 2-3: Annual Trading Values for NOx and SOx (Excluding Swaps)	2-9
Figure 2-4: Calendar Year 2017 Overall Trading Activity (Excluding Swaps)	2-10
Figure 2-5: Calendar Year 2017 Trading Activity for Discrete-Year RTCs (Excluding Swaps)	2-11
Figure 2-6: Calendar Year 2017 Trading Activity for IYB RTCs (Excluding Swaps)	2-13
Figure 2-7: Discrete-Year NOx RTC Trades (Excluding Swaps)	2-14
Figure 2-8: Discrete-Year SOx RTC Trades (Excluding Swaps)	2-15
Figure 2-9: IYB NOx RTC Trades (Excluding Swaps)	2-16
Figure 2-10: IYB SOx RTC Trades (Excluding Swaps)	2-17
Figure 2-11: Bi-Monthly Average Price for NOx RTCs near Expiration	2-25
Figure 2-12: Calendar Year 2017 Investor-Involved Discrete-Year NOx and SOx Trades Based on Value Traded	2-30
Figure 2-13: Calendar Year 2017 Investor-Involved Discrete-Year NOx and SOx Trades Based on Volume Traded with Price	2-30
Figure 2-14: Calendar Year 2017 Investor-Involved IYB NOx and SOx Trades Based on Value Traded	2-31
Figure 2-15: Calendar Year 2017 Investor-Involved IYB NOx and SOx Trades Based on Volume Traded with Price	2-31
Figure 3-1: NOx Emissions and Available RTCs	3-4
Figure 3-2: SOx Emissions and Available RTCs	3-6
Figure 7-1: NOx Emission Trend for RECLAIM Sources	7-2
Figure 7-2: SOx Emission Trend for RECLAIM Sources	7-3
Figure 7-3: Calendar Year 2017 NOx Quarterly Emissions	7-5
Figure 7-4: Quarterly NOx Emissions from Calendar Years 2005 through 2016	7-6
Figure 7-5: Calendar Year 2016 SOx Quarterly Emissions	7-7
Figure 7-6: Quarterly SOx Emissions from Calendar Years 2005 through 2016	7-8



## TABLE OF CONTENTS

---

### Tables

Table 1-1:	RECLAIM Universe Changes _____	1-5
Table 2-1:	Changes in NOx and SOx RTC Supplies during Compliance Year 2016 (tons/year) _____	2-5
Table 2-2:	NOx Trade Registrations Involving Swaps _____	2-19
Table 2-3:	SOx Trade Registrations Involving Swaps _____	2-20
Table 2-4:	Annual Average Prices for Discrete-Year NOx RTCs during Calendar Years 2012 through 2017 (Price per ton) _____	2-21
Table 2-5:	Annual Average Prices for Discrete-Year SOx RTCs during Calendar Years 2012 through 2017 (Price per ton) _____	2-21
Table 2-6:	Twelve-Month Rolling Average Prices of Calendar Year 2017 Discrete-Year NOx RTCs _____	2-23
Table 2-7:	Three-Month Rolling Average Prices of Calendar Year 2017 Discrete-Year NOx RTCs _____	2-23
Table 2-8:	Twelve-Month Rolling Average Prices of Calendar Year 2017 IYB NOx RTCs _____	2-24
Table 2-9:	Twelve-Month Rolling Average Prices of Calendar Year 2017 Discrete-Year SOx RTCs _____	2-24
Table 2-10:	IYB NOx Pricing (Excluding Swaps) _____	2-26
Table 2-11:	IYB SOx Pricing (Excluding Swaps) _____	2-27
Table 3-1:	Annual NOx Emissions for Compliance Years 1994 through 2016 _____	3-3
Table 3-2:	Annual SOx Emissions for Compliance Years 1994 through 2016 _____	3-5
Table 3-3:	Breakdown Emission Comparison for Compliance Year 2016 _____	3-12
Table 3-4:	NOx Emissions Impact from the Changes in Universe (Tons) _____	3-14
Table 3-5:	SOx Emissions Impact from the Changes in Universe (Tons) _____	3-14
Table 5-1:	MDP Impact on Annual Emissions _____	5-5
Table 5-2:	Monitoring Requirements for RECLAIM Sources _____	5-7
Table 5-3:	Passing Rates Based on RATAs of Certified CEMS in 2016 _____	5-8
Table 5-4:	Passing Rates Based on RATAs of Certified CEMS in 2017 _____	5-9
Table 6-1:	Job Impacts at RECLAIM Facilities for Compliance Year 2016 _____	6-2
Table 7-1:	Summary of Ozone Data _____	7-10
Table 7-2:	Per Capita Exposure to Ozone above the State One-Hour Standard of 0.09 ppm (hours) _____	7-11

### Appendices

Appendix A:	RECLAIM Universe of Sources _____	A-1
Appendix B:	Facility Inclusions _____	B-1
Appendix C:	RECLAIM Facilities Ceasing Operation or Excluded _____	C-1
Appendix D:	Facilities that Exceeded their Annual Allocation for Compliance Year 2016 _____	D-1
Appendix E:	Reported Job Impacts Attributed to RECLAIM _____	E-1



**LIST OF ABBREVIATIONS**

---

AAQS	Ambient Air Quality Standards
ACEMS	Alternative Continuous Emissions Monitoring System(s)
AER	Annual Emission Report
APEP	Annual Permit Emissions Program
AQMP	Air Quality Management Plan
BACT	Best Available Control Technology
BARCT	Best Available Retrofit Control Technology
CAA	Clean Air Act
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEMS	Continuous Emissions Monitoring System(s)
CEQA	California Environmental Quality Act
CGA	Cylinder Gas Audit
CPMS	Continuous Process Monitoring System(s)
DOGGR	Division of Oil, Gas, and Geothermal Resources
EDR	Electronic Data Reporting
EGF	Electricity Generating Facility
ERC	Emission Reduction Credit
IYB RTC	Infinite-Year Block RECLAIM Trading Credit
LAER	Lowest Achievable Emission Rate
LAP	Laboratory Approval Program
MDP	Missing Data Procedures
MRR	Monitoring, Reporting and Recordkeeping
MSERC	Mobile Source Emission Reduction Credit
NAAQS	National Ambient Air Quality Standards
NNI	No Net Increase
NOx	Oxides of Nitrogen
NSR	New Source Review
ODC	Ozone Depleting Compound
OEHHA	Office of Environmental Health Hazard Assessment
QCER	Quarterly Certification of Emissions Report
PPA	Purchase Power Agreement
RACT	Reasonably Available Control Technology
RATA	Relative Accuracy Test Audit
RECLAIM	Regional CLean Air Incentives Market
RTC	RECLAIM Trading Credit
RTU	Remote Terminal Unit
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SOx	Oxides of Sulfur
SOON	Surplus Off-Road Opt-In for NOx
SSC	Stationary Source Committee
TAC	Toxic Air Contaminant
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WATERS	Web Access To Electronic Reporting System



## EXECUTIVE SUMMARY

---

### Introduction

The South Coast Air Quality Management District (SCAQMD) Governing Board adopted the REgional CLean Air Incentives Market (RECLAIM) program on October 15, 1993. The RECLAIM program represented a significant departure from traditional command-and-control regulations. RECLAIM's objective is to provide facilities with added flexibility in meeting emissions reduction requirements while lowering the cost of compliance. This is accomplished by establishing facility-specific emissions reduction targets without being prescriptive regarding the method of attaining compliance with the targets. Each facility may determine for itself the most cost-effective approach to reducing emissions, including reducing emissions at their facility, and/or purchasing RECLAIM Trading Credits (RTCs) from other RECLAIM facilities, or from other RTC holders.

Rule 2015 - Backstop Provisions includes provisions for annual program audits focusing on specific topics, as well as a one-time comprehensive audit of the program's first three years, to ensure that RECLAIM is meeting all state and federal requirements and other performance criteria. Rule 2015 also provides backstop measures if the specific criteria are not met. This report constitutes the Rule 2015 annual program audit report for Compliance Year 2016 (January 1 through December 31, 2016 for Cycle 1 and July 1, 2016 through June 30, 2017 for Cycle 2 facilities). This annual audit report covers activities for the twenty-third year of the program.

### Chapter 1: RECLAIM Universe

When RECLAIM was adopted in October 1993, a total of 394 facilities were identified as the initial "universe" of sources subject to the requirements of RECLAIM. From program adoption through June 30, 2016, the overall changes in RECLAIM participants were 131 facilities included into the program, 70 facilities excluded from the program, and 187 facilities ceased operation. Thus, the RECLAIM universe consisted of 268 active facilities at the end of Compliance Year 2015 (December 31, 2015 for Cycle 1 facilities and June 30, 2016 for Cycle 2 facilities). During Compliance Year 2016 (January 1, 2016 through December 31, 2016 for Cycle 1 facilities and July 1, 2016 through June 30, 2017 for Cycle 2 facilities), three facilities were included into the RECLAIM universe, one facility was excluded, and eight facilities (one facility in both the NO<sub>x</sub> and SO<sub>x</sub> universes and seven in the NO<sub>x</sub> universe only) shut down and are no longer in the active RECLAIM universe. These changes resulted in a net decrease of six facilities in the universe, bringing the total number of active RECLAIM facilities to 262 as of the end of Compliance Year 2016.

### Chapter 2: RTC Allocations and Trading

On November 5, 2010, the Governing Board adopted amendments to SO<sub>x</sub> RECLAIM to phase in SO<sub>x</sub> reductions beginning in Compliance Year 2013 and full implementation in Compliance Year 2019 and beyond. The amendments will result in an overall reduction of 48.4% (or 5.7 tons/day) in SO<sub>x</sub> allocations when



fully implemented (Compliance Year 2019 and beyond). For Compliance Year 2016, the fourth year of implementation, the SOx allocation supply was reduced by 34% (or 4.0 tons/day, which is the same reduction as the previous compliance year) to 2,839 tons. On December 4, 2015, the Governing Board adopted amendments to NOx RECLAIM to phase in additional NOx reductions which began in Compliance Year 2016 and continue through Compliance Year 2022. The amendment will result in an overall NOx reduction of 45% (or 12 tons/day) when fully implemented for Compliance Year 2022 and beyond. For Compliance Year 2016, the first year of implementation, the NOx allocation supply was reduced by 7.4 % (or 2 tons/day).

The overall NOx RTC supply increased by 24.3 tons and the SOx RTC supply decreased by 3.3 tons during Compliance Year 2016. These changes were due to allocation adjustments for clean fuel production pursuant to Rule 2002(c)(12), and also to an increase in initial allocation from a facility inclusion.

Since the inception of the RECLAIM program in 1994, a total value of over \$1.48 billion dollars has been traded in the RTC trading market, excluding swap trades. During calendar year 2017, there were 303 RTC trade registrations with a total value of \$6.86 million traded, excluding the values reported for swap trades. RTC trades are reported to SCAQMD as either discrete-year RTC trades or infinite-year block (IYB) trades (trades that involve blocks of RTCs with a specified start year and continuing into perpetuity). In terms of volume traded in calendar year 2017, a total of 2,556 tons of discrete-year NOx RTCs, 793 tons of discrete-year SOx RTCs, 218 tons of IYB NOx RTCs and 34 tons of IYB SOx RTCs were traded. The RTC trading market activity decreased during calendar year 2017 compared to calendar year 2016, in terms of number of trades (by 8%), in total volume excluding swaps (by 5%), and in total value excluding swaps (by 94%).

The annual average prices of discrete-year NOx RTCs traded during calendar year 2017 were \$2,203, \$4,182, and \$10,639 per ton for Compliance Years 2016, 2017, and 2018 RTCs, respectively. The annual average prices for discrete-year SOx RTCs traded during the same period were \$636, \$1,386, \$4,800, and \$4,800 per ton for Compliance Years 2016, 2017, 2019 and 2020 RTCs, respectively. There were no discrete-year SOx RTCs for Compliance Year 2018 traded in calendar year 2017.

Prices for discrete-year NOx and SOx RTCs for all compliance years are still well below the \$44,070 per ton of NOx and \$31,730 per ton of SOx discrete-year RTCs pre-determined overall program review thresholds established by the Governing Board pursuant to Health and Safety Code §39616(f), as well as the \$15,000 per ton threshold pursuant to Rule 2015(b)(6).

The annual average price during calendar year 2017 for IYB NOx RTCs was \$39,673 per ton and the annual average price for IYB SOx RTCs was \$22,820 per ton. Therefore, annual average IYB RTC prices did not exceed the \$661,045 per ton of IYB NOx RTCs or the \$475,952 per ton of IYB SOx RTCs pre-determined overall program review thresholds established by the Governing Board pursuant to Health and Safety Code §39616(f).

Investors were again active in the RTC market during calendar year 2017. They were involved in 128 of the 193 discrete-year NOx trade registrations and six of the seven discrete-year SOx trade registrations with price. Investors were also



involved in all six of the IYB NO<sub>x</sub> and all four of the IYB SO<sub>x</sub> trades with price. Investors were involved in 61% of total value and 60% of total volume for discrete-year NO<sub>x</sub> trades, and 94% of both total value and total volume for discrete-year SO<sub>x</sub> trades. At the end of calendar year 2017, investors' holdings of IYB NO<sub>x</sub> RTCs and IYB SO<sub>x</sub> RTCs were slightly higher at 3.3% and 6.0% of the total RECLAIM RTCs, respectively, compared to that of calendar year 2016.

### **Chapter 3: Emission Reductions Achieved**

For Compliance Year 2016, aggregate NO<sub>x</sub> emissions were below total allocations by 19% and aggregate SO<sub>x</sub> emissions were below total allocations by 29%. No emissions associated with breakdowns were excluded from reconciliation with facility allocations in Compliance Year 2016. Accordingly, no mitigation is necessary to offset excluded emissions due to approved Breakdown Emission Reports. Therefore, based on audited emissions, RECLAIM achieved its targeted emission reductions for Compliance Year 2016. With respect to the Rule 2015 backstop provisions, Compliance Year 2016 aggregate NO<sub>x</sub> and SO<sub>x</sub> emissions were both well below aggregate allocations and, as such, did not trigger the requirement to review the RECLAIM program.

### **Chapter 4: New Source Review Activity**

The annual program audit assesses New Source Review (NSR) activity from RECLAIM facilities in order to ensure that RECLAIM is complying with federal NSR requirements and state no net increase (NNI) in emissions requirements while providing flexibility to facilities in managing their operations and allowing new sources into the program. In Compliance Year 2016, a total of seven NO<sub>x</sub> RECLAIM facilities had NSR NO<sub>x</sub> emission increases, and no SO<sub>x</sub> RECLAIM facilities had an NSR SO<sub>x</sub> emission increase due to expansion or modification. Consistent with all prior compliance years, there were sufficient NO<sub>x</sub> and SO<sub>x</sub> RTCs available to allow for expansion, modification, and modernization by RECLAIM facilities.

RECLAIM is required to comply with federal NSR emissions offset requirements at a 1.2-to-1 offset ratio programmatically for NO<sub>x</sub> emission increases and a 1-to-1 offset ratio for SO<sub>x</sub> emission increases on a programmatic basis. In Compliance Year 2016, RECLAIM demonstrated federal equivalency with a programmatic NO<sub>x</sub> offset ratio of 60-to-1 based on the compliance year's total unused allocations and total NSR emission increases for NO<sub>x</sub>. There were no SO<sub>x</sub> emission increases during the compliance year. RECLAIM inherently complies with the federally-required 1-to-1 SO<sub>x</sub> offset ratio for any compliance year, provided aggregate SO<sub>x</sub> emissions under RECLAIM are lower than or equal to aggregate SO<sub>x</sub> allocations for that compliance year. As shown in Chapter 3, there was no programmatic SO<sub>x</sub> exceedance during Compliance Year 2016. In fact, there was a surplus of SO<sub>x</sub> RTCs. Therefore, RECLAIM more than complied with the federally-required SO<sub>x</sub> offset ratio and further quantification of the SO<sub>x</sub> offset ratio is unnecessary. Compliance with the federally-required offset ratio also demonstrates compliance with any applicable state NNI requirements for new or modified sources. In addition, RECLAIM requires application of, at a minimum, California Best Available Control Technology (BACT), which is at least as stringent as federal Lowest Achievable Emission Rate (LAER). The same BACT guidelines are used to determine applicable BACT to RECLAIM and non-RECLAIM facilities.



## Chapter 5: Compliance

Of the 284 NOx RECLAIM facilities audited during Compliance Year 2016, a total of 271 facilities (95%) complied with their NOx allocations, and 32 of the 33 SOx facilities (97%) complied with their SOx allocations. Thirteen facilities exceeded their allocations (12 facilities exceeded their NOx allocations, and one facility exceeded its NOx and SOx allocations) during Compliance Year 2016. The 13 facilities that exceeded their NOx allocations had aggregate NOx emissions of 278.6 tons and did not have adequate allocations to offset 8.3 tons (or 3.0%) of their combined emissions. The facility that exceeded its SOx allocation had total SOx emissions of 0.15 tons and did not have adequate allocations to offset 0.10 tons (or 66.7%). The NOx and SOx exceedance amounts are relatively small compared to the overall NOx and SOx allocations for Compliance Year 2016 (0.09% of total NOx allocations and less than 0.01% of total SOx allocations). The exceedances from these facilities did not impact the overall RECLAIM emission reduction goals. Pursuant to Rule 2010(b)(1)(A), these facilities had their respective exceedances deducted from their annual allocations for the compliance year subsequent to the date of SCAQMD's determination that the facilities exceeded their Compliance Year 2016 allocations. The overall RECLAIM NOx and SOx emission reduction targets and goals were met for Compliance Year 2016 (*i.e.*, aggregate emissions for all RECLAIM facilities were well below aggregate allocations).

## Chapter 6: Reported Job Impacts

This chapter compiles data as reported by RECLAIM facilities in their Annual Permit Emissions Program (APEP) reports. The analysis focuses exclusively on job impacts at RECLAIM facilities and determination if those job impacts were directly attributable to RECLAIM as reported by those facilities. Additional benefits to the local economy (*e.g.*, generating jobs for consulting firms, source testing firms and CEMS vendors) attributable to the RECLAIM program, as well as factors outside of RECLAIM (*e.g.*, the prevailing economic climate), impact the job market. However, these factors are not evaluated in this report. Also, job losses and job gains are strictly based on RECLAIM facilities' reported information. SCAQMD staff is not able to independently verify the accuracy of the reported job impact information.

According to the Compliance Year 2016 employment survey data gathered from APEP reports, RECLAIM facilities reported a net loss of 982 jobs, representing 0.88% of their total employment. None of the eight RECLAIM facilities that shut down or ceased operations during Compliance Year 2016 cited RECLAIM as a factor contributing to the decision to shutdown. One facility reported a loss of 15 jobs due to RECLAIM, but they did not shut down operations.

## Chapter 7: Air Quality and Public Health Impacts

Audited RECLAIM emissions have been in an overall downward trend since the program's inception. Compliance Year 2016 NOx emissions increased slightly (1.1%) relative to Compliance Year 2015, and Compliance Year 2016 SOx emissions were 3.4% less than the previous year. Quarterly calendar year 2016 NOx emissions fluctuated within seven percent of the mean NOx emissions for the year. Quarterly calendar year 2016 SOx emissions fluctuated within seven percent of the year's mean SOx emissions. There was no significant shift in



seasonal emissions from the winter season to the summer season for either pollutant.

The California Clean Air Act (CCAA) required a 50% reduction in population exposure to ozone, relative to a baseline averaged over three years (1986 through 1988), by December 31, 2000. The Basin achieved the December 2000 target for ozone well before the deadline. In calendar year 2017, the per capita exposure to ozone (the average length of time each person is exposed) continued to be well below the target set for December 2000.

Air toxic health risk is primarily caused by emissions of certain volatile organic compounds (VOCs) and fine particulates, such as metals. RECLAIM facilities are subject to the same air toxic, VOC, and particulate matter regulations as other sources in the Basin. All sources are subject, where applicable, to the NSR rule for toxics (Rule 1401 and/or Rule 1401.1). In addition, new or modified sources with NO<sub>x</sub> or SO<sub>x</sub> emission increases are required to be equipped with BACT, which minimizes to the extent feasible the increase of NO<sub>x</sub> and SO<sub>x</sub> emissions. RECLAIM and non-RECLAIM facilities that emit toxic air contaminants are required to report those emissions to SCAQMD. Those emissions reports are used to identify candidates for the Toxics Hot Spots program (AB2588). This program requires emission inventories and, depending on the type and amount of emissions, facilities may be required to do public notice and/or prepare and implement a plan to reduce emissions. There is no evidence that RECLAIM has caused or allowed higher toxic risk in areas adjacent to RECLAIM facilities.



## INTRODUCTION

---

The South Coast Air Quality Management District (SCAQMD) REgional CLean Air Incentives Market (RECLAIM) program was adopted in October 1993 and replaced certain command-and-control rules regarding oxides of nitrogen (NO<sub>x</sub>) and oxides of sulfur (SO<sub>x</sub>) with a new market incentives program for facilities that meet the inclusion criteria. The goals of RECLAIM are to provide facilities with added flexibility in meeting emissions reduction requirements while lowering the cost of compliance. The RECLAIM program was designed to meet all state and federal Clean Air Act (CAA) and other air quality regulations and program requirements, as well as various other performance criteria, such as equivalent or better air quality improvement, enforcement, implementation costs, job impacts, and no adverse public health impacts.

Since RECLAIM represents a significant change from traditional command-and-control regulations, RECLAIM rules include provisions for program audits in order to verify that the RECLAIM objectives are being met. The rules provide for a comprehensive audit of the first three years of program implementation and for annual program audits. The audit results are used to help determine whether any program modifications are appropriate. SCAQMD staff has completed the initial tri-annual program audit and each individual annual program audit report through the 2016 Compliance Year Audit.

This report presents the annual program audit and progress report of RECLAIM's twenty-third compliance year (January 1 through December 31, 2016 for Cycle 1 and July 1, 2016 through June 30, 2017 for Cycle 2 RECLAIM facilities), also known as Compliance Year 2016. As required by Rule 2015(b)(1) – Annual Audits, this audit assesses:

- Emission reductions;
- Per capita exposure to air pollution;
- Facilities permanently ceasing operation of all sources;
- Job impacts;
- Annual average price of each type of RECLAIM Trading Credit (RTC);
- Availability of RTCs;
- Toxic risk reductions;
- New Source Review permitting activity;
- Compliance issues, including a list of facilities that were unable to reconcile emissions for that compliance year;
- Emission trends/seasonal fluctuations;
- Emission control requirement impacts on stationary sources in the program compared to other stationary sources identified in the Air Quality Management Plan (AQMP); and
- Emissions associated with equipment breakdowns.

The annual program audit report is organized into the following chapters:



1. ***RECLAIM Universe***

This chapter discusses summarizes changes to the universe of RECLAIM sources that occurred up until July 1, 2016 (covered under the Annual RECLAIM Audit Report for 2015 Compliance Year), then discusses changes to the RECLAIM universe of sources in detail through the end of Compliance Year 2016.

2. ***RTC Allocations and Trading***

This chapter summarizes changes in emissions allocations in the RECLAIM universe, RTC supply and RTC trading activity, annual average prices, availability of RTCs, and market participants.

3. ***Emission Reductions Achieved***

This chapter assesses emissions trends and progress towards emission reduction goals for RECLAIM sources, emissions associated with equipment breakdowns, and emissions control requirement impacts on RECLAIM sources compared to other stationary sources. It also discusses the latest amendments to the RECLAIM program.

4. ***New Source Review Activity***

This chapter summarizes New Source Review (NSR) activities at RECLAIM facilities.

5. ***Compliance***

This chapter discusses compliance activities and the compliance status of RECLAIM facilities. It also evaluates the effectiveness of SCAQMD's compliance program, as well as the monitoring, reporting, and recordkeeping (MRR) protocols for NO<sub>x</sub> and SO<sub>x</sub>.

6. ***Reported Job Impacts***

This chapter addresses job impacts and facilities permanently ceasing operation of all emission sources.

7. ***Air Quality and Public Health Impacts***

This chapter discusses air quality trends in the South Coast Air Basin, seasonal emission trends for RECLAIM sources, per capita exposure to air pollution, and the toxic impacts of RECLAIM sources.



## CHAPTER 1

### RECLAIM UNIVERSE

---

#### Summary

*When RECLAIM was adopted in October 1993, a total of 394 facilities were identified as the initial “universe” of sources subject to the requirements of RECLAIM. From program adoption through June 30, 2016, the overall changes in RECLAIM participants were 131 facilities included into the program, 70 facilities excluded from the program, and 187 facilities ceased operation. Thus, the RECLAIM universe consisted of 268 active facilities at the end of Compliance Year 2015 (December 31, 2015 for Cycle 1 facilities and June 30, 2016 for Cycle 2 facilities). During Compliance Year 2016 (January 1, 2016 through December 31, 2016 for Cycle 1 facilities and July 1, 2016 through June 30, 2017 for Cycle 2 facilities), three facilities were included into the RECLAIM universe, one facility was excluded, and eight facilities (one facility in both the NOx and SOx universes and seven in the NOx universe only) shut down and are no longer in the active RECLAIM universe. These changes resulted in a net decrease of six facilities in the universe, bringing the total number of active RECLAIM facilities to 262 as of the end of Compliance Year 2016.*

#### Background

The RECLAIM program replaced the traditional “command-and-control” rules for a defined list of facilities participating in the program (the RECLAIM “universe”). The criteria for inclusion in the RECLAIM program are specified in Rule 2001 – Applicability. Facilities are generally subject to RECLAIM if they have NOx or SOx reported emissions greater than or equal to four tons per year in 1990 or any subsequent year. However, certain facilities are categorically excluded from RECLAIM. The categorically excluded facilities include dry cleaners; restaurants; police and fire fighting facilities; construction and operation of landfill gas control, landfill gas processing or landfill gas energy facilities; public transit facilities, potable water delivery operations; facilities that converted all sources to operate on electric power prior to October 1993; and facilities, other than electric generating facilities established on or after January 1, 2001, located in the Riverside County portions of the Mojave Desert Air Basin or the Salton Sea Air Basin.

Other categories of facilities are not automatically included but do have the option to enter the program. These categories include electric utilities (exemption only for the SOx program); equipment rental facilities; facilities possessing solely “various locations” permits; schools or universities; portions of facilities conducting research operations; ski resorts; prisons; hospitals; publicly-owned municipal waste-to-energy facilities; publically-owned sewage treatment facilities operating consistent with an approved regional growth plan; electrical power generating systems owned and operated by the Cities of Burbank, Glendale, or Pasadena or their successors; facilities on San Clemente Island; agricultural facilities; and electric generating facilities that are new on or after January 1, 2001 and located in the Riverside County portions of the Mojave Desert Air Basin or the Salton Sea Air Basin. An initial universe of 394 RECLAIM



facilities was developed using the inclusion criteria initially adopted in the RECLAIM program based on 1990, 1991 and 1992 facility reported emissions data.

A facility that is not in a category that is specifically excluded from the program may voluntarily join RECLAIM regardless of its emission level. Additionally, a facility may be required to enter the RECLAIM universe if:

- It increases its NO<sub>x</sub> and/or SO<sub>x</sub> emissions from permitted sources above the four ton per year threshold; or
- It ceases to be categorically excluded and its reported NO<sub>x</sub> and/or SO<sub>x</sub> emissions are greater than or equal to four tons per year; or
- It is determined by SCAQMD staff to meet the applicability requirements of RECLAIM, but was initially misclassified as not subject to RECLAIM.

At the time of joining RECLAIM, each RECLAIM facility is issued an annually declining allocation of emission credits ("RECLAIM Trading Credits" or "RTCs") based on its historic production level (if the facility existed prior to January 1, 1993), external offsets it previously provided, and any Emission Reduction Credits (ERCs) generated at and held by the facility. Each RECLAIM facility's RTC holdings constitute an annual emissions budget. RTCs may be bought or sold as the facility deems appropriate (see Chapter 2 – RTC Allocations and Trading).

RECLAIM facilities that permanently go out of business are removed from the active emitting RECLAIM universe. Prior to an October 7, 2016 amendment of Rule 2002, facilities that shutdown were allowed to retain all of their RTC holdings and participate in the trading market. For NO<sub>x</sub> RECLAIM facilities listed in Tables 7 and 8 that shutdown on or after October 7, 2016, the Rule 2002 amendment established a BARCT-based RTC discounting methodology that is more closely aligned to ERC discounting methodology under command and control rules. A shutdown facility may trade future year RTCs that remain after the RTC adjustment is completed, if any. If the calculated reduction amount exceeds a facility's holdings for any future compliance year, the facility must purchase and surrender sufficient RTCs to fulfill the entire reduction requirement. This situation may result if the facility previously sold its future year allocations.

Staff has periodically initiated the process of reviewing past Annual Emission Reports (AERs) from non-RECLAIM facilities to determine applicability of RECLAIM pursuant to Rule 2001(b) – Criteria for Inclusion in RECLAIM. Commencing in 2012, an annual review process was implemented. This facility inclusion process begins with SCAQMD staff compiling a list of non-RECLAIM (pollutant-specific) facilities that emitted NO<sub>x</sub> or SO<sub>x</sub> emissions greater than or equal to four tons per year, as reported under the AER program, for potential inclusion into RECLAIM. This part of the process involves screening for emissions only from equipment that are subject to RECLAIM (e.g., emissions from on-site, off-road mobile sources are not included). From this initial list, each facility's business activities/operations are evaluated based on SCAQMD's records for possible categorical exemption pursuant to Rule 2001(i). Facilities that qualify under these categorical exemptions are removed from the list. The remaining facilities are informed of their potential inclusion into RECLAIM and are given the opportunity to provide records to demonstrate why the facility should



not be included under RECLAIM. This may include additional information about the facility's operations that would qualify it for categorical exemption from RECLAIM pursuant to Rule 2001(i), or correcting their AER-reported emissions with supporting documentation. Once a facility has qualified for inclusion, a draft facility permit is prepared, sent to the facility for comments, finalized and issued.

## Future Inclusions

As part of the adoption Resolution of the Final 2016 AQMP in March of 2017, staff was directed to modify Control Measure CMB-05 – Further NO<sub>x</sub> Reductions from RECLAIM Assessment to achieve an additional five tons per day NO<sub>x</sub> emission reductions as soon as feasible but no later than 2025, and to transition the RECLAIM program to a command-and-control regulatory structure requiring Best Available Retrofit Control Technology (BARCT) level controls as soon as practicable. Additionally, California State Assembly Bill (AB) 617, approved in July 2017, required an expedited schedule for implementing BARCT at cap-and-trade facilities, under which RECLAIM are also subject, and required that the implementation of BARCT be no later than December 31, 2023.

On January 5, 2018, the Governing Board amended two rules, Rule 2001 – Applicability, and Rule 2002 – Allocations for Oxides of Nitrogen (NO<sub>x</sub>) and Oxides of Sulfur (SO<sub>x</sub>), to initiate the transition of the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM program to a command-and-control regulatory structure as soon as practicable. As further discussed in Chapter 3 of this report, amended Rule 2001 commenced the initial steps of this transition by ceasing any future inclusions of facilities as of January 5, 2018 into NO<sub>x</sub> and SO<sub>x</sub> RECLAIM, whereas amended Rule 2002 established notification procedures for RECLAIM facilities for their transition out of the program and addressed the RTC holdings for the initial group of facilities that will be exited from RECLAIM. Staff has identified an initial group of 38 facilities that can potentially exit the NO<sub>x</sub> RECLAIM program because:

- The facility has no NO<sub>x</sub> emissions; or
- The facility's NO<sub>x</sub> emissions are solely from the combination of equipment exempt from obtaining a written permit pursuant to Rule 219 (unless the equipment would be subject to a command-and-control rule that it cannot reasonably comply with); or
- The facility has only various locations permits that are subject to command-and-control requirements; or
- The facility has NO<sub>x</sub> emitting equipment that meet current command-and-control BARCT rules.

Staff is continuing its efforts on transitioning all NO<sub>x</sub> RECLAIM sources to a command-and-control regulatory structure. Currently, the goal is to complete the transition by the first quarter of 2019.

## Universe Changes

In the early years of the RECLAIM program, facilities initially identified for inclusion were excluded upon determination that they did not meet the criteria for inclusion (e.g., some facilities that had reported emissions from permitted sources above four tons in a year were determined to have over-reported their emissions and subsequently submitted corrected emissions reports reflecting



emissions from permitted sources below four tons per year). Additionally, facilities that were not part of the original universe were subsequently added to the program based on the original inclusion criteria mentioned above. The overall changes to the RECLAIM universe from the date of adoption (October 15, 1993) through June 30, 2016 (the last day of Compliance Year 2015 for Cycle 2 facilities) were: the inclusion of 131 facilities (including 34 facilities created by partial change of operator of existing RECLAIM facilities), the exclusion of 70 facilities, and the shutdown of 187 facilities. Thus, the net change in the RECLAIM universe from October 15, 1993 through June 30, 2016 was a decrease of 126 facilities from 394 to 268 facilities. In Compliance Year 2016 (January 1, 2016 through December 31, 2016 for Cycle 1 facilities and July 1, 2016 through June 30, 2017 for Cycle 2 facilities), three facilities were included, one facility was excluded, and eight facilities shut down. These changes brought the total number of facilities in the RECLAIM universe to 262 facilities. The Compliance Year 2016 RECLAIM universe includes 232 NOx-only, no SOx-only, and 30 both NOx and SOx RECLAIM facilities. The list of active facilities in the RECLAIM universe as of the end of Compliance Year 2016 is provided in Appendix A.

### **Facility Inclusions and Exclusions**

Three facilities were newly included into RECLAIM during Compliance Year 2016. One facility was included in NOx RECLAIM pursuant to Rule 2001(b) – Criteria for Inclusion in RECLAIM. This facility was included because it reported NOx emissions from permitted sources in excess of four tons a year. The two remaining facilities were included through change of operator; one facility created through a partial change of operator of an existing RECLAIM facility (one facility was split into two), and the second facility created through a complete change of operator from a previously shutdown RECLAIM facility. Appendix B lists these three facilities and the reasons for their inclusion.

One facility was excluded as a result of two adjacent facilities merging into one during Compliance Year 2016. Operations of the excluded facility were taken over by another RECLAIM facility operating at the same location.

### **Facilities Permanently Ceasing Operations**

Eight RECLAIM facilities permanently ceased operations in Compliance Year 2016. One facility ceased operations, citing more attractive use of its land and resources. Three facilities liquidated or consolidated their operations and moved their operation outside of the region. The fifth facility ceased operations citing the high cost of manufacturing, production, and raw materials. The sixth facility inactivated all of its permits and consolidated its operations with two other company-owned facilities, one within the region and one outside the country. The seventh facility sold its property to a new operator with no permitted equipment remaining onsite. The eighth facility shutdown due to declining demand for its products. Seven of the eight facilities permanently ceasing operations were in NOx RECLAIM and one facility was in both NOx and SOx RECLAIM. Appendix C lists these facilities and provides brief descriptions of the reported reasons for their closures.

The above mentioned changes to the RECLAIM universe resulted in a net decrease of six facilities in the RECLAIM universe during Compliance Year 2016.



Table 1-1 summarizes overall changes in the RECLAIM universe between the start of the program and end of Compliance Year 2016 (December 31, 2016 for Cycle 1 facilities and June 30, 2017 for Cycle 2 facilities). Changes to the RECLAIM universe that occurred in Compliance Year 2016 are illustrated in Figure 1-1.

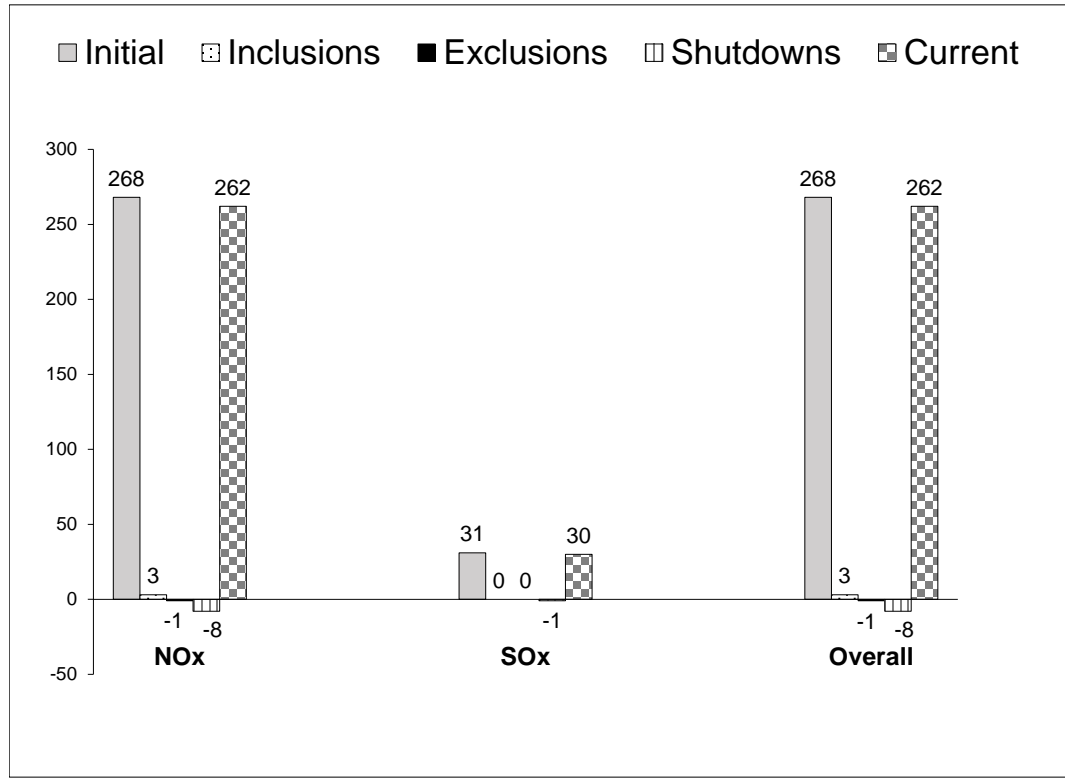
**Table 1-1**  
**RECLAIM Universe Changes**

	<b>NOx Facilities</b>	<b>SOx Facilities</b>	<b>Total* Facilities</b>
<b>Universe – October 15, 1993 (Start of Program)</b>	392	41	394
Inclusions – October 15, 1993 through Compliance Year 2015	131	13	131
Exclusions – October 15, 1993 through Compliance Year 2015	-69	-4	-70
Shutdowns – October 15, 1993 through Compliance Year 2015	-186	-19	-187
<b>Universe – June 30, 2016</b>	268	31	268
Inclusions – Compliance Year 2016	3	0	3
Exclusions – Compliance Year 2016	-1	0	-1
Shutdowns – Compliance Year 2016	-8	-1	-8
<b>Universe – End of Compliance Year 2016</b>	262	30	262

\* "Total Facilities" is not the sum of NOx and SOx facilities due to the overlap of some facilities being in both the NOx and SOx universes.



**Figure 1-1**  
**Universe Changes in Compliance Year 2016**





## CHAPTER 2

### RTC ALLOCATIONS AND TRADING

---

#### Summary

*On November 5, 2010, the Governing Board adopted amendments to SOx RECLAIM to phase in SOx reductions beginning in Compliance Year 2013 and full implementation in Compliance Year 2019 and beyond. The amendments will result in an overall reduction of 48.4% (or 5.7 tons/day) in SOx allocations when fully implemented (Compliance Year 2019 and beyond). For Compliance Year 2016, the fourth year of implementation, the SOx allocation supply was reduced by 34% (or 4.0 tons/day, which is the same reduction as the previous compliance year) to 2,839 tons. On December 4, 2015, the Governing Board adopted amendments to NOx RECLAIM to phase in additional NOx reductions which began in Compliance Year 2016 and continue through Compliance Year 2022. The amendment will result in an overall NOx reduction of 45% (or 12 tons/day) when fully implemented for Compliance Year 2022 and beyond. For Compliance Year 2016, the first year of implementation, the NOx allocation supply was reduced by 7.4 % (or 2 tons/day).*

*The overall NOx RTC supply increased by 24.3 tons and the SOx RTC supply decreased by 3.3 tons during Compliance Year 2016. These changes were due to allocation adjustments for clean fuel production pursuant to Rule 2002(c)(12), and also to an increase in initial allocation from a facility inclusion.*

*Since the inception of the RECLAIM program in 1994, a total value of over \$1.48 billion dollars has been traded in the RTC trading market, excluding swap trades. During calendar year 2017, there were 303 RTC trade registrations with a total value of \$6.86 million traded, excluding the values reported for swap trades. RTC trades are reported to SCAQMD as either discrete-year RTC trades or infinite-year block (IYB) trades (trades that involve blocks of RTCs with a specified start year and continuing into perpetuity). In terms of volume traded in calendar year 2017, a total of 2,556 tons of discrete-year NOx RTCs, 793 tons of discrete-year SOx RTCs, 218 tons of IYB NOx RTCs and 34 tons of IYB SOx RTCs were traded. The RTC trading market activity decreased during calendar year 2017 compared to calendar year 2016, in terms of number of trades (by 8%), in total volume excluding swaps (by 5%), and in total value excluding swaps (by 94%).*

*The annual average prices of discrete-year NOx RTCs traded during calendar year 2017 were \$2,203, \$4,182, and \$10,639 per ton for Compliance Years 2016, 2017, and 2018 RTCs, respectively. The annual average prices for discrete-year SOx RTCs traded during the same period were \$636, \$1,386, \$4,800, and \$4,800 per ton for Compliance Years 2016, 2017, 2019 and 2020 RTCs, respectively. There were no discrete-year SOx RTCs for Compliance Year 2018 traded in calendar year 2017.*

*Prices for discrete-year NOx and SOx RTCs for all compliance years are still well below the \$44,070 per ton of NOx and \$31,730 per ton of SOx discrete-year RTCs pre-determined overall program review thresholds established by the*



*Governing Board pursuant to Health and Safety Code §39616(f), as well as the \$15,000 per ton threshold pursuant to Rule 2015(b)(6).*

*The annual average price during calendar year 2017 for IYB NOx RTCs was \$39,673 per ton and the annual average price for IYB SOx RTCs was \$22,820 per ton. Therefore, annual average IYB RTC prices did not exceed the \$661,045 per ton of IYB NOx RTCs or the \$475,952 per ton of IYB SOx RTCs pre-determined overall program review thresholds established by the Governing Board pursuant to Health and Safety Code §39616(f).*

*Investors were again active in the RTC market during calendar year 2017. They were involved in 128 of the 193 discrete-year NOx trade registrations and six of the seven discrete-year SOx trade registrations with price. Investors were also involved in all six of the IYB NOx and all four of the IYB SOx trades with price. Investors were involved in 61% of total value and 60% of total volume for discrete-year NOx trades, and 94% of both total value and total volume for discrete-year SOx trades. At the end of calendar year 2017, investors' holdings of IYB NOx RTCs and IYB SOx RTCs were slightly higher at 3.3% and 6.0% of the total RECLAIM RTCs, respectively, compared to that of calendar year 2016.*

## Background

SCAQMD issues each RECLAIM facility emissions allocations for each compliance year, according to the methodology specified in Rule 2002 – Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx). For facilities that existed prior to January 1, 1993, the allocation is calculated based on each facility's historic production levels as reported to SCAQMD in its annual emission reports (AERs), NOx emission factors listed in Tables 1, 3, and 6 of Rule 2002 or SOx emission factors in Tables 2 and 4 of Rule 2002 for the appropriate equipment category, any qualified<sup>1</sup> external offsets previously provided by the facility, and any unused Emission Reduction Credits (ERCs) generated at and held by the facility. Facilities entering RECLAIM after 1994 are issued allocations, if eligible, for the compliance year of entry and all years after, and Compliance Year 1994 allocations (also known as the facility's "Starting Allocation") for the sole purpose of establishing New Source Review trigger level.

These allocations are issued as RTCs, denominated in pounds of NOx or SOx with a specified 12-month term. Each RTC may only be used for emissions occurring within the term of that RTC. The RECLAIM program has two staggered compliance cycles—Cycle 1 with a compliance period of January 1 through December 31 of each year, and Cycle 2 with a compliance period of July 1 of each year through June 30 of the following year. Each RECLAIM facility is assigned to either Cycle 1 or Cycle 2 and the RTCs it is issued (if any) have corresponding periods of validity.

The issuance of allocations for future years provides RECLAIM facilities guidance regarding their future emission reduction requirements. Facilities can plan their compliance strategies by reducing actual emissions or securing needed RTCs through trade registrations (or a combination of the two), based on their operational needs.

---

<sup>1</sup> Only external offsets provided at a one-to-one offset ratio after the base year used for allocation quantification purposes.



RECLAIM facilities may acquire RTCs issued for either cycle through trading and apply them to emissions, provided that the RTCs are used for emissions occurring within the RTCs' period of validity and the trades are made during the appropriate time period. RECLAIM facilities have until 30 days after the end of each of the first three quarters of each compliance year to reconcile their quarterly and year-to-date emissions, and until 60 days after the end of each compliance year to reconcile their last quarter and total annual emissions by securing adequate RTCs. Please note that, although other chapters in this report present and discuss Compliance Year 2016 data, RTC trading and price data discussed in this chapter are for calendar year 2017.

## **RTC Allocations and Supply**

The methodology for determining RTC allocations is established by Rule 2002. According to this rule, allocations may change when the universe of RECLAIM facilities changes, emissions associated with the production of re-formulated gasoline increase or decrease, reported historical activity levels are updated, or emission factors used to determine allocations are changed. In addition to these SCAQMD-allocated RTCs, RTCs may have been generated by conversion of emissions reduction credits from mobile and area sources pursuant to approved protocols. The total RTC supply in RECLAIM is made up of all RECLAIM facilities' allocations, conversions of ERCs owned by RECLAIM and non-RECLAIM facilities<sup>2</sup>, emissions associated with the production of re-formulated gasoline, and conversion of emission reduction credits from mobile sources and area sources pursuant to approved protocols. As discussed in Chapter 3, Rule 2002 was amended in October 2016, to provide a BARCT-based discounting methodology for facilities that shutdown after the amendment. The SCAQMD Governing Board may adopt additional rules that affect RTC supply. Changes in the RTC supply during Compliance Year 2016 are discussed below.

### **Allocations Adjustments Due to Inclusion and Exclusion of Facilities**

Facilities existing prior to October 1993 and entering RECLAIM after 1994 may receive allocations just like facilities that were included at the beginning of the program. However, allocations issued for these facilities are only applicable for the compliance year of entry and forward. In addition, these facilities are issued allocations and Non-tradable/Non-usable Credits for Compliance Year 1994 for the sole purpose of establishing their starting allocation to ensure compliance with offset requirements under Rule 2005 - New Source Review for RECLAIM and the trading zone restriction to ensure net ambient air quality improvement within the sensitive zone established by Health and Safety Code §40410.5. These Compliance Year 1994 credits are not allowed to be used to offset current emissions because they have expired. Similarly, if an existing facility that was previously included in RECLAIM is subsequently excluded because it is determined to be categorically excluded or exempt pursuant to Rule 2001(i) or to not have emitted four tons or more of NO<sub>x</sub> or SO<sub>x</sub> in a year, any RTCs it was issued upon entering RECLAIM are removed from the market upon its exclusion.

---

<sup>2</sup> The window of opportunity to convert ERCs to RTCs other than during the process of a non-RECLAIM facility entering the program closed June 30, 1994.



Of the three NO<sub>x</sub> facilities included in Compliance Year 2016, only one was issued allocations. A total of 1.1 tons per year of NO<sub>x</sub> allocations was issued to this facility entering RECLAIM in Compliance Year 2016.

### **Allocations Adjustments Due to Clean Fuel Production**

Rule 2002(c)(12) – Clean Fuel Adjustment to Starting Allocation, provides refineries with RTCs to compensate for their actual emissions increases caused by the production of California Air Resources Board (CARB) Phase II reformulated gasoline. The amount of these RTCs is based on actual emissions for the subject compliance year and historical production data. The quantities of such clean fuels RTCs needed were projected based on the historical production data submitted, and qualifying refineries were issued in 2000 an aggregate baseline of 86.5 tons of NO<sub>x</sub> and 42.3 tons of SO<sub>x</sub> for Compliance Year 1999, 101.8 tons of NO<sub>x</sub> and 41.4 tons of SO<sub>x</sub> for Compliance Year 2000, and 98.4 tons of NO<sub>x</sub> and 40.2 tons of SO<sub>x</sub> for each subsequent Compliance Year on the basis of those projections. These refineries are required to submit, at the end of each compliance year in their Annual Permit Emissions Program (APEP) report, records to substantiate actual emission increases due solely to the production of reformulated gasoline. If actual emission increases for a subject year are different than the projected amount, the RTCs issued are adjusted accordingly (*i.e.*, excess RTCs issued are deducted if emissions were less than projected; conversely, additional RTCs are issued if emissions were higher than projected).

As a result of the amendment to Rule 2002 in January 2005 to further reduce RECLAIM NO<sub>x</sub> allocations, the NO<sub>x</sub> historical baseline Clean Fuel Adjustments for Compliance Year 2007 and subsequent years held by the facility were also reduced by the appropriate factors as stated in Rule 2002(f)(1)(A). On the other hand, Rule 2002(c)(12) provides refineries a Clean Fuels adjustment based on actual emissions. Therefore, each refinery is subject to an adjustment at the end of each compliance year equal to the difference between the amount of actual emission increases due solely to production of reformulated gasoline at each refinery and the amount of credits it was issued in 2000 after discounting by the factors for the corresponding compliance year. For Compliance Year 2016, the overall effect of adjusting NO<sub>x</sub> allocations to account for these differences was a total of 23.2 tons of NO<sub>x</sub> RTCs (0.26% of total NO<sub>x</sub> allocation for Compliance Year 2016) added to, and 3.3 tons of SO<sub>x</sub> RTCs (0.11% of total SO<sub>x</sub> allocation for Compliance Year 2016) deducted from, refineries' Compliance Year 2016 holdings.

### **Changes in RTC Allocations Due to Activity Corrections**

RECLAIM facilities' allocations are determined by their reported historical activity levels (*e.g.*, fuel usage, material usage, or production) in their AERs. In the case where a facility's AER reported activity levels are updated within five years of the AER due date, its allocation is adjusted accordingly<sup>3</sup>. There were no changes in RTC allocations due to activity corrections in Compliance Year 2016.

---

<sup>3</sup> Pursuant to Rule 2002(b)(5) as amended on December 4, 2015, any AERs (including corrections) submitted more than five years after the original due date are not considered in the RTC quantification process.



### Conversions of Other Types of Emission Reduction Credits

Conversions of Mobile Source Emission Reduction Credits (MSERCs) and other types of emission reduction credits, other than regular stationary source ERCs issued under Regulation XIII – New Source Review, to RTCs are allowed under Rule 2008 – Mobile Source Credits, and several programs under Regulation XVI – Mobile Source Offset Programs and Regulation XXV – Intercredit Trading. Conversion of these credits to RTCs is allowed based on the respective approved protocol specified in each rule. Currently, Rules 1610 – Old-Vehicle Scrapping and 1612 – Credits for Clean On-Road Vehicles allow the creation of MSERCs. However, there are no State Implementation Plan (SIP) approved protocols for conversion of MSERCs to RTCs. No new RTCs were issued by conversion of other types of emission reduction credits in Compliance Year 2016.

### Net Changes in RTC Allocations

The changes to RTC supplies described in the above sections resulted in a net increase of 24.3 tons of NOx RTCs (0.27% of the total) and a decrease of 3.3 tons of SOx RTCs (0.11% of the total) for Compliance Year 2016. Table 2-1 summarizes the changes in NOx and SOx RTC supplies that occurred in Compliance Year 2016 pursuant to Rule 2002.

**Table 2-1**

**Changes in NOx and SOx RTC Supplies during Compliance Year 2016 (tons/year)**

Source	NOx	SOx
Universe changes	1.1	0
Clean Fuel/Reformulated Gasoline	23.2	-3.3
Activity corrections	0	0
MSERCs	0	0
<b>Net change</b>	<b>24.3</b>	<b>-3.3</b>

Note: The data in this table represents the changes that occurred over the course of Compliance Year 2016 to the Compliance Year 2016 aggregate NOx and SOx RTC supplies originally issued pursuant to Rule 2002, not the difference between 2016 aggregate RTC supply and that for any other compliance year.

### Allocation Reduction Resulting from BARCT Review

Pursuant to California Health and Safety Code §40440, SCAQMD is required to monitor the advancement in BARCT and periodically re-assess the RECLAIM program to ensure that RECLAIM achieves equivalent emission reductions to the command-and-control BARCT rules it subsumes. This assessment is done periodically as part of AQMP development. This process resulted in 2003 AQMP Control Measure #2003 CMB-10 – Additional NOx Reductions for RECLAIM (NOx) calling for additional NOx reductions from RECLAIM sources. SCAQMD staff started the rule amendment process in 2003, including a detailed analysis of control technologies that qualified as BARCT for NOx, and held lengthy discussions with stakeholders—including regulated industry, environmental groups, the California Air Resources Board (CARB), and the United States Environmental Protection Agency (USEPA). On January 7, 2005, the Governing Board implemented CMB-10 by adopting changes to the RECLAIM program that resulted in a 22.5% reduction of NOx allocations from all RECLAIM facilities.



The reductions were phased in commencing in Compliance Year 2007 and have been fully implemented since Compliance Year 2011.

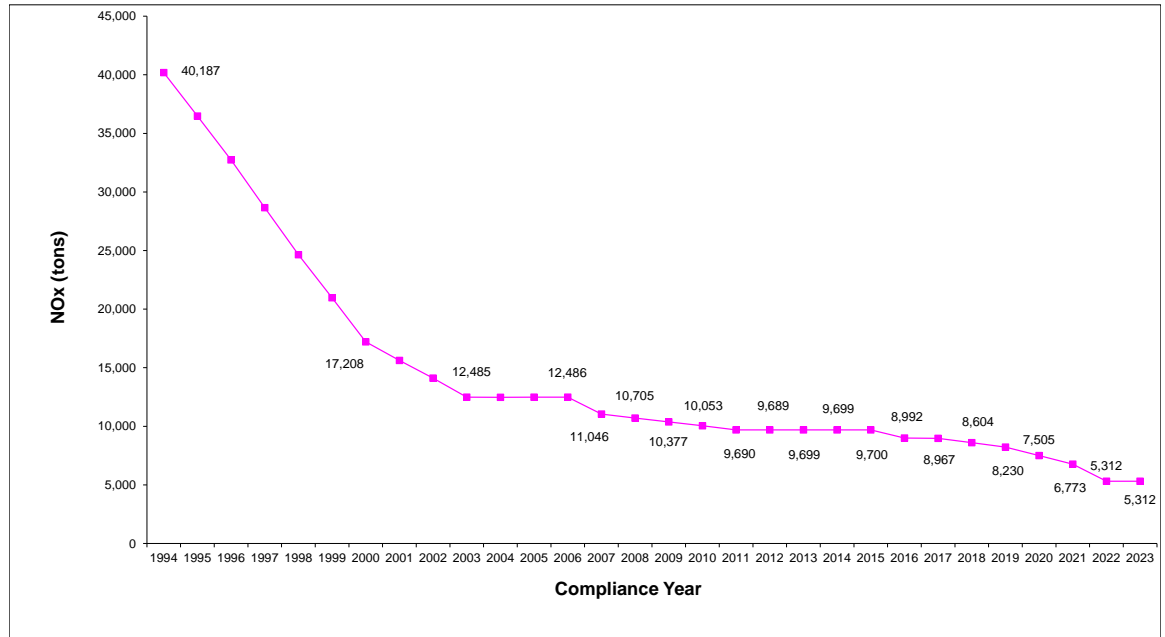
On November 5, 2010, the Governing Board adopted changes to the RECLAIM program implementing the 2007 AQMP Control Measure CMB-02 – Further SO<sub>x</sub> Reductions for RECLAIM (SO<sub>x</sub>). These amendments resulted in a BARCT-based overall reduction of 5.7 tons SO<sub>x</sub> per day when fully implemented in Compliance Year 2019 (the reductions are being phased in from Compliance Year 2013 through Compliance Year 2019: 3.0 tons per day in 2013; 4.0 tons per day in years 2014, 2015, and 2016; 5.0 tons per day in 2017 and 2018; and 5.7 tons per day starting in 2019 and continuing thereafter). This reduction in SO<sub>x</sub> is an essential part of the South Coast Air Basin's effort in attaining the federal 24-hour average PM<sub>2.5</sub> standard by the year 2020.

Similarly, the 2012 AQMP adopted by the Governing Board in 2012, included Control Measure CMB-01- Further NO<sub>x</sub> Reductions for RECLAIM that identified a new group of RECLAIM NO<sub>x</sub> emitting equipment that should be reviewed for new BARCT. The rulemaking process for the amendment to the NO<sub>x</sub> RECLAIM program implementing CMB-01 started in 2012. On December 4, 2015, the Governing Board adopted amendments to the RECLAIM rules that resulted in an additional reduction of 12 tons of NO<sub>x</sub> per day (45% reduction) when fully implemented in Compliance Year 2022. The reductions are being phased-in with 2 tons per day in Compliance Year 2016 and 2017, 3 tons per day in Compliance Year 2018, 4 tons per day in Compliance Year 2019, 6 tons per day in Compliance Year 2020, 8 tons per day in Compliance Year 2021 and 12 tons per day in Compliance Year 2022 and thereafter.

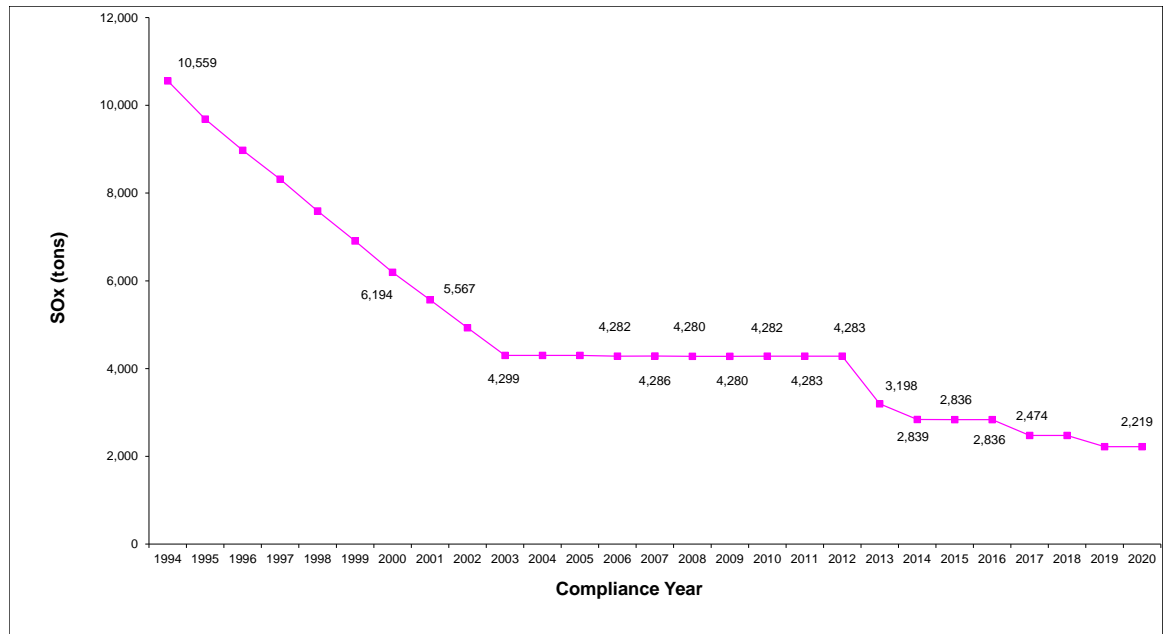
Figure 2-1 illustrates the total NO<sub>x</sub> RTC supply through the end of Compliance Year 2023 incorporating all the changes discussed above. Figure 2-2 illustrates the total SO<sub>x</sub> RTC supply through the end of Compliance Year 2020 incorporating the changes discussed.



**Figure 2-1  
NOx RTC Supply**



**Figure 2-2  
SOx RTC Supply**





## RTC Trades

### RTC Price Reporting Methodology

RTC trades are reported to SCAQMD as one of two types: discrete-year RTC transactions or infinite-year block (IYB) transactions (trades that involve blocks of RTCs with a specified start year and continuing into perpetuity). Prices for discrete-year trades are reported in terms of dollars per pound and prices for IYB trades are reported as total dollar value for total amount of IYB RTCs traded. In addition, the trading partners are required to identify any swap trades. Swap trades occur when trading partners exchange different types of RTCs. These trades maybe of equal value or different values, in which case some amount of money or credits are also included in swap trades (additional details on swap trades are discussed later in this chapter). Prices reported for swap trades are based on the agreed upon value of the trade by the participants, and do not involve exchange of funds for the total value agreed upon. As such, the reported prices for swap trades can be somewhat arbitrary, and are therefore excluded from the calculation of annual average prices. Annual average prices for discrete-year RTCs are determined by averaging prices of RTCs for each compliance year, while the annual average price for IYB RTCs are determined based on the amount of IYB RTCs (*i.e.*, the amount of RTCs in the infinite stream) regardless of the start year.

### RTC Price Thresholds for Program Review

Rule 2015(b)(6) specifies that, if the annual average price of discrete-year NO<sub>x</sub> or SO<sub>x</sub> RTCs exceeds \$15,000 per ton, the Executive Officer will conduct an evaluation and review of the compliance and enforcement aspects of RECLAIM. The Governing Board has also established average RTC price overall program review thresholds pursuant to Health and Safety Code §39616(f). Unlike the \$15,000 per ton threshold for review of the compliance and enforcement aspects of RECLAIM, these overall program review thresholds are adjusted by CPI each year. In addition, according to Rule 2002(f)(1)(S), if the annual average price of discrete-year SO<sub>x</sub> RTCs for any compliance year from 2017 through 2019 exceeds \$50,000 per ton, the Governing Board has the discretion to convert facilities' Nontradable/Nonusable RTCs to Tradable/Usable RTCs. Similarly, Rule 2002(f)(1)(H) specifies that in the event that the NO<sub>x</sub> RTC prices exceed \$22,500 per ton (current compliance year credits) based on the 12-month rolling average, or exceed \$35,000 per ton (current compliance year credits) based on the 3-month rolling average calculated pursuant to subparagraph (f)(1)(E), the Executive Officer will report the determination to the Governing Board. If the Governing Board finds that the 12-month rolling average RTC price exceeds \$22,500 per ton or the 3-month rolling average RTC price exceeds \$35,000 per ton, then the Non-tradable/Non-usable NO<sub>x</sub> RTCs, as specified in subparagraphs (f)(1)(B) and (f)(1)(C) valid for the period in which the RTC price is found to have exceeded the applicable threshold, shall be converted to Tradable/Usable NO<sub>x</sub> RTCs upon Governing Board concurrence. For RTC trades occurring in calendar year 2017, the overall program review thresholds in 2017 dollars, pursuant to Health and Safety Code §39616(f), are \$44,070 per ton of discrete-year NO<sub>x</sub> RTCs, \$31,730 per ton of discrete-year SO<sub>x</sub> RTCs, \$661,045 per ton of IYB NO<sub>x</sub> RTCs, and \$475,952 per ton of IYB SO<sub>x</sub> RTCs.



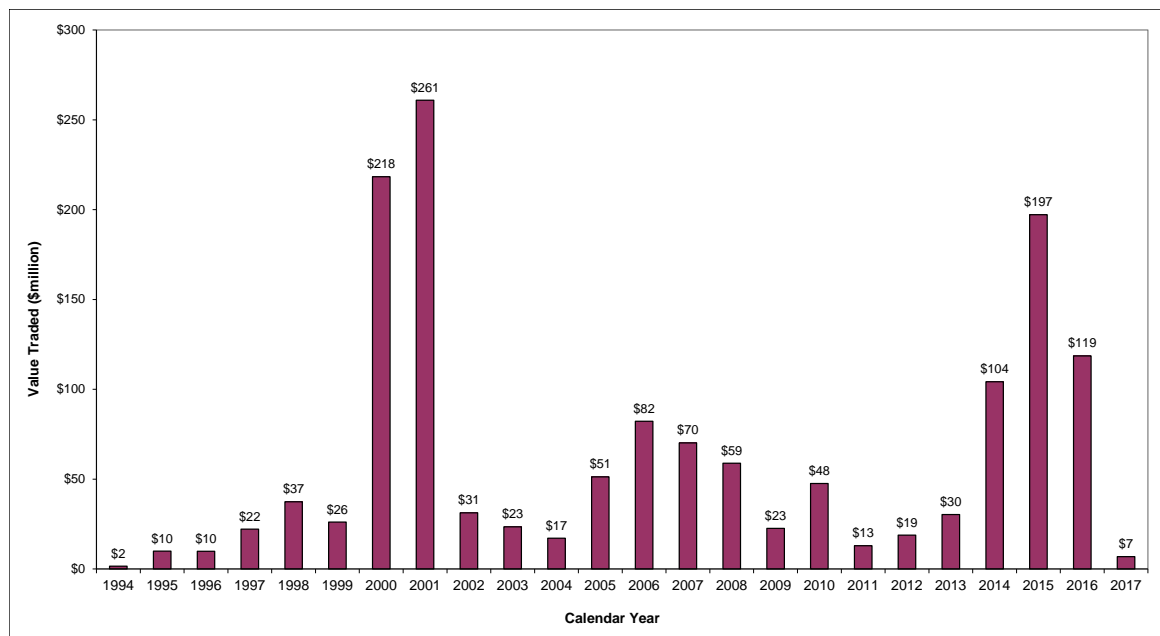
## RTC Trading Activity Excluding Swaps

### Overall Trading Activity

RTC trades include discrete-year and IYB RTCs traded with prices, discrete-year and IYB RTC transfers with zero price, and discrete-year and IYB RTC swap trades. The RTC market activity in calendar year 2017 was slightly lower (decreased by eight percent) when compared to the market activity in calendar year 2016 in terms of the number of trades. The calendar year 2017 trading activity—303 total registered trades (277 NOx trades and 26 SOx trades)—was slightly lower than the number of trades in calendar year 2016 (329 total registered trades; 305 NOx trades and 24 SOx trades).

In comparison to calendar year 2016, the value traded in calendar year 2017 was substantially lower (decreased by 94%). Excluding swap trades, a total value of \$6.86 million was traded in calendar year 2017 (\$6.01 million for NOx and \$0.85 million for SOx)—considerably lower than the total value of \$118.6 million traded in calendar year 2016 (\$118.4 million for NOx and \$0.21 million for SOx). Figure 2-3 illustrates the annual value of RTCs traded in RECLAIM since the inception of the program.

**Figure 2-3**  
**Annual Trading Values for NOx and SOx (Excluding Swaps)**

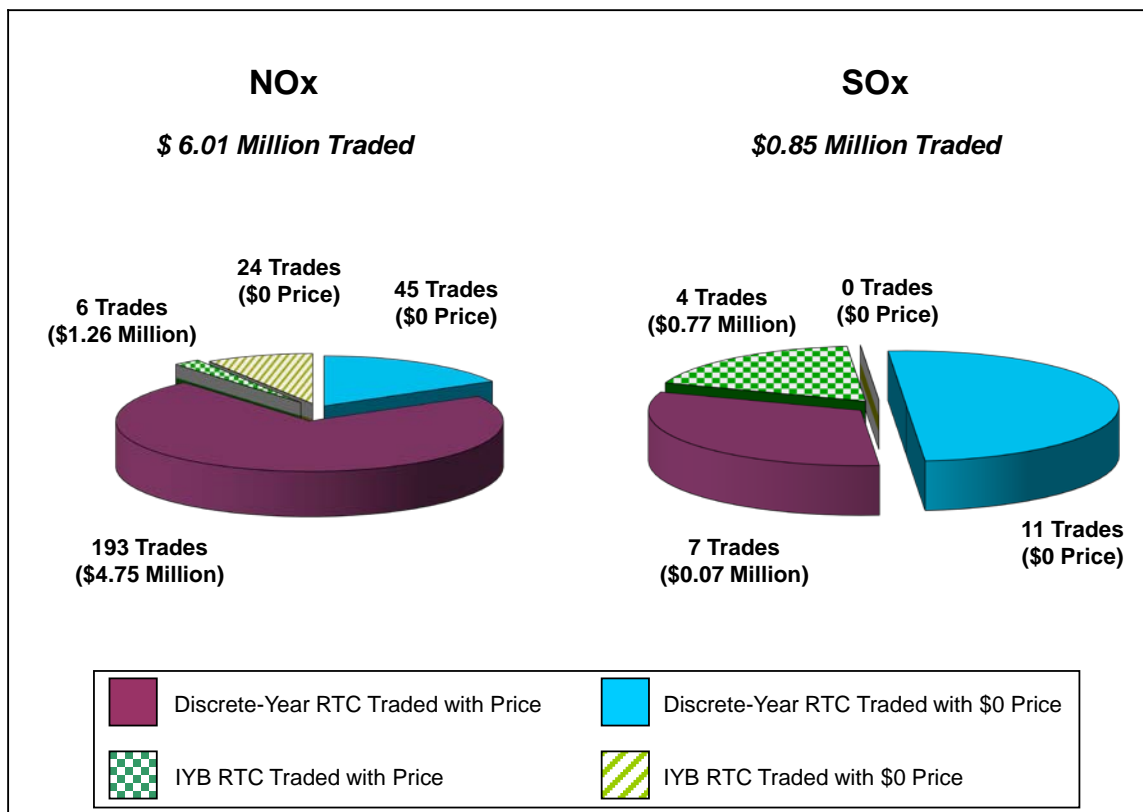


With respect to total volume traded (excluding swap trades), 3,601 tons were traded in calendar year 2017, which is 5% less than the 3,795 tons traded in calendar year 2016. For discrete-year RTCs (also excluding swap trades) volume traded in calendar year 2017, the 3,350 tons were greater than the 2,790 tons of discrete-year RTCs traded in calendar year 2016. In calendar year 2017, there were 1,533 tons of discrete-year NOx RTCs and 65 tons of discrete-year SOx RTCs traded with price, and 1,023 tons of discrete-year NOx RTCs and 728 tons of discrete-year SOx RTCs traded without price. In addition, the 252 tons of IYB RTCs traded in calendar year 2017 were much lower than the 1,005 tons of



IYB RTCs traded in 2016. There were 32 tons of IYB NOx RTCs and 34 tons of IYB SOx RTCs traded with price and 186 tons of IYB NOx RTCs traded with zero price and 0 tons of IYB SOx RTCs traded with zero price. Figure 2-4 summarizes overall trading activity (excluding swaps) in calendar year 2017 by pollutant. Additional information on the discrete-year and IYB trading activities, value, and volume are discussed later in this chapter.

**Figure 2-4**  
**Calendar Year 2017 Overall Trading Activity (Excluding Swaps)**



There were 80 trades with zero price in calendar year 2017. RTC transfers with zero price generally occur when a seller transfers or escrows RTCs to a broker pending transfer to the purchaser with price, when there is a transfer between facilities under common operator, when a facility is retiring RTCs for a settlement agreement or pursuant to variance conditions, or when there is a transfer between facilities that have gone through a change of operator. Trades with zero price also occur when the trading parties have mutual agreements where one party provides a specific service (e.g., providing steam or other process components) for the second party. In return, the second party will transfer the RTCs necessary to offset emissions generated from the service. In calendar year 2017, the majority of trades with zero price were transfers between facilities under common ownership and facilities that underwent a change of operator.

#### ***Discrete-Year RTC Trading Activity***

In calendar year 2017, there were a total of 238 discrete-year NOx RTC trades (193 trades with price and 45 trades with zero price) and 18 discrete-year SOx

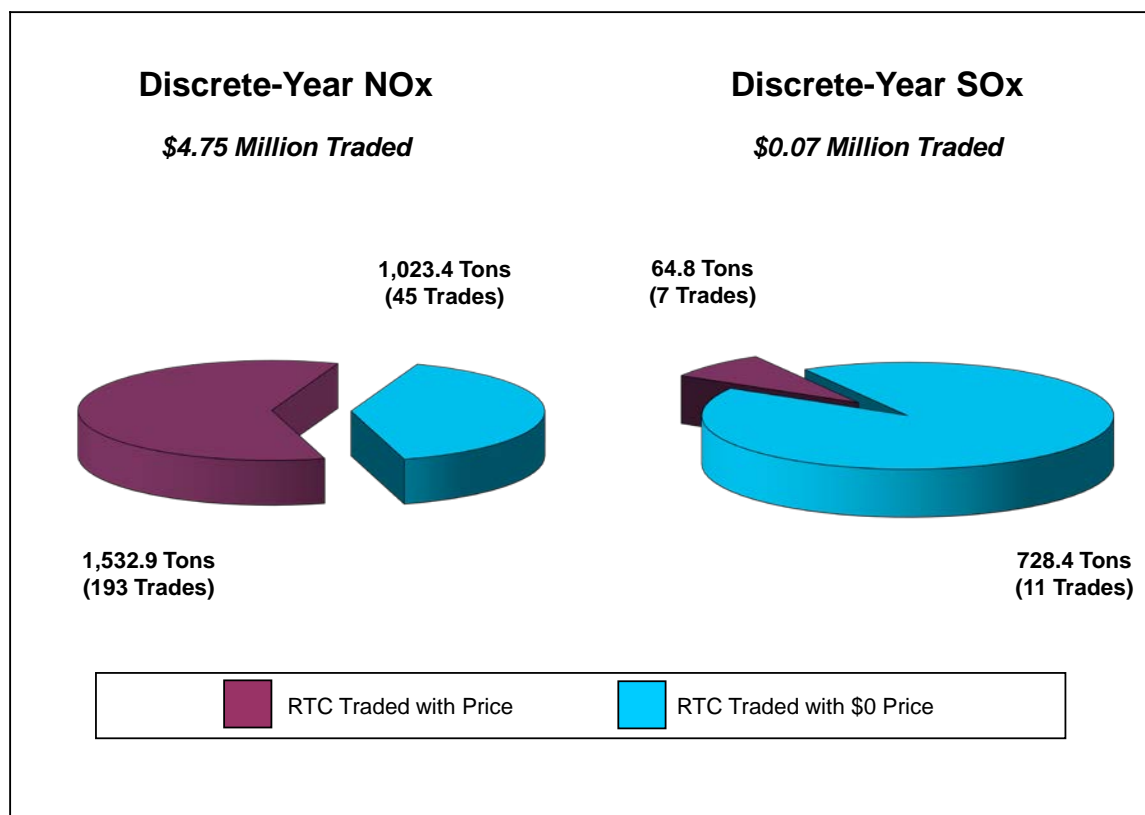


RTC trades (seven trades with price and 11 trades with zero price), excluding swap trades. The trading of discrete-year NOx RTCs included RTCs for Compliance Years 2016 through 2018. The trading of discrete-year SOx RTCs included RTCs for Compliance Years 2016, 2017, 2019 and 2020.

Total discrete-year RTC trading values increased in calendar year 2017. The 193 NOx trades with price totaled \$4.75 million in value, up from \$3.7 million in calendar year 2016. However, the seven discrete-year SOx trades with price totaled \$0.07 million in value, which is less than the \$0.08 million traded in calendar year 2016.

In calendar year 2017, the overall quantities of discrete-year NOx RTCs traded were 2,556 tons which is higher than the 2,173 tons of NOx RTCs traded in calendar year 2016. The 793 tons of discrete-year SOx RTC traded in calendar year 2017 was higher than the 617 tons traded in calendar year 2016. There were 1,533 tons of discrete-year NOx RTCs traded with price in calendar year 2017, a slight increase (6%) from the 1,449 tons of NOx in 2016. However, the 65 tons of discrete-year SOx RTCs traded in 2017 is much less (51%) than the 134 tons of SOx RTCs traded in 2016. In addition, there were 1,023 tons of discrete-year NOx RTCs traded with zero price (increased from 724 tons of NOx in 2016) and 728 tons of discrete-year SOx RTCs traded with zero price (an increase from 483 tons of SOx in 2016). Figure 2-5 illustrates the trading activity of discrete-year RTCs (excluding swaps) for calendar year 2017.

**Figure 2-5**  
**Calendar Year 2017 Trading Activity for Discrete-Year RTCs (Excluding Swaps)**





***IYB RTC Trading Activity***

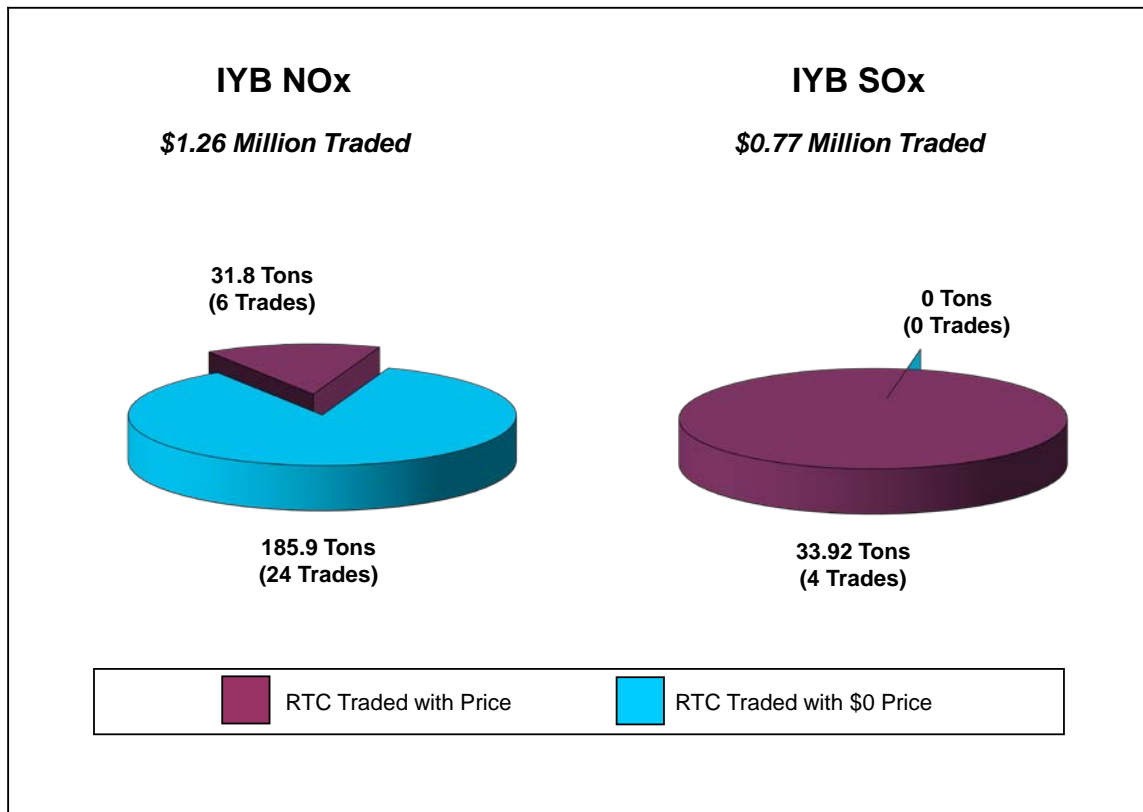
In calendar year 2017, there were 30 IYB NOx trades and four IYB SOx trades, excluding swaps. The IYB NOx trades included RTCs with Compliance Years 2017, 2018, and 2019 as start years, while the IYB SOx trades had RTCs with Compliance Years 2018 and 2019 as start years. Of the 30 IYB NOx trades, six trades were with price and 24 trades were with zero price. All four IYB SOx trades were with price, and there were none with zero price.

The six IYB NOx trades with price totaling \$1.26 million in calendar year 2017 were significantly lower in value than the \$114.7 million in 2016. The four IYB SOx RTC trades with price with total value of \$0.77 million traded in calendar year 2017 was higher than the value of \$0.13 million traded in 2016.

The total quantity of 218 tons of IYB NOx RTCs traded in calendar year 2017 was significantly lower than the 613 tons traded in calendar year 2016. The quantity traded with price in calendar year 2017 was 32 tons, which was also significantly lower than the 302 tons traded with price in calendar year 2016. The total quantity of 34 tons of IYB SOx RTCs traded in calendar year 2017 was significantly less than the 392 tons of IYB SOx RTCs traded in calendar year 2016. The quantity traded with price in calendar year 2017 was 34 tons, which was higher than the 2.5 tons of IYB SOx RTCs traded with price in calendar year 2016. In calendar year 2017, there were also 186 tons of IYB NOx RTCs traded without price (decreased from 311 tons of NOx in 2016), while there were no IYB SOx RTCs traded without price (a decrease from 390 tons of SOx in 2016). As described earlier, the majority of these transfers were between facilities under common ownership and facilities that had a change of operator. Figure 2-6 illustrates the calendar year 2017 IYB RTC trading activity excluding swap trades.



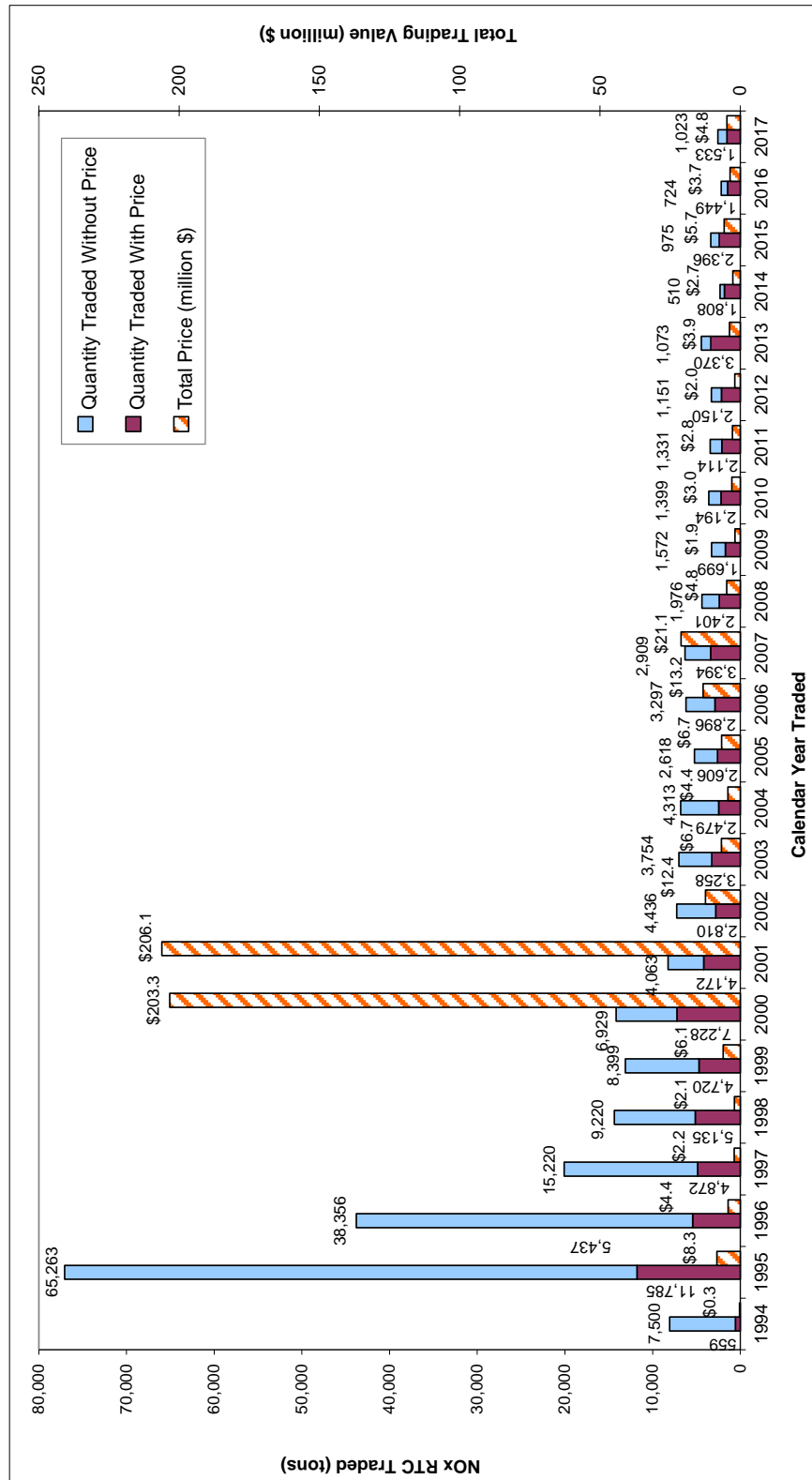
**Figure 2-6**  
**Calendar Year 2017 Trading Activity for IYB RTCs (Excluding Swaps)**



Prior to the amendment of Rule 2007 – Trading Requirements in May 2001, swap information and details of discrete-year and IYB trades were not required to be provided by trade participants. In compiling data for calendar years 1994 through part of 2001, any trade registration involving IYB RTCs was considered as a single IYB trade and swap trades were assumed to be nonexistent. Trading activity since inception of the RECLAIM program is illustrated in Figures 2-7 through 2-10 (discrete-year NOx trades, discrete-year SOx trades, IYB NOx trades, and IYB SOx trades, respectively) based on the trade reporting methodology described earlier in this report.

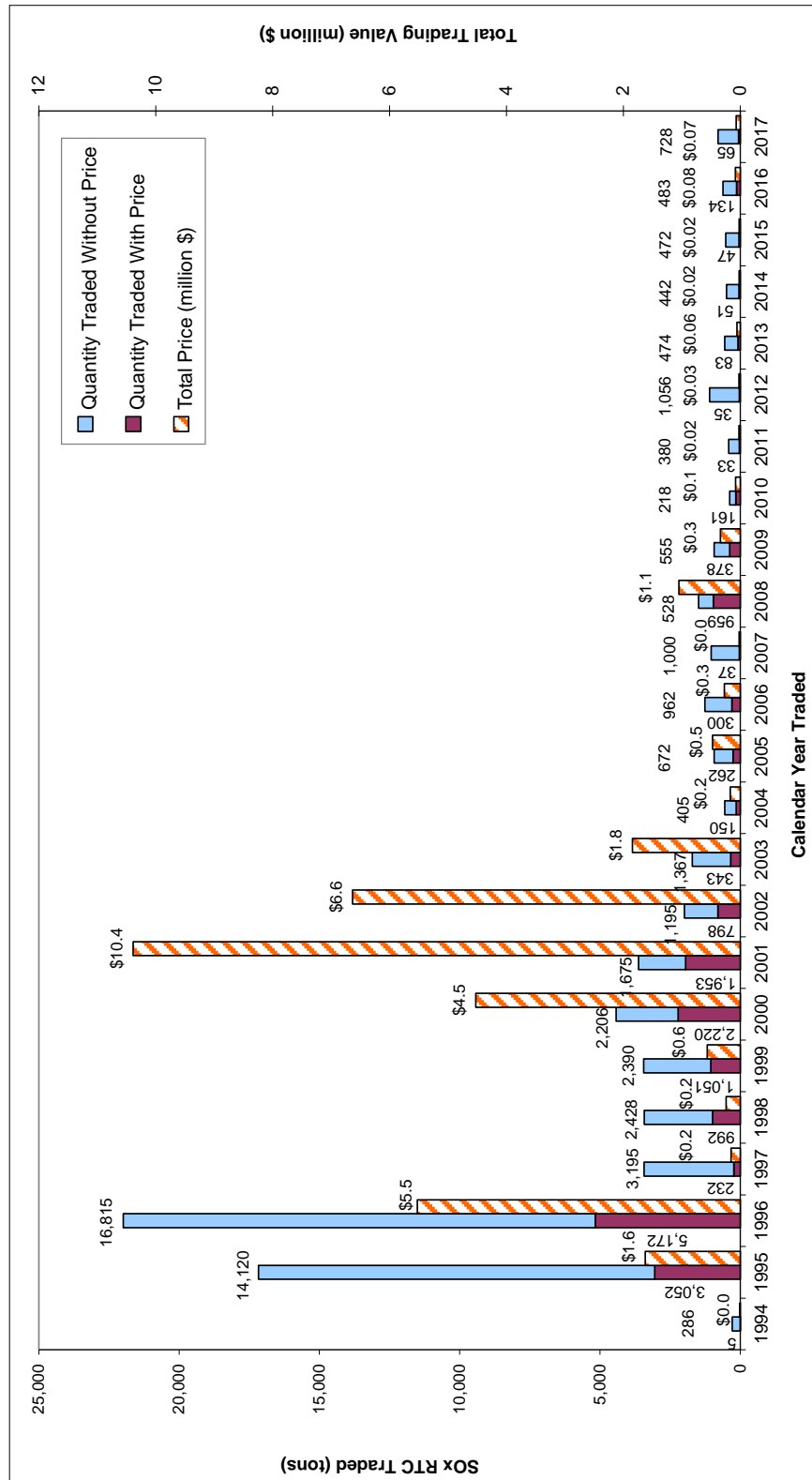


**Figure 2-7**  
**Discrete-Year NOx RTC Trades (Excluding Swaps)**



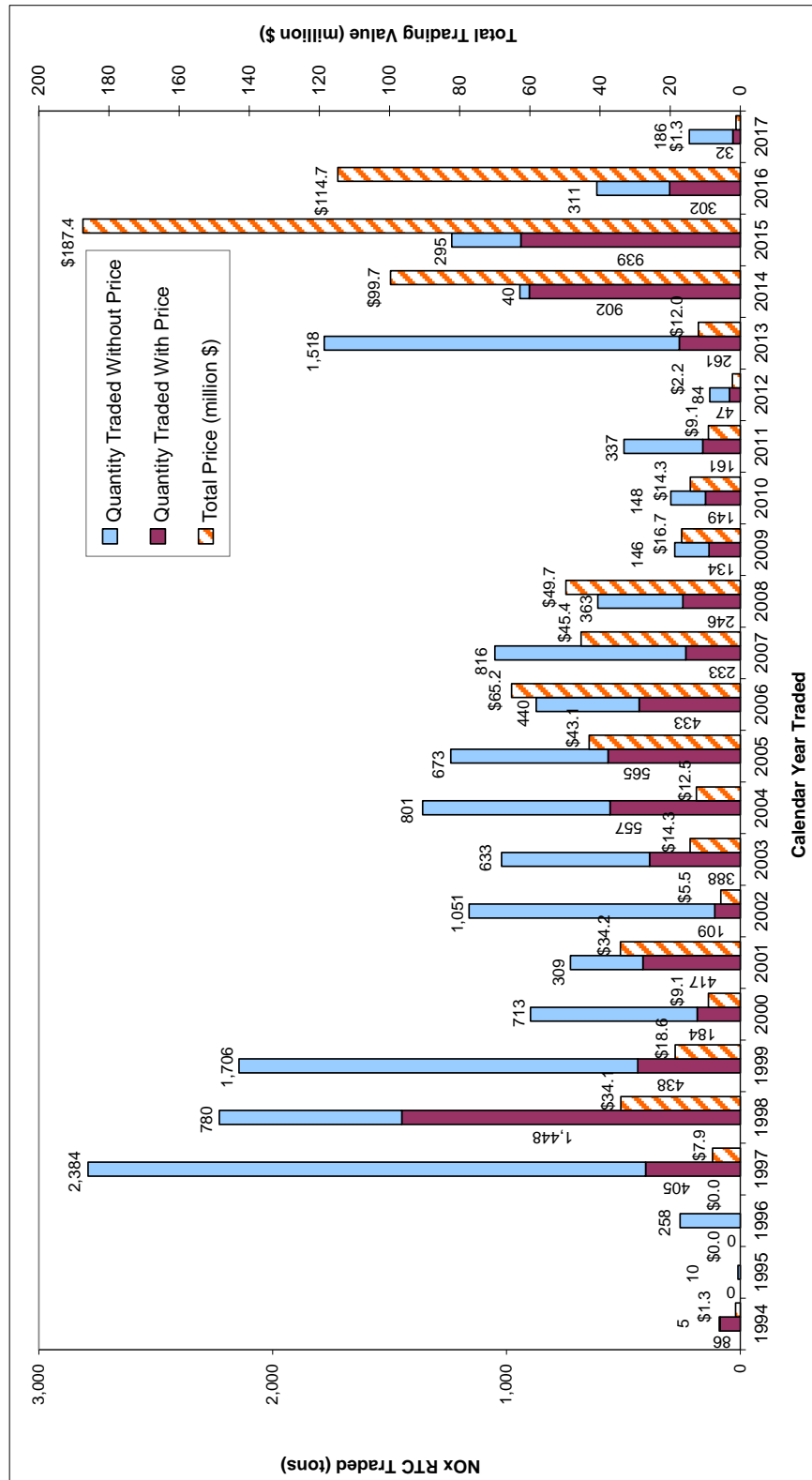


**Figure 2-8**  
**Discrete-Year SOx RTC Trades (Excluding Swaps)**



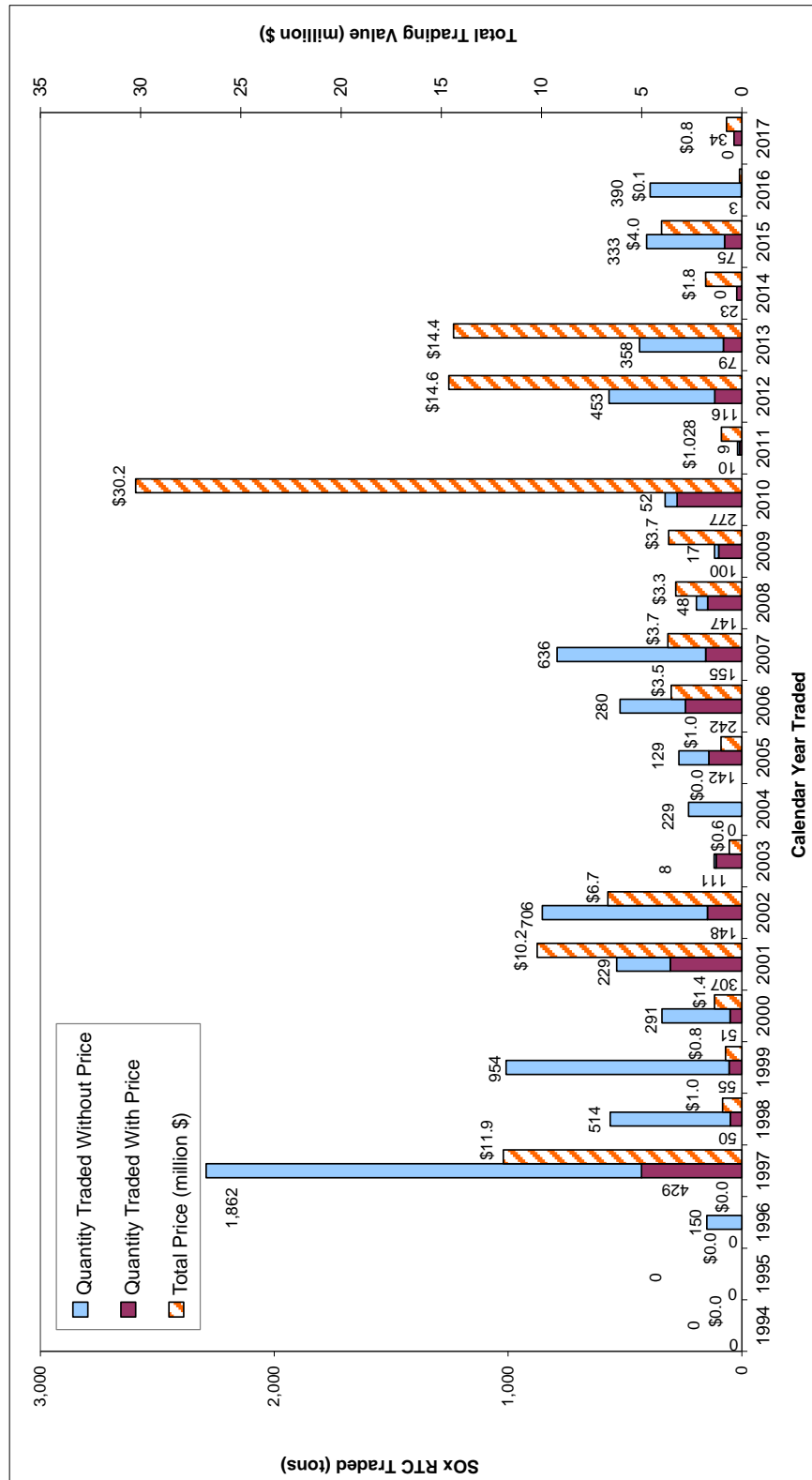


**Figure 2-9**  
**IYB NOx RTC Trades (Excluding Swaps)**





**Figure 2-10**  
**IYB SOx RTC Trades (Excluding Swaps)**





**Swap Trades**

In addition to traditional trades of RTCs for a price, RTC swaps also occurred between trading partners. Most of the swap trades were exchanges of RTCs with different zones, cycles, expiration years, and/or pollutants. Some swaps involved a combination of RTCs and cash payment as a premium. There were also swaps of RTCs for ERCs. Trading parties swapping RTCs were required to report the agreed upon price of RTCs for each trade even though, with the exception of the above-described premiums, no money was actually exchanged. Almost \$1.6 million in total value was reported from RTCs that were swapped in calendar year 2017, of which two trades involved swapping IYB NOx RTCs for IYB SOx RTCs and were collectively valued at a total of \$0.625 million. The swap values are based on the prices reported on the RTC trade registrations. Since RTC swap trades occur when two trading partners exchange RTCs, values reported on both trades involved in the exchange are included in the calculation of the total value reported. However, in cases where commodities other than RTCs are involved in the swap, these commodity values are not included in the above reported total value (e.g., in the case of a swap of NOx RTCs valued at \$10,000 for another set of RTCs valued at \$8,000 together with a premium of \$2,000, the value of such a swap would have been reported at \$18,000 in Table 2-2).

For calendar years that have swap trades with large values (e.g., 2009) the inclusion of swap trades in the average trade price calculations would have resulted in calculated annual average prices dominated by swap trades, and therefore, potentially not representative of market prices actually paid for RTCs. Prices of swap trades are excluded from analysis of average trade prices because the values of the swap trades are solely based upon prices agreed upon between trading partners and do not reflect actual funds transferred. Tables 2-2 and 2-3 present the calendar years' 2001 through 2017 RTC swaps for NOx and SOx, respectively.



**Table 2-2**  
**NOx Registrations Involving Swaps\***

<b>Year</b>	<b>Total Value (\$ millions)</b>	<b>IYB RTC Swapped with Price (tons)</b>	<b>Discrete-Year RTC Swapped with Price (tons)</b>	<b>Number of Swap Registrations with Price</b>	<b>Total Number of Swap Registrations</b>
2001	\$24.29	6.0	612.2	71	78
2002	\$14.31	64.3	1,701.7	94	94
2003	\$7.70	69.9	1,198.1	64	64
2004	\$3.74	0	1,730.5	90	90
2005	\$3.89	18.7	885.3	53	53
2006	\$7.29	14.8	1,105.9	49	49
2007	\$4.14	0	820.0	43	49
2008	\$8.41	4.5	1,945.8	48	50
2009	\$55.76	394.2	1,188.4	37	42
2010	\$3.73	18.2	928.5	25	31
2011	\$2.00	0	775.5	25	32
2012	\$1.29	0	928.1	36	36
2013	\$2.41	11.6	1,273.5	44	44
2014	\$3.24	28.5	489.6	25	25
2015	\$6.77	31.0	317.0	15	15
2016	\$2.18	1.8	622.8	22	22
2017	\$0.87	3.6	31.0	9	9

\* Swaps without price are strictly transfers of RTCs between trading partners and their respective brokers. Information regarding swap trades was not required prior to May 9, 2001.



**Table 2-3**  
**SOx Registrations Involving Swaps\***

Year	Total Value (\$ millions)	IYB RTC Swapped with Price (tons)	Discrete-Year RTC Swapped with Price (tons)	Number of Swap Registrations with Price	Total Number of Swap Registrations
2001	\$1.53	18.0	240.0	3	4
2002	\$6.11	26.6	408.4	30	30
2003	\$5.88	20.9	656.0	32	32
2004	\$0.39	0	161.8	13	13
2005	\$2.16	43.5	227.8	13	14
2006	\$0.02	0	24.4	2	2
2007	\$0.00	0	0	0	0
2008	\$0.40	0	197.0	5	8
2009	\$3.63	55.3	401.3	9	10
2010	\$6.89	79.4	417.0	16	18
2011	\$0.25	0	228.5	3	4
2012	\$27.01	100.0	7.5	4	4
2013	\$0.33	3.1	5.5	2	2
2014	\$0.01	0.0	14.8	1	1
2015	\$0	0.0	0	0	0
2016	\$3.68	39.6	44.2	3	3
2017	\$0.73	5.0	5.9	4	4

\* Swaps without price are strictly transfers of RTCs between trading partners and their respective brokers. Information regarding swap trades was not required prior to May 9, 2001.

### **RTC Trade Prices (Excluding Swaps)**

#### ***Discrete-Year RTC Prices***

Tables 2-4 and 2-5 list the annual average prices for discrete-year NOx and SOx RTCs traded from calendar years 2012 through 2017. The table shows that all annual average prices for discrete-year NOx and SOx RTCs were well below the \$44,070 per ton of NOx and \$31,730 per ton of SOx discrete-year RTCs pre-determined overall program review thresholds established by the Governing Board pursuant to Health and Safety Code §39616(f), and as well as, the \$15,000 threshold specified under Rule 2015(b)(6) for reviews of the compliance aspects of the program.



Table 2-4

**Annual Average Prices for Discrete-Year NOX RTCs during Calendar Years 2012 through 2017 (Price per ton)**

RTC Compliance Year	Calendar Year during which RTCs Traded					
	2012	2013	2014	2015	2016	2017
2011	577.50					
2012	1,162.20	548.92				
2013	4,053.49	1,080.49	1,064.97			
2014		1,880.92	1,909.69	1,038.82		
2015		1,000.00	3,779.00	1,642.05	1,625.75	
2016		1,500.00		2,833.39	2,926.90	2,202.90
2017		3,000.00		4,019.76	6,606.21	4,181.75
2018		3,800.00		6,006.11		10,639.19
2019				8,066.67		

Table 2-5

**Annual Average Prices for Discrete-Year SOX RTCs during Calendar Years 2012 through 2017 (Price per ton)**

RTC Compliance Year	Calendar Year during which RTCs Traded					
	2012	2013	2014	2015	2016	2017
2011	450.27					
2012	759.32	291.40				
2013		485.05	377.75			
2014			400.00	483.40		
2015		900.00		380.00	540.29	
2016		900.00			1,254.55	635.83
2017						1,385.71
2018						
2019						4,800.00
2020						4,800.00

### ***Rolling Average NOx and SOx RTCs Price Report***

On December 4, 2015, the Governing Board amended Rule 2002 to change the 12-month rolling average price of NOx RTCs for all trades for the current compliance year, excluding RTC trades reported at no price and swap transactions to a \$22,500 per ton threshold. It also established a new \$35,000 per ton threshold for the three-month rolling average price of current compliance year NOx RTCs and a \$200,000 per ton “price-floor” threshold for the twelve-month rolling average price of IYB NOx RTCs that will become effective in 2019. The reporting of the three-month rolling average prices for current compliance year’s NOx RTCs and the twelve-month rolling average prices of IYB NOx RTCs started on May 1, 2016.

The December 2015 amendments directed the Executive Officer to report to the Governing Board if (a) the cost of current compliance year NOx RTCs exceeds \$22,500 per ton based on the twelve-month rolling average price, or (b) \$35,000 per ton based on the three-month rolling average price. If either (a) or (b) above occurs, the Governing Board may convert the Non-tradable/Non-usable NOx



RTCs valid for the period in which the RTC price(s) exceeded an applicable threshold to Tradable/Usable NOx RTCs pursuant to Rule 2002(f)(1)(H). Additionally, the Executive Officer's report to the Governing Board will include a "commitment and schedule to conduct a more rigorous control technology implementation, emission reduction, cost-effectiveness, market analysis, and socioeconomic impact assessment of the RECLAIM program." Furthermore, Rule 2002 (f)(1)(I) requires the Executive Officer to calculate the twelve-month rolling average price of IYB NOx RTCs. Beginning in Compliance Year 2019, the Executive Officer needs to report to the Governing Board when the price of IYB NOx RTCs falls below \$200,000 per ton.

Starting January 2017, the Executive Officer is calculating and reporting the twelve-month rolling average prices for current compliance year SOx RTCs as required by the November 5, 2010 amendment to Rule 2002. The amendment established the \$50,000 per ton of SOx RTC threshold. In the event that the SOx RTC price threshold is exceeded, the Governing Board will decide whether or not to convert any portion of the Non-tradable/Non-usable SOx RTCs to Tradable/Usable SOx RTCs.

Tables 2-6 through 2-9 list the various rolling average prices described above. The average NOx and SOx RTC prices have all remained well below the applicable reporting thresholds. The IYB NOx price descended below the \$200,000 per ton "price-floor" threshold starting with the September 2017 report, which covered the period of September 2016 through August 2017. For this report, a large volume trade valued at \$250,000 per ton made in August 2016 was no longer included in the September 2017 twelve-month rolling average price report. The IYB NOx twelve-month rolling average price then remained constant until the January 2018 report, which covered the period of January 2017 through December 2017. A low volume trade priced at \$310,000 per ton made in December 2016 also was no longer included in the January 2018 twelve-month rolling average price report, while all remaining trades made in calendar year 2017 were priced at \$150,000 per ton and below. Additionally, a large volume of IYB NOx RTCs were purchased by an investor in December 2017 for only \$11,000 per ton, further dropping the January 2018 price per ton twelve-month rolling average. It is likely this trend will continue due to an ongoing rulemaking initiative to transition the NOx RECLAIM program to a command-and-control regulatory structure, and therefore, increase the uncertainty over the future utility of NOx RTCs.



**Table 2-6**  
**Twelve-Month Rolling Average Prices of Calendar Year 2017 Discrete-Year NOx**  
**RTCs**

Reporting Month	12-Month Period	Average Price (\$/ton)
January 2017	January 2016 through December 2016	\$6,606
February 2017	February 2016 through January 2017	\$6,446
March 2017	March 2016 through February 2017	\$6,970
April 2017	April 2016 through March 2017	\$6,581
May 2017	May 2016 through April 2017	\$6,519
June 2017	June 2016 through May 2017	\$6,519
July 2017	July 2016 through June 2017	\$6,450
August 2017	August 2016 through July 2017	\$6,355
September 2017	September 2016 through August 2017	\$6,351
October 2017	October 2016 through September 2017	\$6,323
November 2017	November 2016 through October 2017	\$5,324
December 2017	December 2016 through November 2017	\$5,155
January 2018	January 2017 through December 2017	\$4,182

**Table 2-7**  
**Three-Month Rolling Average Prices of Calendar Year 2017 Discrete-Year NOx**  
**RTCs**

Reporting Month	12-Month Period	Average Price (\$/ton)
January 2017	October 2016 through December 2016	\$7,561
February 2017	November 2016 through January 2017	\$6,971
March 2017	December 2016 through February 2017	\$6,962
April 2017	January 2017 through March 2017	\$5,897
May 2017	February 2017 through April 2017	\$5,847
June 2017	March 2017 through May 2017	\$5,847
July 2017	April 2017 through June 2017	\$6,051
August 2017	May 2017 through July 2017	\$5,753
September 2017	June 2017 through August 2017	\$5,828
October 2017	July 2017 through September 2017	\$5,468
November 2017	August 2017 through October 2017	\$3,981
December 2017	September 2017 through November 2017	\$3,689
January 2018	October 2017 through December 2017	\$3,233



**Table 2-8**  
**Twelve-Month Rolling Average Prices of Calendar Year 2017 IYB NOx RTCs**

Reporting Month	12-Month Period	Average Price (\$/ton)
January 2017	January 2016 through December 2016	\$380,057
February 2017	February 2016 through January 2017	\$254,172
March 2017	March 2016 through February 2017	\$239,491
April 2017	April 2016 through March 2017	\$239,491
May 2017	May 2016 through April 2017	\$238,223
June 2017	June 2016 through May 2017	\$237,266
July 2017	July 2016 through June 2017	\$234,802
August 2017	August 2016 through July 2017	\$213,249
September 2017	September 2016 through August 2017	\$152,598
October 2017	October 2016 through September 2017	\$152,598
November 2017	November 2016 through October 2017	\$152,598
December 2017	December 2016 through November 2017	\$152,598
January 2018	January 2017 through December 2017	\$39,673

**Table 2-9**  
**Twelve-Month Rolling Average Prices of Calendar Year 2017 Discrete-Year SOx RTCs**

Reporting Month	12-Month Period	Average Price (\$/ton)
January 2017	January 2016 through December 2016	-
February 2017	February 2016 through January 2017	-
March 2017	March 2016 through February 2017	-
April 2017	April 2016 through March 2017	-
May 2017	May 2016 through April 2017	-
June 2017	June 2016 through May 2017	-
July 2017	July 2016 through June 2017	-
August 2017	August 2016 through July 2017	\$1,100
September 2017	September 2016 through August 2017	\$1,386
October 2017	October 2016 through September 2017	\$1,386
November 2017	November 2016 through October 2017	\$1,386
December 2017	December 2017 through November 2017	\$1,386
January 2018	January 2017 through December 2017	\$1,386

***Average Price for NOx RTCs Nearing Expiration***

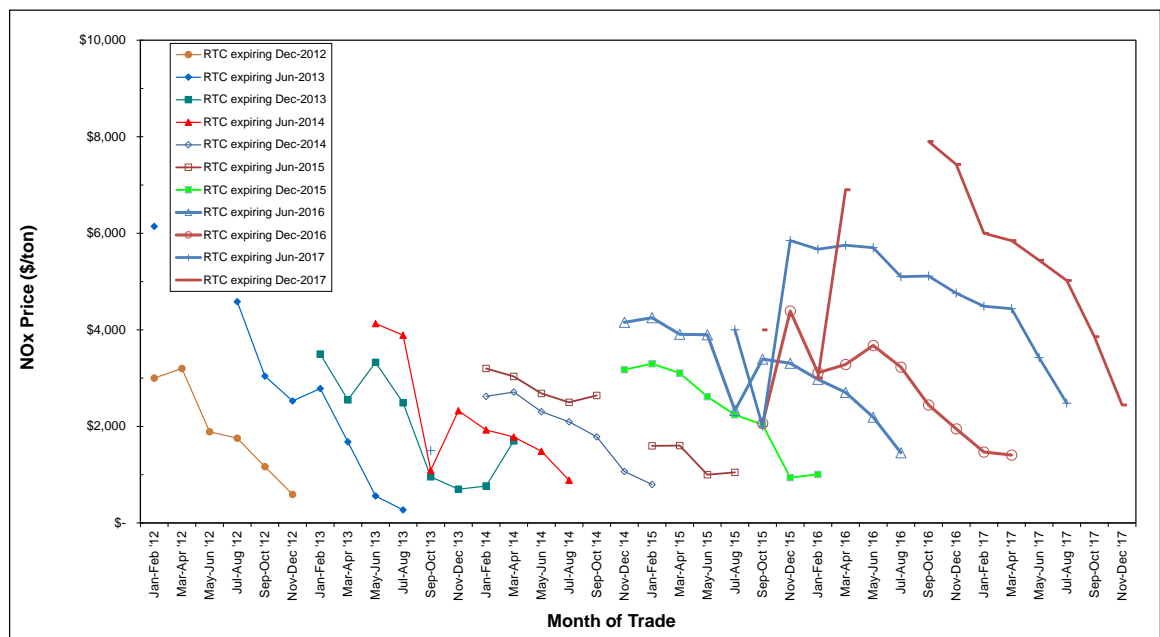
Generally, RTC prices decrease as their expiration dates approach and during the sixty days after their expiration dates during which they can be traded. RTC



prices are usually lowest during the 60 day-period following their expiration date during which facilities are allowed to trade and obtain RTCs to cover their emissions. This general trend has been repeated every year since 1994 except for Compliance Years 2000 and 2001 (during the California energy crisis), when NOx RTC prices increased as the expiration dates approached because the power plants' NOx emissions increased significantly, causing a shortage of NOx RTCs. Prices for NOx RTCs that expired in calendar year 2017 followed the general trend of RTC prices declining over the course of the compliance year and the sixty-day trading period thereafter.

The bi-monthly average price for these near-expiration NOx RTCs is shown in Figure 2-11 to illustrate the general price trend for these RTCs. The general declining trend of RTC prices nearing and just past expiration indicates that there was an adequate supply to meet RTC demand during the final reconciliation period following the end of the compliance years. A similar analysis is not performed for the price of SOx RTCs nearing expiration because there are not enough SOx trades over the course of the year to yield meaningful data. For calendar year 2017, there were only seven discrete-year SOx trades with price for Compliance Years' 2016, 2017, 2019, and 2020 RTCs. These prices ranged from \$400 per ton to \$4,800 per ton throughout the year.

**Figure 2-11**  
**Bi-Monthly Average Price for NOx RTCs near Expiration**



Note: Data is presented for a limited number of RTC expiration dates for graphical clarity.

### ***IYB RTC Prices***

The annual average price for IYB NOx RTCs traded in calendar year 2017 was \$39,673 per ton, which is significantly lower than the annual average price of \$380,057 per ton traded in calendar year 2016. This is expected due to the uncertainty over the future of the NOx RECLAIM program. The annual average price for IYB SOx RTCs traded in calendar year 2017 was \$22,820 per ton,



which is much lower than the \$50,000 per ton traded in calendar year 2016. There were four IYB SOx trades with price totaling 33.92 tons in 2017, compared to the one IYB SOx trade and 2.5 tons traded in 2016. Data regarding IYB RTCs traded with price (excluding swap trades) for NOx and SOx RTCs and their annual average prices since 1994 are summarized in Tables 2-10 and 2-11, respectively. In calendar year 2017, the annual average IYB RTC prices did not exceed the \$661,045 per ton of NOx RTCs or the \$475,952 per ton of SOx RTCs program review thresholds established by the Governing Board for IYB RTCs pursuant to California Health and Safety Code §39616(f).

**Table 2-10**  
**IYB NOx Pricing (Excluding Swaps)**

Calendar Year	Total Reported Value (\$ millions)	IYB RTC Traded with Price (tons)	Number of IYB Registrations With Price	Average Price (\$/ton)
1994*	\$1.3	85.7	1	\$15,623
1995*	\$0.0	0	0	N/A
1996*	\$0.0	0	0	N/A
1997*	\$7.9	404.6	9	\$19,602
1998*	\$34.1	1,447.6	23	\$23,534
1999*	\$18.6	438.3	19	\$42,437
2000*	\$9.1	184.2	15	\$49,340
2001*	\$34.2	416.9	25	\$82,013
2002	\$5.5	109.5	31	\$50,686
2003	\$14.3	388.3	28	\$36,797
2004	\$12.5	557.0	52	\$22,481
2005	\$43.1	565.3	71	\$76,197
2006	\$65.2	432.9	50	\$150,665
2007	\$45.4	233.5	25	\$194,369
2008	\$49.7	245.6	27	\$202,402
2009	\$16.7	134.2	14	\$124,576
2010	\$14.3	149.0	13	\$95,761
2011	\$9.1	160.7	29	\$56,708
2012	\$2.2	46.6	13	\$48,146
2013	\$12.0	260.9	17	\$45,914
2014	\$99.7	902.2	49	\$110,509
2015	\$187.4	938.5	47	\$199,685
2016	\$114.7	301.9	20	\$380,057
2017	\$1.26	31.8	6	\$39,673

\* No information regarding swap trades was reported until May 9, 2001.



**Table 2-11**  
**IYB SOx Pricing (Excluding Swaps)**

Calendar Year	Total Reported Value (\$ millions)	IYB RTC Traded with Price (tons)	Number of IYB Registrations With Price	Average Price (\$/ton)
1994*	\$0.0	0	0	N/A
1995*	\$0.0	0	0	N/A
1996*	\$0.0	0	0	N/A
1997*	\$11.9	429.2	7	\$27,738
1998*	\$1.0	50.0	1	\$19,360
1999*	\$0.8	55.0	3	\$14,946
2000*	\$1.4	50.6	5	\$27,028
2001*	\$10.2	306.8	8	\$33,288
2002	\$6.7	147.5	5	\$45,343
2003	\$0.6	110.9	1	\$5,680
2004	\$0.0	0.0	0	N/A
2005	\$1.0	141.5	3	\$7,409
2006	\$3.5	241.7	12	\$14,585
2007	\$3.7	155.2	5	\$23,848
2008	\$3.3	146.8	5	\$22,479
2009	\$3.7	100.0	4	\$36,550
2010	\$30.2	277.0	10	\$109,219
2011	\$1.03	10.0	2	\$102,366
2012	\$14.6	116.2	4	\$125,860
2013	\$14.4	79.2	4	\$181,653
2014	\$1.8	22.5	4	\$80,444
2015	\$4.0	74.8	4	\$53,665
2016	\$0.13	2.5	1	\$50,000
2017	\$0.77	33.92	4	\$22,820

\* No information regarding swap trades was reported until May 9, 2001.

### **Recent Program Amendments' Effect on Trading Trend**

The SCAQMD Governing Board directed staff in March 2017 to transition the RECLAIM program to a command-and-control regulatory structure (see discussion in Chapter 3 under Program Amendments). Staff then initiated this effort and a tentative schedule has been suggested to complete the transition by the first quarter of 2019. This rulemaking effort may have had a significant impact on RTC trading activity and prices in 2017. Both the total value and the volume of discrete NOx RTCs traded increased in 2017 compared to 2016 (see Figure 2-7). These increases may also have been due to the reduction in RTC supply (2 tons/day in Compliance Year 2016) enacted by the Governing Board in December 2015. In contrast to the discrete NOx trading activity, both the total value and the volume of IYB NOx RTCs decreased dramatically (the total value decreased from \$114.7 million in 2016 to only \$1.3 million in 2017). According to the current implementation schedule under discussions, transition from the RECLAIM program is scheduled to be completed by the first quarter of 2019, after which NOx RTCs would cease to have value. This reduces the utility of IYB



RTCs, and minimizes the time horizon to possibly recoup the future year investments.

Like discrete NOx RTCs, discrete SOx RTCs also increased in price during calendar year 2017. The SOx RTC supply was shaved starting with Compliance Year 2013, and continued to full implementation in Compliance Years 2019 and after. This reduced RTC supply would theoretically lead to higher prices, although no additional SOx RTCs have been removed from the market since Compliance Year 2014. The SOx RTC supply was further reduced starting with Compliance Year 2017, and will be reduced again in Compliance Year 2019. The price of Compliance Years 2019 and 2020 RTCs traded this year were significantly higher than the prices of Compliance Years 2016 and 2017 RTCs traded. The price of IYB SOx RTCs also decreased in lockstep with the price of IYB NOx RTCs. This could be due to investor uncertainty over the modifications to CMB-05 of the Final 2016 Air Quality Management Plan, even though the current effort is only focused on NOx RECLAIM. Furthermore, California State Assembly Bill 617 will require RECLAIM facilities that are also in the California Greenhouse Cap and Trade Program to possibly replace older devices or retrofit them to meet newer and lower BARCT emission limits. This could have the added co-benefit of reducing SOx emissions and future SOx RTC demand.

### **Other Types of RTC Transactions and Uses**

Another type of RTC trade, besides traditional trading and swapping activities, is a trade involving the contingent right (option) to purchase RTCs. In those trades, one party pays a premium for the contingent right (option) to purchase RTCs owned by the other party at a pre-determined price within a certain time period. Until RTCs are transferred from seller to buyer, prices for options are not reported, because the seller is not paid for the actual RTCs, but only for the right to purchase the RTCs at a future date. These rights may or may not actually be exercised. RTC traders are obligated to report options to SCAQMD within five business days of reaching an agreement. These reports are posted on SCAQMD's website. There were no reported trades involving the contingent right to buy or sell RTCs in calendar year 2017.

In addition to mitigating emissions at RECLAIM facilities, RTCs were also used by facilities to satisfy variance conditions. During calendar year 2017, two RECLAIM facilities and one non-RECLAIM facility retired a total of 28.1 tons of NOx RTCs for this purpose. These consisted of discrete-year NOx RTCs for Compliance Years 2016 and 2017. Additionally, one RECLAIM facility retired a total of 0.51 tons of discrete SOx RTCs for Compliance Year 2017.

## **Market Participants**

RECLAIM market participants have traditionally included RECLAIM facilities, brokers, commodity traders, and private investors. Starting in calendar year 2004, mutual funds joined the traditional participants in RTC trades. Market participation expanded further in 2006, when foreign investors started participating in RTC trades. However, foreign investors have not participated in any RTC trades since calendar year 2008 and foreign investors do not hold any current or future RTCs at this time.



RECLAIM facilities are the primary users of RTCs and they hold the majority of RTCs as allocations. They usually sell their surplus RTCs by the end of the compliance year or when they have a long-term decrease in emissions. Brokers match buyers and sellers, and usually do not purchase or own RTCs. Commodity traders and private investors actually invest in and own RTCs in order to seek profits by trading them. They do not need RTCs to offset or reconcile any emissions. For purposes of discussion in this report, “investors” include all parties who hold RTCs other than RECLAIM facility permit holders and brokers. Brokers typically do not actually purchase RTCs, but only facilitate trades.

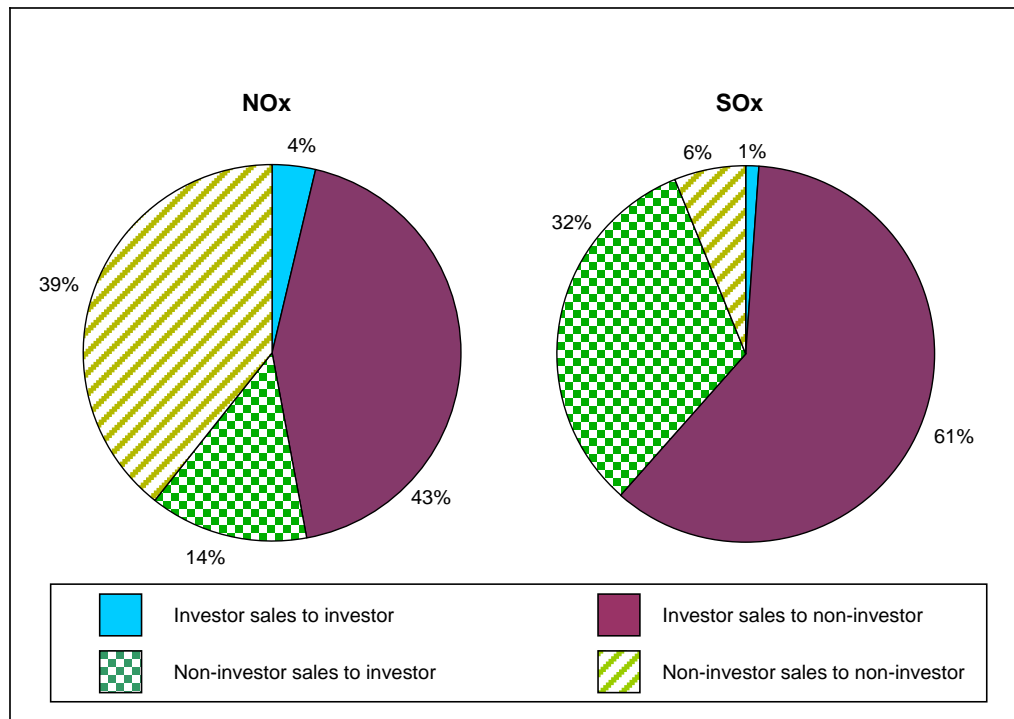
### **Investor Participation**

In 2017, investors were actively involved in 128 of the 193 discrete-year NOx RTC trades with price, six of the seven discrete-year SOx RTC trades with price, and all six of the IYB NOx trades with price. Investors were also involved in all four IYB SOx trade with price.

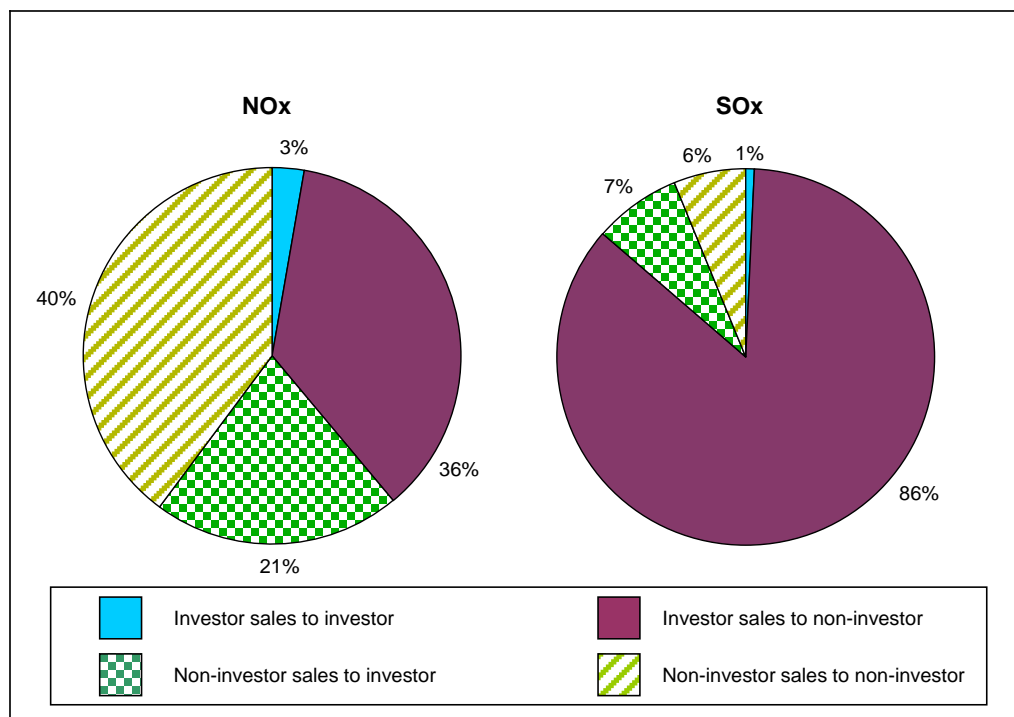
Investors’ involvement in discrete-year NOx and SOx trades registered with price in calendar year 2017 is illustrated in Figures 2-12 and 2-13. Figure 2-12 is based on total value of discrete-year NOx and SOx RTCs traded, and shows that investors were involved in 61% and 94%, respectively, of the discrete-year NOx and SOx trades reported by value. Figure 2-13 is based on volume of discrete-year RTCs traded with price and shows that investors were involved in 60% and 94% of the discrete-year NOx and SOx trades by volume, respectively. Figures 2-14 and 2-15 provide similar data for IYB NOx and SOx trades, and show that investors were involved in all IYB NOx trades and all IYB SOx trades with price in calendar year 2017.



**Figure 2-12**  
**Calendar Year 2017 Investor-Involved Discrete-Year NOx and SOx Trades Based on Value Traded**

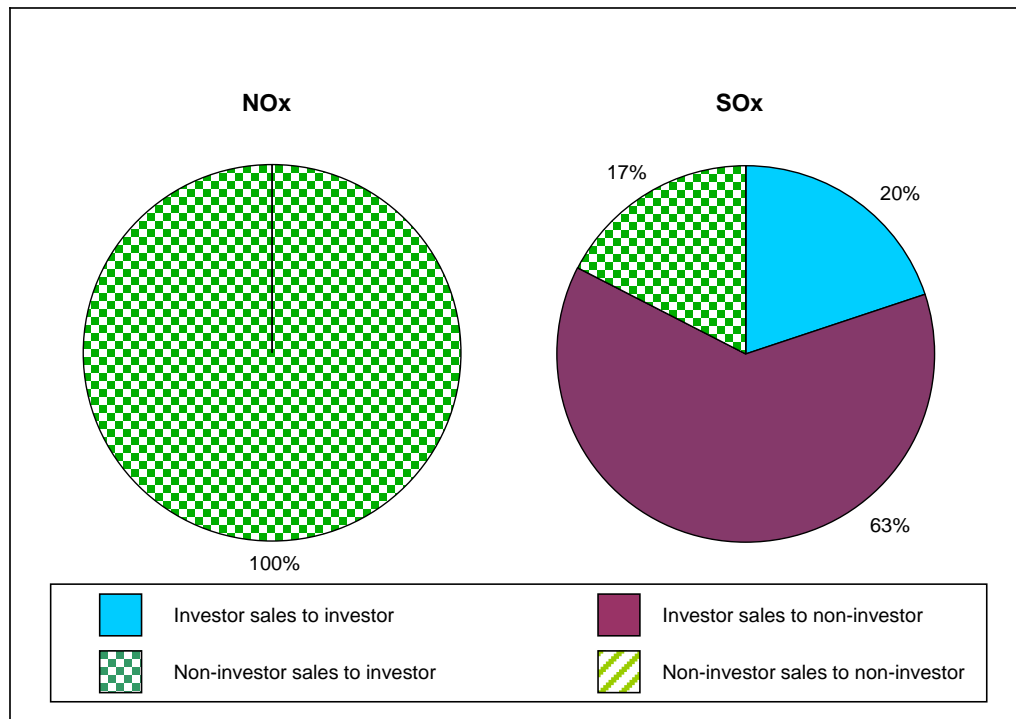


**Figure 2-13**  
**Calendar Year 2017 Investor-Involved Discrete-Year NOx and SOx Trades Based on Volume Traded with Price**

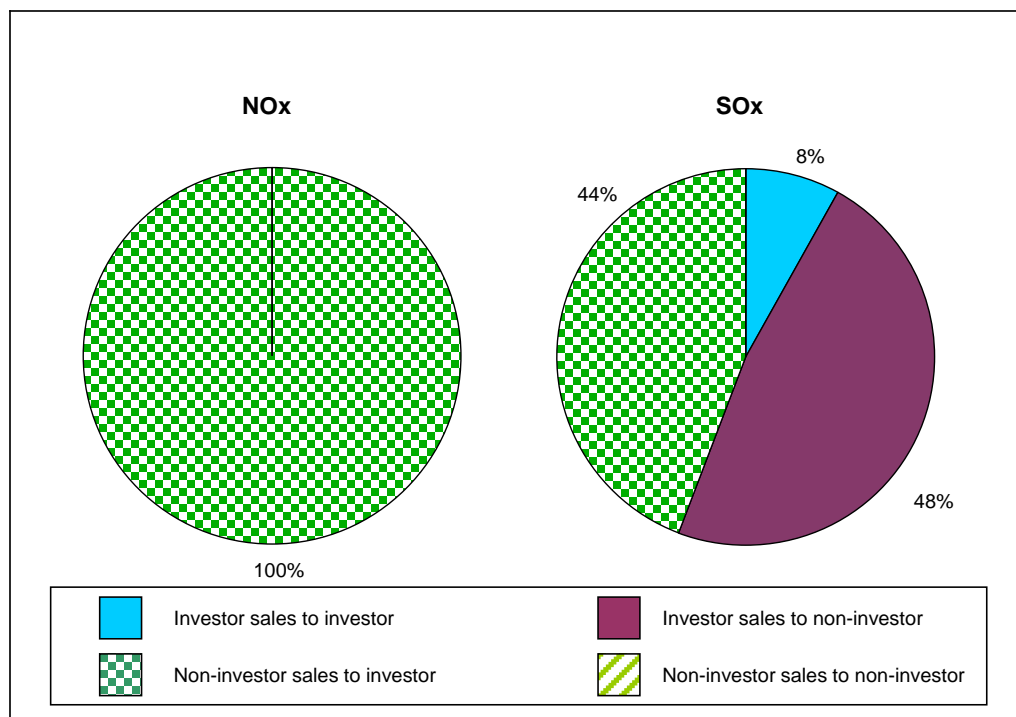




**Figure 2-14**  
**Calendar Year 2017 Investor-Involved IYB NOx and SOx Trades Based on Value Traded**



**Figure 2-15**  
**Calendar Year 2017 Investor-Involved IYB NOx and SOx Trades Based on Volume Traded with Price**





As of the end of calendar year 2017, investors' holding of IYB NOx RTCs had slightly increased to 3.3% compared to 3.1% at the end of calendar year 2016. Mutual fund investors are no longer holders of IYB NOx RTCs, down from a high of 3.3% at the end of calendar year 2011 and 1.4% at the end of calendar year 2014. Investors' holding of IYB SOx RTCs increased to 6.0% at the end of calendar year 2017 from 5.0% at the end of calendar year 2016. No IYB SOx RTCs are currently held by mutual fund investors.

The available supply of IYB RTCs are generally from facilities that have permanently reduced emissions through the installation of control equipment, the modification or replacement of old equipment, or equipment and/or facility shutdowns. There were eight RECLAIM facilities that shut down during Compliance Year 2016. These eight facilities all participated in the NOx RECLAIM program and held a total of 7.6 tons of IYB NOx RTCs. The one facility also participating in the SOx RECLAIM program held a total of 0.98 tons of IYB SOx. Currently, these facilities hold a total of 2.3 tons of IYB NOx RTCs and zero tons of IYB SOx RTCs. All IYB NOx and SOx RTCs sales from these shutdowns occurred prior to calendar year 2013, except 3.3 tons of IYB NOx (44% of sold IYB NOx) was sold by two facilities in calendar year 2017.

### **Investor Impacts on RTC Market**

Theoretically, the role of investors in this market is to provide capital for installing air pollution control equipment that costs less than the market value of credits. In addition, investors can also improve price competitiveness. This market theory may not fully apply to RECLAIM due to the uniqueness of the program because RECLAIM facility operators have no substitute for RTCs, and short of curtailing operations, pollution controls cannot be implemented within a short time period. That is, there is no alternative source of credits available to RECLAIM facilities when RTC prices increase (they do not have the option to switch to another source of credits when RTCs become expensive). Therefore, RECLAIM facility operators may be at the mercy of owners of surplus or investor-owned RTCs in the short term, particularly during times of rapid price increases, as evidenced in 2000 and 2001 during the California energy crisis.

Generally, RECLAIM facilities hold back additional RTC's for each year as a compliance margin to ensure that they do not inadvertently find themselves exceeding their allocations (failing to reconcile by securing sufficient RTCs to cover their emissions) if their reported emissions increase as the result of any problems or errors discovered by SCAQMD staff during annual facility audits. Facilities have indicated to staff in the past that this compliance margin is approximately 10% of their emissions. For Compliance Year 2016, the total RECLAIM NOx emissions were 7,328 tons, while the total NOx RTC allocation was 8,992 tons. This NOx RTC surplus of 1,664 tons (19% of allocation) is well above the 10% compliance margin reportedly held by RECLAIM facilities. If the future total NOx emissions stay constant, the difference between the NOx RTC allocation and NOx emissions would not decrease below 10% until Compliance Year 2020.

In past annual audit reports, staff made comparisons between emissions and future available RTC supplies to highlight the potential of a seller's market for



NOx RTCs if adequate emissions controls were not implemented in a timely manner. The probability of this scenario has diminished because of current efforts to transition to a command and control framework. The schedule, currently under discussion, is to complete this effort by the first quarter of 2019. If this is successfully implemented according to schedule, RTCs will no longer be the compliance demonstration tool beyond 2019. Barring a sudden and significant surge in NOx emissions during 2018 Compliance Year, it is expected that there will be adequate RTCs available to reconcile with RECLAIM NOx emissions despite investor IYB holdings of 3.3 percent.



## CHAPTER 3

### EMISSION REDUCTIONS ACHIEVED

---

#### Summary

*For Compliance Year 2016, aggregate NOx emissions were below total allocations by 19% and aggregate SOx emissions were below total allocations by 29%. No emissions associated with breakdowns were excluded from reconciliation with facility allocations in Compliance Year 2016. Accordingly, no mitigation is necessary to offset excluded emissions due to approved Breakdown Emission Reports. Therefore, based on audited emissions, RECLAIM achieved its targeted emission reductions for Compliance Year 2016. With respect to the Rule 2015 backstop provisions, Compliance Year 2016 aggregate NOx and SOx emissions were both well below aggregate allocations and, as such, did not trigger the requirement to review the RECLAIM program.*

#### Background

One of the primary objectives of the annual RECLAIM program audits is to assess whether RECLAIM is achieving its targeted emission reductions. Those targeted emission reductions are embodied in the annual allocations issued to RECLAIM facilities. In particular, the annual allocations reflect required emission reductions initially from the subsumed command-and-control rules and control measures, as well as from subsequent reductions in allocations as a result of BARCT implementation. In January 2005 and December 2015, the Board adopted amendments to Rule 2002 to further reduce aggregate RECLAIM NOx allocations through implementation of the latest BARCT. The 2005 amendments resulted in cumulative NOx allocation reductions of 22.5% (2,811 tons/year, or 7.7 tons/day) from all RECLAIM facilities by Compliance Year 2011, with the biggest single-year reduction of 11.7% in Compliance Year 2007. The 2015 amendments will reduce NOx allocations by 45.2% (4,380 tons/year, or 12.0 tons/day) by Compliance Year 2022. The reductions are phased-in from Compliance Year 2016 through Compliance Year 2022.

The Board also amended Rule 2002 in November 2010 to implement BARCT for SOx. Specifically, the November 2010 amendments called for certain facilities' RECLAIM SOx allocations to be adjusted to achieve a 48% (2,081 tons/year, or 5.7 tons/day) overall reduction, with the reductions phased-in from Compliance Year 2013 through Compliance Year 2019. About 1,460 tons/year, or 4.0 tons/day (approximately 70% of the scheduled reduction), of SOx allocations were reduced by Compliance Year 2014. The next increment of reduction will be in Compliance Year 2017 and the last increment will be in 2019.

#### Emissions Audit Process

Since the inception of the RECLAIM program, SCAQMD staff has conducted annual program audits of the emissions data submitted by RECLAIM facilities to ensure the integrity and reliability of RECLAIM emission data. The process includes reviews of APEP reports submitted by RECLAIM facilities and audits of field records and emission calculations. The audit process is described in further detail in Chapter 5 – Compliance.



SCAQMD staff adjusts the APEP-reported emissions based on audit results, as necessary. Whenever SCAQMD staff finds discrepancies, they discuss the findings with the facility operators and provide the operators an opportunity to review changes resulting from facility audits and to present additional data or information in support of the data stated in their APEP reports.

This rigorous audit process, although resource intensive, reinforces RECLAIM's emissions monitoring and reporting requirements and enhances the validity and reliability of the final emissions data. The audited emissions are used to determine if a facility complied with its allocations. The most recent five compliance years' audited NOx emissions for each facility are posted on SCAQMD's web page after the audits are completed. All emissions data presented in this annual RECLAIM audit report are compiled from audited facility emissions.

## **Emission Trends and Analysis**

RECLAIM achieves its emission reduction goals on an aggregate basis by ensuring that annual emissions are below total RTCs. It is important to understand that the RECLAIM program is successful at achieving these emission reduction goals even when some individual RECLAIM facilities exceed their RTC account balances, provided aggregate RECLAIM emissions do not exceed aggregate RTCs issued. Therefore, aggregate audited NOx or SOx emissions from all RECLAIM sources are the basis for determining whether the programmatic emission reduction goals for that emittant are met each year.

Table 3-1 and Figure 3-1 show aggregate audited NOx emissions for Compliance Years 1994 through 2016. No facility audits for Compliance Years 1994 through 2015 were reopened during the past year so the aggregate audited NOx and SOx emissions for these years are unchanged from the previous annual report. Programmatically, there were excess NOx RTCs remaining after accounting for audited NOx emissions for every compliance year since 1994, except for Compliance Year 2000 when NOx emissions exceeded the total allocations due to the California energy crisis. Unused NOx RTCs in Compliance Year 2016 fell below 20% of the aggregate NOx allocations for the first time since 2004 as aggregate NOx allocations for Compliance Year 2016 were reduced by 708 tons from Compliance Year 2015 levels due to the 2015 BARCT related amendment of Rule 2002. Annual NOx emissions remained within a narrow range (between 7,302 tons and 7,691 tons annually) since Compliance Year 2011. Specifically, Compliance Year 2016 NOx emissions were below total allocations by 19%. The reduction in excess RTCs compared to Compliance Year 2015 is a result of the additional NOx reduction enacted by the Governing Board in December 2015 and a slight increase (1%) in emissions in Compliance Year 2016.



Table 3-1

## Annual NOx Emissions for Compliance Years 1994 through 2016

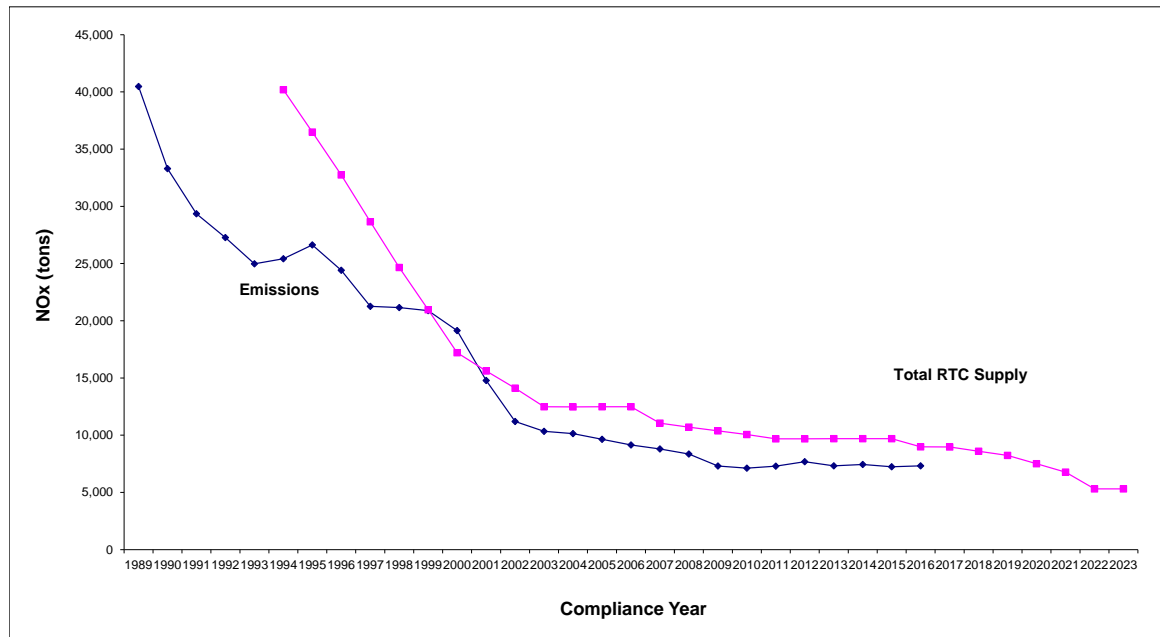
Compliance Year	Audited Annual NOx Emissions <sup>1</sup> (tons)	Audited Annual NOx Emissions Change from 1994 (%)	Total NOx RTCs <sup>2</sup> (tons)	Unused NOx RTCs (tons)	Unused NOx RTCs (%)
1994	25,420	0%	40,187	14,767	37%
1995	26,632	4.8%	36,484	9,852	27%
1996	24,414	-4.0%	32,742	8,328	25%
1997	21,258	-16%	28,657	7,399	26%
1998	21,158	-17%	24,651	3,493	14%
1999	20,889	-18%	20,968	79	0.38%
2000	19,148	-25%	17,208	-1,940	-11%
2001	14,779	-42%	15,617	838	5.4%
2002	11,201	-56%	14,111	2,910	21%
2003	10,342	-59%	12,485	2,143	17%
2004	10,134	-60%	12,477	2,343	19%
2005	9,642	-62%	12,484	2,842	23%
2006	9,152	-64%	12,486	3,334	27%
2007	8,796	-65%	11,046	2,250	20%
2008	8,349	-67%	10,705	2,356	22%
2009	7,306	-71%	10,377	3,071	30%
2010	7,121	-72%	10,053	2,932	29%
2011	7,302	-71%	9,690	2,388	25%
2012	7,691	-70%	9,689	1,998	21%
2013	7,326	-71%	9,699	2,373	24%
2014	7,447	-71%	9,699	2,252	23%
2015	7,246	-71%	9,700	2,454	25%
2016	7,328	-71%	8,992	1,664	19%

<sup>1</sup> The RECLAIM universe is divided into two cycles with compliance schedules staggered by six months. Compliance years for Cycle 1 facilities run from January 1 through December 31 and Cycle 2 compliance years are from July 1 through June 30.

<sup>2</sup> Total RTCs = Allocated RTCs + RTCs from ERC conversion.



**Figure 3-1**  
**NOx Emissions and Available RTCs**



Similar to Table 3-1 and Figure 3-1 for NOx, Table 3-2 presents aggregate annual SOx emissions data for each compliance year based on audited emissions, and Figure 3-2 compares these audited aggregate annual SOx emissions with the aggregate annual SOx RTC supply. As shown in Table 3-2 and Figure 3-2, RECLAIM facilities have not exceeded their SOx allocations on an aggregate basis in any compliance year since program inception. For Compliance Year 2016, SOx emissions were below total allocations by 29%. The unused SOx RTCs from Compliance Year 2008 and on has remained in excess of 20%. The data indicates that RECLAIM met its programmatic SOx emission reduction goals and demonstrated equivalency in SOx emission reductions compared to the subsumed command-and-control rules and control measures. Based on audited emission data, annual SOx emissions decreased by 72 tons (3.4%) in Compliance Year 2016 compared to SOx emissions in Compliance Year 2015.



Table 3-2

## Annual SOx Emissions for Compliance Years 1994 through 2016

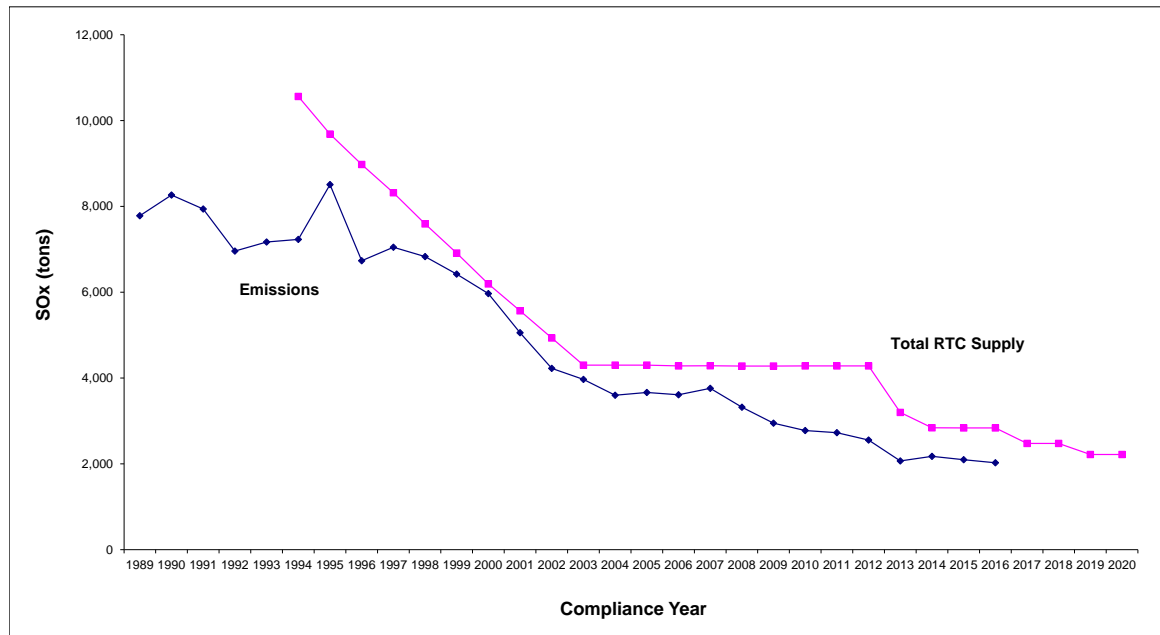
Compliance Year	Audited Annual SOx Emissions <sup>1</sup> (tons)	Audited Annual SOx Emissions Change from 1994 (%)	Total SOx RTCs <sup>2</sup> (tons)	Unused SOx RTCs (tons)	Unused SOx RTCs (%)
1994	7,230	0%	10,559	3,329	32%
1995	8,508	18%	9,685	1,177	12%
1996	6,731	-6.9%	8,976	2,245	25%
1997	7,048	-2.5%	8,317	1,269	15%
1998	6,829	-5.5%	7,592	763	10%
1999	6,420	-11%	6,911	491	7.1%
2000	5,966	-17%	6,194	228	3.7%
2001	5,056	-30%	5,567	511	9.2%
2002	4,223	-42%	4,932	709	14%
2003	3,968	-45%	4,299	331	7.7%
2004	3,597	-50%	4,299	702	16%
2005	3,663	-49%	4,300	637	15%
2006	3,610	-50%	4,282	672	16%
2007	3,759	-48%	4,286	527	12%
2008	3,319	-54%	4,280	961	22%
2009	2,946	-59%	4,280	1,334	31%
2010	2,775	-62%	4,282	1,507	35%
2011	2,727	-62%	4,283	1,556	36%
2012	2,552	-65%	4,283	1,731	40%
2013	2,066	-71%	3,198	1,132	35%
2014	2,176	-70%	2,839	663	23%
2015	2,096	-71%	2,836	740	26%
2016	2,024	-72%	2,836	812	29%

<sup>1</sup> The RECLAIM universe is divided into two cycles with compliance schedules staggered by six months. Compliance years for Cycle 1 facilities run from January 1 through December 31 and Cycle 2 compliance years are from July 1 through June 30.

<sup>2</sup> Total RTCs = Allocated RTCs + RTCs from ERC conversion.



**Figure 3-2**  
**SOx Emissions and Available RTCs**



## Comparison to Command-and-Control Rules

RECLAIM subsumed a number of command-and-control rules<sup>1</sup> and sought to achieve reductions equivalent to these subsumed rules that continue to apply to non-RECLAIM facilities. RECLAIM facilities are exempt from the subsumed rules' requirements that apply to SOx or NOx emissions once the facilities comply with the applicable monitoring requirements of Rules 2011 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SOx) Emissions or 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions, respectively.

Two RECLAIM subsumed rules were amended during Compliance Year 2016. Rule 1302 – Definitions and Rule 1325 – Federal PM<sub>2.5</sub> New Source Review Program were amended on November 4, 2016. Appropriate major stationary source thresholds for direct PM<sub>2.5</sub> and PM<sub>2.5</sub> precursors, including VOC and ammonia, were established in Rule 1325 to align the rule with the recent reclassification of the South Coast Basin from a “moderate” PM<sub>2.5</sub> nonattainment area to a “serious” nonattainment area and with U.S. EPA's Fine Particulate Matter National Ambient Air Quality Standards implementation rule. Amendments to Rule 1302 include modification of major source SOx threshold definitions and editorial revisions to improve rule clarity and consistency.

These amendments to Rules 1302 and 1325, which are administrative in nature, were intended to facilitate SIP approval of the regulations and do not result in any limitations on NOx or SOx sources at non-RECLAIM facilities. Since Rule 2001 only exempts those provisions in identified rules applicable to NOx and SOx

<sup>1</sup> See Tables 1 and 2 of Rule 2001.



emissions at RECLAIM facilities, these amendments do not result in disproportionate impacts between RECLAIM and non-RECLAIM sources.

Other rules amended or adopted during Compliance Year 2016, but not subsumed by RECLAIM include Regulation IX – Standards of Performance for New Stationary Sources (NSPS), Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II, Rule 222 – Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II, and Rule 1147 - NO<sub>x</sub> Reductions from Miscellaneous Sources.

On October 7, 2016, Regulations IX – Standards of Performance for New Stationary Sources (NSPS) was amended to incorporate new or amended federal standards that had been enacted by U.S. EPA for stationary sources. Historically, the Governing Board adopted NSPS (40 CFR 60) and NESHAPS (40 CFR 61) into Regulations IX and X, by reference, to provide stationary sources with a single source of information for determining which federal and local requirements apply to their specific operations. Actions by U.S. EPA, from January 1, 2015 to June 15, 2016 incorporated into Regulation IX, included new performance standards for additional oil and natural gas source categories, new residential hydronic heaters and forced-air furnaces; and electric utility steam generating units and stationary combustion turbines, as well as amendments to existing provisions of five NSPS. Regulation X was not amended as there were no delegable NESHAP actions adopted by the U.S. EPA for the same time period. The amendments to Regulation IX incorporated these U.S. EPA NSPS actions into SCAQMD's regulations.

On May 5, 2017, both Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II and Rule 222 – Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II were amended. The Rule 219 amendment exempts certain categories of equipment from the requirement to obtain a written permit and removes existing exemptions for equipment that the SCAQMD learned may not be able to demonstrate compliance with all SCAQMD rules. It also provided clarification for sources or processes not currently covered under the existing rule. Rule 222 added additional categories to the streamlined filing/registration program. Both amendments further facilitated the streamlining of the District's permitting system.

On June 2, 2017, an amendment to Rule 1147 - NO<sub>x</sub> Reductions from Miscellaneous Sources was presented to the Governing Board. The proposed amendments were discussed and continued to the next Governing Board meeting on July 7, 2017 when the following amendments were adopted. The amendments to Rule 1147:

- Exempt sources with total rated heat input less than 325,000 Btu per hour from the Rule 1147 NO<sub>x</sub> emission limit;
- Exempt units with emissions less than one pound per day from complying with the NO<sub>x</sub> emission limit when an entire facility is relocated;
- Exempt equipment with direct-fired infrared burners from the requirement to conduct an emissions test;
- Delay compliance for existing in-use heated process tanks, evaporators and parts washers from the NO<sub>x</sub> emission limit until such time the combustion system or tank is modified or replaced;



- Delay compliance with the NOx emission limit for existing in-use spray booths until the unit is replaced, becomes 30 years old, or the heating system is modified (affecting the heat input rating) or replaced;
- Delay compliance with the NOx emission limit for existing in-use units with actual NOx emission of one pound per day or less until the combustion system is modified (affecting the heat input rating), replaced, or becomes 30 years old;
- Provide an option for small units with heat input equal to or less than 2 million Btu/hr to demonstrate compliance with an emission limit through a burner manufacturer's warranty; and
- Change the NOx emission limit from 30 ppm to 60 ppm NOx for the primary chamber of all burn-off ovens, burnout furnaces and incinerators.

The amendments also provided options to demonstrate compliance and made other minor changes to improve clarity. Rule 1147(g)(1)(B) explicitly exempted the provisions of this rule for units located at RECLAIM facilities.

As a result, these changes and exemptions are expected to result in less than 0.03 tons/day of NOx emissions reductions forgone associated with the less than 325,000 Btu per hour exemption, and excluding 0.02 tons per day NOx emissions reductions that will begin to be recaptured starting in 2017 when existing units are replaced and upgraded over time. With the efforts of transitioning RECLAIM sources to a command-and-control structure, Rule 1147 has been identified as one of the rule that needs to be amended as a "landing" rule for sources exiting the RECLAIM program. As such, the amended rule and any resulting companion rules will be equally applicable to all sources after a possible interim period. .

In contrast to Rules 1302 and 1325, Regulation IX – Standards of Performance for New Stationary Sources (NSPS), Rule 219, and Rule 222, were not subsumed under RECLAIM and contained no exemptions from their applicability for RECLAIM NOx or SOx sources. Since the requirements of these amended rules apply equally to both RECLAIM and non-RECLAIM facilities, there are no differential impacts in emissions when comparing the applicability of amended rule requirements to NOx and SOx sources under RECLAIM with NOx and SOx sources of non-RECLAIM facilities.

Consequently, amendments to rules during Compliance Year 2016, both subsumed by RECLAIM and rules not subsumed by RECLAIM, did not result in any disparate impacts between NOx and SOx sources at RECLAIM and NOx and SOx sources at non-RECLAIM facilities.

## **Program Amendments**

The Governing Board amended Regulation XX on December 4, 2015 to implement the 2012 AQMP Control Measure CMB-01 and adopted a programmatic 12 ton per day NOx RECLAIM trading credit (RTC) reduction (shave) from Compliance Years 2016 through 2022. The incremental shave schedule is 2 tons per day in 2016, 0 tons per day in 2017, 1 ton per day in 2018, 1 ton per day in 2019, 2 tons per day in 2020, 2 tons per day in 2021, and 4 tons per day in 2022.

The 2012 AQMP Control Measure CMB-01 sought to comply with California Health and Safety Code (H&SC) §40440 in regards to implementation of BARCT



and to bring the Basin into attainment with the federal 24-hour PM<sub>2.5</sub> standard by 2019 and the federal ozone ambient air quality standards by 2023 and 2031.

As part of the same adopted December 4, 2015 Board package, a provision of Rule 2012, allowing the use of certified emissions values for Rule 219 equipment emission reporting, was presented and adopted, even though the staff report had stated in error that this amendment would not be included. Additionally, Rule 2011 and 2012 protocol provisions clarifying the calculation of missing data consistent with current practice and other minor clarifications were presented and adopted. Finally, amendments to Rules 2011 and 2012 to clarify a definition for "Standard Gas Conditions", though included in the October, 2015 Set Hearing package, were inadvertently not included in the December 4, 2015 Board package. Although, these amendments were legally adopted, staff believed the public should be given a clear opportunity to comment on these amendments. As a result, these amendments were re-introduced on February 5, 2016 and the Governing Board adopted the resolution to affirm these amendments to Regulation XX.

The proposed amendments to Regulation XX, presented to the Governing Board on December 4, 2015, included a provision to address retirement of NO<sub>x</sub> RTCs due to a facility shutdown or due to equipment shutdowns that represent 25% or more of a facility's emissions for any quarter within the previous two compliance years. The objective of these shutdown provisions was to prevent NO<sub>x</sub> RTCs held by a shutdown facility from entering the market and potentially delaying the installation of pollution controls at other RECLAIM facilities. The Board did not adopt the proposed shutdown provisions and directed staff to return to the Board, after further analysis and discussion with RECLAIM stakeholders, with a proposal that would allow a closer alignment of shutdown credits in the RECLAIM program to requirements under command and control programs.

Shutdown provisions were proposed to, and adopted by, the Governing Board on October 7, 2016. The adopted shutdown provisions apply to facilities that are listed in Tables 7 and 8 of Rule 2002 and were issued initial NO<sub>x</sub> allocations by the SCAQMD. These facilities held over 90% of the total RTC supply. The shutdown provisions include a BARCT-based RTC discounting methodology for shutdown facilities that is more closely aligned to ERC discounting under command and control. When a subjected facility shuts down, it will be required to surrender the amount of NO<sub>x</sub> RTCs equivalent to the difference between: (a) the average of actual NO<sub>x</sub> emissions for the highest two of the last five years from equipment that is operated at a level greater than BARCT; and (b) the average NO<sub>x</sub> emissions from the same equipment that would have occurred if the equipment was operated at BARCT. The total RTC reduction is limited to the adjusted initial allocation issued to the shutdown facility by SCAQMD. If the calculated RTC reduction exceeds the facility's future year NO<sub>x</sub> RTC holdings (but less than the original allocation issued by SCAQMD), the owner or operator of the shutdown facility is required to purchase and surrender a sufficient quantity of RTCs to fulfill the entire reduction requirement. Generally, this shortage would be a result of previous sales of future RTCs, or deductions of future year RTCs due to exceedances. The amendments also incorporated exclusions from the surrendering of RTCs provisions for facilities under the same ownership as of September 22, 2015 who have submitted a written declaration by November 7, 2016 identifying the facilities under the same ownership. Four facilities submitted



written documentation declaring same ownership. Facilities under the declared same ownership will be allowed to use RTCs held by the shutdown facility under certain conditions. In addition, a provision was included to allow for planned non-operation for up to five years for facilities that met specific criteria.

On April 14, 2016, the U.S. Environmental Protection Agency (U.S. EPA) disapproved the Reasonably Available Control Measures (RACM)/Reasonably Available Control Technology (RACT) demonstration for the 2006 24-hour PM<sub>2.5</sub> standard (81 FR 22025). On November 3, 2016, U.S. EPA proposed to partially approve and partially disapprove (81 FR 76547) the 2016 AQMP RACT SIP based on the finding that the 2010 RECLAIM program does not meet RACT. In response to these disapprovals, a supplemental (RACM)/(RACT) analysis was prepared by SCAQMD to demonstrate that the NO<sub>x</sub> allocations in the RECLAIM program are at least equivalent, in the aggregate, to emission levels that would result from direct application of RACT on affected sources in South Coast and Coachella Valley. In September 2017, EPA issued a final rule determining that the revised RECLAIM rules – as amended in December 2015 and October 2016 – satisfy the Clean Air Act Requirements for ozone RACT SIPs in the South Coast ozone nonattainment areas (82 FR 43176). On February 12, 2018, EPA issued a final rule determining that the SCAQMD had corrected the SIP deficiency for PM<sub>2.5</sub> RACM/RACT (83 FR 5923).

On March 3, 2017, the Governing Board adopted a resolution during the adoption of the 2016 AQMP that directed staff to modify Control Measure CMB-05 – Further NO<sub>x</sub> Reductions from RECLAIM Assessment to achieve an additional five tons per day NO<sub>x</sub> emission reductions as soon as feasible but no later than 2025, and require Best Available Retrofit Control Technology (BARCT) level controls as soon as practicable. Additionally, California State Assembly Bill (AB) 617 was approved in July 2017, requiring an expedited schedule for implementing BARCT at RECLAIM facilities no later than December 31, 2023.

To further this effort, staff held monthly working group meetings to discuss the transition of facilities in the RECLAIM program to a command-and-control regulatory structure and to discuss key policy issues. RECLAIM working group meetings for Proposed Amended Rules 2001 and 2002 were held on June 8, July 13, September 14, October 12, November 8, and December 14, 2017. In addition, staff has also met individually with numerous facility operators and industry groups regarding the transition. A public consultation meeting was held on November 8, 2017, with the comment period closing on November 22, 2017.

As a result, on January 5, 2018, the Governing Board amended Rule 2001 – Applicability and 2002 – Allocations for Oxides of Nitrogen (NO<sub>x</sub>) and Oxides of Sulfur (SO<sub>x</sub>) to initiate the transition of the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM program to a command-and-control regulatory structure. Amended Rule 2001 precluded new or existing facilities from entering the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs as of January 5, 2018. Amended Rule 2002 contained notification procedures for facilities that will be transitioned out of RECLAIM and addressed the RTC holding for these facilities that will be transitioned out or that elect to exit RECLAIM. Under amended Rule 2002, the Executive Officer will provide an initial determination notification to a RECLAIM facility for potential exit to a command-and-control regulatory structure with requirements for the facility to identify all NO<sub>x</sub>-emitting equipment. The RECLAIM facility then has 45 days from the date of the notification to identify all NO<sub>x</sub>-emitting equipment. Failure to provide this



information to AQMD will result in a freeze on RTC uses, trades, or transfers until the requested information is submitted. If the RECLAIM facility is deemed ready for transition after Executive Officer review, it will receive a final determination notification that will require its exit from RECLAIM and will become subject to command-and-control regulations. If the RECLAIM facility is deemed as not ready for the transition, it will be notified that it will remain in NOx RECLAIM until a later time. Upon exiting RECLAIM, the facility's future compliance year RTCs cannot be sold or transferred and only RTCs in that current compliance year can be used.

Staff has identified an initial group of 38 facilities that can potentially exit the NOx RECLAIM program because they have no facility NOx emissions, or have NOx emissions solely from the combination of equipment exempt from obtaining a written permit pursuant to Rule 219 (unless the equipment would be subject to a command-and-control rule that it cannot reasonably comply with), various locations permits, or unpermitted equipment and/or RECLAIM equipment that meet current command-and-control BARCT rules.

Monthly working group meetings are being continued to further discuss steps for transitioning the remaining RECLAIM facilities to a command-and-control structure and to develop necessary rule amendments to implement BARCT for the exiting RECLAIM facilities. Because the RECLAIM universe includes many different industries, separate working groups are being formed to address and develop these different BARCT "landing" rules. As part of the planning effort, staff has tentatively targeted the first quarter in 2019 to complete the transition. However, discussions on individual rules may alter this tentative schedule.

## Breakdowns

Pursuant to Rule 2004(i) – Breakdown Provisions, a facility may request that emission increases due to a breakdown not be counted towards the facility's allocations. In order to qualify for such exclusion, the facility must demonstrate that the excess emissions were the result of a fire or a mechanical or electrical failure caused by circumstances beyond the facility's reasonable control. The facility must also take steps to minimize emissions resulting from the breakdown, and mitigate the excess emissions to the maximum extent feasible. Applications for exclusion of unmitigated breakdown emissions from a facility's total reported annual RECLAIM emissions must be approved or denied by SCAQMD in writing. In addition, facilities are required to quantify unmitigated breakdown emissions for which an exclusion request has been approved in their APEP report.

As part of the annual program audit report, Rule 2015(d)(3) requires SCAQMD staff to determine whether excess emissions approved to be excluded from RTC reconciliation have been programmatically offset by unused RTCs within the RECLAIM program. If the breakdown emissions exceed the total unused RTCs within the program, any excess breakdown emissions must be offset by either: (1) deducting the amount of emissions not programmatically offset from the RTC holdings for the subsequent compliance year from facilities that had unmitigated breakdown emissions, proportional to each facility's contribution to the total amount of unmitigated breakdown emissions; and/or (2) RTCs obtained by the Executive Officer for the compliance year following the completion of the annual program audit report in an amount sufficient to offset the unmitigated breakdown emissions.



As shown in Table 3-3, a review of APEP reports for Compliance Year 2016 found that no facilities requested to exclude breakdown emissions from being counted against their allocations. Thus, for Compliance Year 2016, no additional RTCs are required to offset breakdown emissions pursuant to Rule 2015(d)(3).

**Table 3-3**  
**Breakdown Emission Comparison for Compliance Year 2016**

Emittant	Compliance Year 2016 Unused RTCs (tons)	Unmitigated Breakdown Emissions <sup>1</sup> (tons)	Remaining Compliance Year 2016 RTCs (tons)
NOx	1,664	0	1,664
SOx	812	0	812

<sup>1</sup> Data for unmitigated breakdown emissions (not counted against Allocation) as reported under APEP reports.

## Impact of Changing Universe

As discussed in Chapter 1, two facilities were included into and one facility was excluded from the NOx universe, no facilities were included or excluded from the SOx universe, and eight facilities (seven NOx only facilities and one NOx and SOx facility) shut down in Compliance Year 2016. Changes to the universe of RECLAIM facilities have the potential to impact emissions and the supply and demand of RTCs, and therefore, may impact RECLAIM emission reduction goals.

Existing facilities (defined by Rule 2000 as those with valid SCAQMD Permits to Operate issued prior to October 15, 1993 and that continued to be in operation or possess valid SCAQMD permits on October 15, 1993) that are not categorically excluded pursuant to Rule 200(i)(1) may choose to enter the program even though they do not meet the inclusion criteria. Existing facilities that are neither categorically excluded nor exempt pursuant to Rule 2001(i)(2) may also be included by SCAQMD if their facility-wide emissions increase to four tons or more per year of NOx or SOx or both. When one of these existing facilities enters the program, they are issued RTC allocations based on their operational history pursuant to the methodology prescribed in Rule 2002. Inclusions of existing facilities may affect demand more than supply because even though these facilities are issued RTCs based on their operational history, the amount may not be sufficient to offset their current or future operations. Overall, inclusions shift the accounting of emissions from the universe of non-RECLAIM sources to the universe of RECLAIM sources without actually changing the overall emissions inventory within the South Coast Air Basin. Finally, inclusions change the rules and requirements that apply to the affected facilities. In Compliance Year 2016, no existing facility elected to opt into the RECLAIM universe. However, one was included into the RECLAIM universe based on the Rule 2001 threshold of actual NOx and/or SOx emissions greater than or equal to four tons per year. The other facility that was included was created through the partial change of operator of an already existing RECLAIM facility.



Facilities that received all SCAQMD Permits to Operate on or after October 15, 1993 are defined by Rule 2000 as new facilities. Except as described above for categorically excluded and exempt facilities, new facilities can choose to enter RECLAIM or can be included due to actual NOx or SOx emissions in excess of four tons or more per year. New facilities are not issued RTCs based on operational history, but any external offsets provided by the facility are converted to RTCs. For Compliance Year 2016, no new facilities elected to opt into the RECLAIM universe or was included into the RECLAIM universe pursuant to the Rule 2001 threshold. When a new facility joins the RECLAIM universe, it is required to obtain sufficient RTCs to offset its NOx or SOx emissions. These RTCs must be obtained through the trading market and are not issued by SCAQMD to the facility (any external offsets previously provided by the facility are converted to RTCs). Such facilities increase the overall demand for the fixed supply of RTCs because they increase total RECLAIM emissions without increasing the total supply of RTCs.

The shutdown of a RECLAIM facility results in a reduction in actual emissions. Prior to the October 7, 2016 amendment of Rule 2002, shutdown facilities could retain its RTC holdings as an investment, transfer to another facility under common ownership, or trade on the market. Therefore, although the facility was no longer emitting, its RTCs could be used at another facility. Shutdown facilities had the opposite effect on the RTC market as did new facilities: the overall demand for RTCs was reduced while the supply remained constant. As reported in Chapter 1, eight RECLAIM facilities (seven NOx-only facilities and one NOx/ and SOx facility) shut down permanently in Compliance Year 2016.

A facility is excluded from the RECLAIM universe if SCAQMD staff determines that the facility was included in the program in error. In such cases, both the emissions and the RTCs that were issued to the facility for future years are withdrawn, thereby having a neutral impact on the RTC supply. Exclusions have the reverse effect of inclusions, in that the accounting of emissions is shifted from the RECLAIM universe of sources to the non-RECLAIM universe of sources.

Compliance Year 2016 NOx and SOx audited emissions and initial Compliance Year 2016 allocations for facilities that were shut down, excluded, or included into the program during Compliance Year 2016 are summarized in Tables 3-4 and 3-5.



**Table 3-4**  
**NOx Emissions Impact from the Changes in Universe (Tons)**

<b>Category</b>	<b>Compliance Year 2016 NOx Emissions (tons)</b>	<b>Initial Compliance Year 2016 NOx Allocations (tons)</b>
Shutdown Facilities	2.88	17.87
Excluded Facilities	0.0	0.0
Included Facilities	4.04	1.14
RECLAIM Universe	7,328	8,992

**Table 3-5**  
**SOx Emissions Impact from the Changes in Universe (Tons)**

<b>Category</b>	<b>Compliance Year 2016 SOx Emissions (tons)</b>	<b>Initial Compliance Year 2016 SOx Allocations (tons)</b>
Shutdown Facilities	0.0	.98
Excluded Facilities	Not applicable	Not applicable
Included Facilities	Not applicable	Not applicable
RECLAIM Universe	2,024	2,836

## **Backstop Provisions**

Rule 2015 requires that SCAQMD review the RECLAIM program and implement necessary measures to amend it whenever aggregate emissions exceed the aggregate allocations by five percent or more. Compliance Year 2016 aggregate NOx and SOx emissions were both below aggregate allocations as shown in Figures 3-1 and 3-2. Therefore, there is no need to initiate a program review due to emissions exceeding aggregate allocation in Compliance Year 2016.



## CHAPTER 4

### NEW SOURCE REVIEW ACTIVITY

---

#### Summary

*The annual program audit assesses New Source Review (NSR) activity from RECLAIM facilities in order to ensure that RECLAIM is complying with federal NSR requirements and state no net increase (NNI) in emissions requirements while providing flexibility to facilities in managing their operations and allowing new sources into the program. In Compliance Year 2016, a total of seven NO<sub>x</sub> RECLAIM facilities had NSR NO<sub>x</sub> emission increases, and no SO<sub>x</sub> RECLAIM facilities had an NSR SO<sub>x</sub> emission increase due to expansion or modification. Consistent with all prior compliance years, there were sufficient NO<sub>x</sub> and SO<sub>x</sub> RTCs available to allow for expansion, modification, and modernization by RECLAIM facilities.*

*RECLAIM is required to comply with federal NSR emissions offset requirements at a 1.2-to-1 offset ratio programmatically for NO<sub>x</sub> emission increases and a 1-to-1 offset ratio for SO<sub>x</sub> emission increases on a programmatic basis. In Compliance Year 2016, RECLAIM demonstrated federal equivalency with a programmatic NO<sub>x</sub> offset ratio of 60-to-1 based on the compliance year's total unused allocations and total NSR emission increases for NO<sub>x</sub>. There were no SO<sub>x</sub> emission increases during the compliance year. RECLAIM inherently complies with the federally-required 1-to-1 SO<sub>x</sub> offset ratio for any compliance year, provided aggregate SO<sub>x</sub> emissions under RECLAIM are lower than or equal to aggregate SO<sub>x</sub> allocations for that compliance year. As shown in Chapter 3, there was no programmatic SO<sub>x</sub> exceedance during Compliance Year 2016. In fact, there was a surplus of SO<sub>x</sub> RTCs. Therefore, RECLAIM more than complied with the federally-required SO<sub>x</sub> offset ratio and further quantification of the SO<sub>x</sub> offset ratio is unnecessary. Compliance with the federally-required offset ratio also demonstrates compliance with any applicable state NNI requirements for new or modified sources. In addition, RECLAIM requires application of, at a minimum, California Best Available Control Technology (BACT), which is at least as stringent as federal Lowest Achievable Emission Rate (LAER). The same BACT guidelines are used to determine applicable BACT to RECLAIM and non-RECLAIM facilities.*

#### Background

Emissions increases from the construction of new or modified stationary sources in non-attainment areas are regulated by both federal NSR and state NNI requirements to ensure that progress toward attainment of ambient air quality standards is not hampered. RECLAIM is designed to comply with federal NSR



and state NNI requirements without hindering facilities' ability to expand or modify their operations<sup>1</sup>.

Title 42, United States Code §7511a, paragraph (e), requires major sources in extreme non-attainment areas to offset emission increases of extreme non-attainment pollutants and their precursors at a 1.5-to-1 ratio based on potential to emit. However, if all major sources in the extreme non-attainment area are required to implement federal BACT, a 1.2-to-1 offset ratio may be used. Federal BACT is comparable to California's BARCT. SCAQMD requires all major sources to employ federal BACT/California BARCT at a minimum and, therefore, is eligible for a 1.2-to-1 offset ratio for ozone precursors (*i.e.*, NO<sub>x</sub> and VOC). The federal offset requirement for major SO<sub>2</sub> sources is at least a 1-to-1 ratio, which is lower than the aforementioned 1.2-to-1 ratio. Even though the Basin is in attainment with SO<sub>2</sub> standards, SO<sub>x</sub> is a precursor to PM<sub>2.5</sub>. The Basin is in Serious Non-attainment with 2006 Federal 24-hours standard and 2012 Federal annual standard for PM<sub>2.5</sub>. The applicable offset ratio for PM<sub>2.5</sub> is at least 1-to-1, thus, the applicable offset ratio for SO<sub>x</sub> is 1-to-1. Health and Safety Code §40920.5 requires "no net increase in emissions from new or modified stationary sources of non-attainment pollutants or their precursors" (*i.e.*, a 1-to-1 offset ratio on an actual emissions basis). All actual RECLAIM emissions are offset at a 1-to-1 ratio provided there is not a programmatic exceedance of aggregate allocations, thus satisfying the federal offset ratio for SO<sub>x</sub> and state NNI requirements for both SO<sub>x</sub> and NO<sub>x</sub>. Annual RTC allocations follow a programmatic reduction to reflect changes in federal BACT/California BARCT and thereby comply with federal and state offset requirements.

RECLAIM requires, at a minimum, California BACT for all new or modified sources with increases in hourly potential to emit of RECLAIM pollutants. SCAQMD uses the same BACT guidelines in applying BACT to RECLAIM and non-RECLAIM facilities. Furthermore, BACT for major sources is at least as stringent as LAER (LAER is not applicable to minor facilities as defined in Rule 1302(t)). Thus, RECLAIM complies with both state and federal requirements regarding control technologies for new or modified sources. In addition to offset and BACT requirements, RECLAIM subjects RTC trades that are conducted to mitigate emissions increases over the sum of the facility's starting allocation and non-tradable/non-usable credits to trading zone restrictions to ensure net ambient air quality improvement within the sensitive zone established by Health and Safety Code §40410.5. Furthermore, facilities with actual RECLAIM emissions that exceed their initial allocation by 40 tons per year or more are required to analyze the potential impact of their emissions increases through air quality modeling.

Rule 2005 – New Source Review for RECLAIM requires RECLAIM facilities to provide (hold), prior to the start of operation, sufficient RTCs to offset the annual increase in potential emissions for the first year of operation at a 1-to-1 ratio.

---

<sup>1</sup> Federal NSR applies to federal major sources (sources with the potential to emit at least 10 tons of NO<sub>x</sub> or 100 tons of SO<sub>x</sub> per year for the South Coast Air Basin) and state NNI requirements apply to all NO<sub>x</sub> sources and to SO<sub>x</sub> sources with the potential to emit at least 15 tons per year in the South Coast Air Basin. RECLAIM's NSR provisions apply to all facilities in the program, including those not subject to federal NSR or state NNI. (Although the threshold for RECLAIM inclusions is four tons per year of NO<sub>x</sub> or SO<sub>x</sub> emissions, some RECLAIM facilities have actual emissions much less than 4 tons per year).



The same rule also requires all new RECLAIM facilities<sup>2</sup> and all other RECLAIM facilities that increase their annual allocations above the level of their starting allocations plus non-tradable/non-usable credits to provide sufficient RTCs to offset the annual potential emissions increase from new or modified source(s) at a 1-to-1 ratio at the commencement of each compliance year after the start of operation of the new or modified source(s). Although RECLAIM allows a 1-to-1 offset ratio for emissions increases, RECLAIM complies with the federal 1.2-to-1 offset requirement for NO<sub>x</sub> on an aggregate basis. This annual program audit report assesses NSR permitting activities for Compliance Year 2016 to verify that programmatic compliance of RECLAIM with federal and state NSR requirements has been maintained.

## **NSR Activity**

Evaluation of NSR data for Compliance Year 2016 shows that RECLAIM facilities were able to expand and modify their operations while complying with NSR requirements. During Compliance Year 2016, a total of seven NO<sub>x</sub> RECLAIM facilities (two in Cycle 1 and five in Cycle 2) were issued permits to operate, which resulted in a total of 28.11 tons per year of NO<sub>x</sub> emission increases from starting operations of new or modified sources. There were no SO<sub>x</sub> NSR emission increases that resulted from starting operations of new or modified permitted sources. These emission increases were calculated pursuant to Rule 2005(d) – Emission Increase. As in previous years, there were adequate unused RTCs (NO<sub>x</sub>: 1,664 tons, SO<sub>x</sub>: 812 tons; see Chapter 3) in the RECLAIM universe available for use to offset emission increases at the appropriate offset ratios.

## **NSR Compliance Demonstration**

RECLAIM is designed to programmaticly comply with the federal NSR offset requirements. Meeting the NSR requirement (offset ratio of 1.2-to-1 for NO<sub>x</sub> and at least 1-to-1 for SO<sub>x</sub>) also demonstrates compliance with the state NNI requirements. Section 173 (c) of the federal Clean Air Act (CAA) states that only emissions reductions beyond the requirements of the CAA, such as federal Reasonably Available Control Technology (RACT), shall be considered creditable as emissions reductions for offset purposes. Since the initial allocations (total RTC supply in Compliance Year 1994) already met federal RACT requirements when the program was initially implemented, any emissions reductions beyond the initial allocations are available for NSR offset purposes until RACT becomes more stringent. The programmatic offset ratio calculations presented in the Annual RECLAIM Audit Reports for Compliance Years 1994 through 2004 relied upon aggregate Compliance Year 1994 allocations as representing RACT. However, staff recognizes that RACT may have become more stringent in the intervening years, so it may no longer be appropriate to calculate the programmatic offset ratio based upon aggregate 1994 allocations.

Aggregate allocations for each compliance year represent federal BACT, which is equivalent to local BARCT. Federal BACT is more stringent than federal RACT (*i.e.*, the best available control technology is more stringent than what is reasonably available), so staff started using current allocations (federal BACT) as a surrogate for RACT as the basis for calculating programmatic NO<sub>x</sub> and SO<sub>x</sub>

---

<sup>2</sup> New facilities are facilities that received all District Permits to Construct on or after October 15, 1993.



offset ratios in the annual program audit report for Compliance Year 2005 and is continuing to do so for NO<sub>x</sub> in this report. This is a more conservative (*i.e.*, more stringent) approach than using actual RACT and is much more conservative than using aggregate Compliance Year 1994 allocations. The advantage of this approach is that, as long as the calculated NO<sub>x</sub> offset ratio is at least 1.2-to-1, it provides certainty that RECLAIM has complied with federal and state offset requirements without the need to know exactly what RACT is for RECLAIM facilities. However, if this very conservative approach should ever fail to demonstrate that the aggregate NO<sub>x</sub> offset ratio for any year is at least 1.2-to-1, that will not necessarily mean RECLAIM has not actually complied with the federally required 1.2-to-1 NO<sub>x</sub> offset ratio. Rather it will indicate that further analysis is required to accurately identify RACT so that the actual offset ratio can be calculated and a compliance determination made.

Provided aggregate RECLAIM emissions do not exceed aggregate allocations, all RECLAIM emissions are offset at a ratio of 1-to-1. This leaves all unused allocations available to provide offsets beyond the 1-to-1 ratio for NSR emission increases. Unused allocations are based on all Cycle 1 and Cycle 2 RTCs of a given compliance year and the aggregate RECLAIM emissions for the selected time period. The NSR emission increase is the sum of emission increases due to permit activities at all RECLAIM facilities during the same compliance year. The aggregate RECLAIM offset ratios are expressed by the following formula:

$$\text{Offset Ratio} = (1 + \frac{\text{compliance year's total unused allocations}}{\text{total NSR emission increases}}) \text{-to-1}$$

As stated in the previous section under the title of "NSR Activity", permits to operate issued to seven RECLAIM facilities resulted in 28.11 tons of NO<sub>x</sub> emission increase pursuant to Rule 2005(d). Additionally, as identified in Table 3-2 (Annual NO<sub>x</sub> Emissions for Compliance Years 1994 through 2016), 1,664 tons of Compliance Year 2016 NO<sub>x</sub> RTCs remained unused. Therefore, the Compliance Year 2016 NO<sub>x</sub> programmatic offset ratio calculated from this methodology is 60-to-1 as shown below:

$$\text{NO}_x \text{ Offset Ratio} = (1 + \frac{1,664 \text{ tons}}{28.11 \text{ tons}}) \text{-to-1}$$

60-to-1

RECLAIM continues to generate sufficient excess emission reductions to provide a NO<sub>x</sub> offset ratio greater than the 1.2-to-1 required by federal law. This compliance with the federal offset requirements is built into the RECLAIM program through annual reductions of the allocations assigned to RECLAIM facilities and the subsequent allocation adjustments adopted by the Governing Board to implement BARCT. The required offset ratio for SO<sub>x</sub> is 1-to-1. Since RECLAIM facilities are required to secure, at a minimum, adequate RTCs to cover their actual emissions, the SO<sub>x</sub> 1-to-1 offset ratio is met automatically



provided there is no programmatic exceedance of aggregate SOx allocations for that compliance year. As stated earlier in Chapter 3, there were 812 tons of excess (unused) SOx RTCs for Compliance Year 2016. Since there were no SOx emission increases during the compliance year, there is certainty that both the federally required SOx offset ratio and the California NNI requirement for SOx were satisfied.

BACT and modeling are also required for any RECLAIM facility that installs new equipment or modifies sources if the installation or modification results in an increase in emissions of RECLAIM pollutants. Furthermore, the RTC trading zone restrictions in Rule 2005 – New Source Review for RECLAIM, limit trades conducted to offset emission increases over the sum of the facility's starting allocation and non-tradable/non-usable credits to ensure net ambient air quality improvement within the sensitive zone, as required by state law.

The result of the review of NSR activity in Compliance Year 2016 shows that RECLAIM is in compliance with both state NNI and federal NSR requirements. SCAQMD staff will continue to monitor NSR activity under RECLAIM in order to assure continued progress toward attainment of ambient air quality standards without hampering economic growth in the Basin.

## Modeling Requirements

Rule 2004, as amended in May 2001, requires RECLAIM facilities with actual NOx or SOx emissions exceeding their initial allocation in Compliance Year 1994 by 40 tons per year or more to conduct modeling to analyze the potential impact of the increased emissions. The modeling analysis is required to be submitted within 90 days of the end of the compliance year. For Compliance Year 2016, three RECLAIM facilities were subject to the 40 ton modeling requirement; two facilities for NOx emissions, and one for SOx emissions.

This modeling is performed with an EPA approved air dispersion model to assess the impact of a facilities NOx or SOx emission increase on compliance with all applicable state and federal ambient air quality standards (AAQS). Air dispersion modeling submitted by each facility is reviewed by staff and revised as necessary to comply with SCAQMD's air dispersion modeling procedures including use of appropriate meteorological data for the facility location. Per Rule 2004 (q)(3), the modeling submitted by a facility must include source parameters and emissions for every major source located at the facility. For comparison against applicable state and federal AAQS, the predicted modeling impacts due to a facilities NOx or SOx emission increases are added to the highest background NOx or SOx concentration measured at the nearest ambient air monitoring station during the previous three years. Modeling runs are performed with worst-case emissions data for averaging periods that coincide with the averaging period of each applicable AAQS (e.g., 1-hr, 24-hr, annual).

The SOx facility, which had an initial SOx allocation in 1994 and exceed this initial allocation by more than 40 tons in Compliance Year 2016, submitted modeling that demonstrated that SOx emissions from their major sources during 2016 will not cause an exceedance of any state or federal SO<sub>2</sub> AAQS. One of the NOx facilities had an initial NOx allocation in 1994 and exceeded this initial allocation by more than 40 tons in Compliance Year 2016. This facility submitted modeling that demonstrated that NOx emissions from their major sources during



2016 will not cause an exceedance of any state or federal NO<sub>2</sub> AAQS. The other NO<sub>x</sub> facility, which had no initial allocation in Compliance Year 1994 and whose NO<sub>x</sub> emissions were above the 40 ton per year threshold, modeled NO<sub>x</sub> emissions at a much higher emission level prior to its initial commissioning. This initial modeling determined that the annual NO<sub>x</sub> emission increase would not cause an exceedance of state or federal NO<sub>2</sub> AAQS. Since the initial modeling was conducted at a much higher emission level than what the facility emitted in 2016, no additional modeling analysis is required (*i.e.*, the fact that modeling conducted during the permitting process demonstrated that emissions at the potential to emit level would not cause an exceedance of the state or federal AAQS for NO<sub>2</sub> provides certainty that the much lower actual emissions level would not cause such an exceedance).



## CHAPTER 5

### COMPLIANCE

---

#### Summary

*Of the 284 NOx RECLAIM facilities audited during Compliance Year 2016, a total of 271 facilities (95%) complied with their NOx allocations, and 32 of the 33 SOx facilities (97%) complied with their SOx allocations. Thirteen facilities exceeded their allocations (12 facilities exceeded their NOx allocations, and one facility exceeded its NOx and SOx allocations) during Compliance Year 2016. The 13 facilities that exceeded their NOx allocations had aggregate NOx emissions of 278.6 tons and did not have adequate allocations to offset 8.3 tons (or 3.0%) of their combined emissions. The facility that exceeded its SOx allocation had total SOx emissions of 0.15 tons and did not have adequate allocations to offset 0.10 tons (or 66.7%). The NOx and SOx exceedance amounts are relatively small compared to the overall NOx and SOx allocations for Compliance Year 2016 (0.09% of total NOx allocations and less than 0.01% of total SOx allocations). The exceedances from these facilities did not impact the overall RECLAIM emission reduction goals. Pursuant to Rule 2010(b)(1)(A), these facilities had their respective exceedances deducted from their annual allocations for the compliance year subsequent to the date of SCAQMD's determination that the facilities exceeded their Compliance Year 2016 allocations. The overall RECLAIM NOx and SOx emission reduction targets and goals were met for Compliance Year 2016 (i.e., aggregate emissions for all RECLAIM facilities were well below aggregate allocations).*

#### Background

RECLAIM facilities have the flexibility to choose among compliance options to meet their annual allocations by reducing emissions, trading RTCs, or a combination of both. However, this flexibility must be supported by standardized emission MRR requirements to ensure the reported emissions are real, quantifiable, and enforceable. As a result, detailed MRR protocols are specified in the RECLAIM regulation to provide accurate and verifiable emission reports.

The MRR requirements were designed to provide accurate and up-to-date emission reports. Once facilities install and complete certification of the required monitoring and reporting equipment, they are relieved from command-and-control rule limits and requirements subsumed under Rule 2001. Mass emissions from RECLAIM facilities are then determined directly by monitoring and reporting equipment for some sources and from data generated by monitoring equipment for others. If monitoring equipment fails to produce quality-assured data or the facility fails to file timely emissions reports, RECLAIM rules require emissions be determined by a rule-prescribed methodology known as Missing Data Procedures or "MDP." Depending on past performance of the monitoring equipment (i.e., availability of quality-assured data) and the duration of the missing data period, MDP use a tiered approach to calculate emissions. As availability of quality-assured data increases, the MDP-calculated emissions become more representative of the actual emissions, but when the availability of



quality-assured data is low, MDP calculations become more conservative and approach, to some extent, “worst case” assessments.

## **Allocation Compliance**

### **Requirements**

At the beginning of the RECLAIM program in 1994 or at the time a facility is included in the RECLAIM program, each RECLAIM facility is issued an annual allocation for each compliance year pursuant to methodology prescribed in Rule 2002. For a facility in existence prior to October 1993, it is issued allocations by SCAQMD based on its historical production rate. A facility without an operating history prior to 1994 receives no allocation and must purchase enough RTCs to cover the emissions for their operations, except facilities that have provided ERCs to offset emission increases prior to entering RECLAIM are issued RTCs generated by converting the surrendered ERCs to RTCs. Additionally, all facilities entering RECLAIM holding any ERCs generated at and held by the individual facility itself have those ERCs converted to RTCs and added to their allocated RTCs. Knowing their emission goals, RECLAIM facilities have the flexibility to manage their emissions in order to meet their allocations in the most cost-effective manner. Facilities may employ emission control technology or process changes to reduce emissions, buy RTCs, or sell unneeded RTCs.

Facilities may buy RTCs or sell excess RTCs at any time during the year in order to ensure that their emissions are covered. There is a thirty day reconciliation period commencing at the end of each of the first three quarters of each compliance year. In addition, after the end of each compliance year, there is a 60-day reconciliation period (instead of 30 days as at the end of the first three quarters) during which facilities have a final opportunity to buy or sell RTCs for that compliance year. These reconciliation periods are provided for facilities to review and correct their emission reports as well as securing adequate allocations. Each RECLAIM facility must hold sufficient RTCs in its allocation account to cover (or reconcile with) its quarterly as well as year-to-date emissions for the compliance year at the end of each reconciliation period. By the end of each quarterly and annual reconciliation period, each facility is required to certify the emissions for the preceding quarter and/or compliance year by submitting its Quarterly Certification of Emissions Reports (QCERs) and/or APEP report, respectively.

### **Compliance Audit**

Since the beginning of the program, SCAQMD staff has conducted annual audits of each RECLAIM facility's emission reports to ensure their integrity and reliability. The audit process includes conducting field inspections to check process equipment, monitoring devices, and operational records. Additionally, emissions calculations are performed in order to verify emissions reported electronically to SCAQMD or submitted in QCERs and APEP reports. For Compliance Year 2016, these inspections revealed that some facilities did not obtain or record valid monitoring data, were unable to substantiate reported emissions with valid records, failed to submit emission reports when due, made errors in quantifying their emissions (e.g., arithmetic errors), used incorrect emission and adjustment factors (e.g., bias adjustment factors), failed to correct fuel usage to standard conditions, used emission calculation methodologies not



allowed under the rules, or used MDP inappropriately. Appropriate compliance actions are also taken based on audit findings.

Whenever an audit revealed a facility's emissions to be in excess of its annual allocation, the facility was provided an opportunity to review the audit and to present additional data to further refine audit results. This extensive and rigorous audit process ensures valid and reliable emissions data.

### **Compliance Status**

During this compliance year, a total of 13 RECLAIM facilities failed to reconcile their emissions (12 NOx-only facilities and one NOx-and-SOx facility that exceeded both its NOx and SOx allocations). Ten of the 13 facilities with reported NOx exceedances failed to secure sufficient RTCs during either the quarterly or annual reconciliation periods to cover their reported emissions. The other two facilities had audited NOx exceedances solely because they under-reported their emissions and didn't hold sufficient RTCs to reconcile their audited emissions. The remaining facility failed to report NOx emissions for any of the four quarters during Compliance Year 2016. As a result, the facility was issued notices of violation (NOV) for failure to submit required emission reports and for exceeding its allocations as it held no RTCs.

Four of the 10 facilities with reported NOx emission exceedances, and the facility with a reported SOx emission exceedance, had additional exceedances because they under-reported their emissions and didn't hold sufficient RTCs to reconcile their audited emissions. Reasons for under-reported NOx emissions include one or more of the following:

- mathematical errors,
- failure to properly correct measured fuel flow to standard conditions defined as one atmosphere of pressure and a temperature of 60°F or 68°F provided that the same temperature is used throughout the facility,
- failure to use correct mass conversion factor when fuel flow is corrected to 60°F for process units and large sources with concentration limits,
- failure to use fuel flow commensurate with maximum rated equipment capacity when using timer-based fuel flow determination, and
- failure to apply missing data procedures during periods of invalid fuel flow measurement(s).

Overall, the Compliance Year 2016 allocation compliance rates for facilities are 95% (271 out of 284 facilities) for NOx RECLAIM and 97% (32 out of 33 facilities) for SOx RECLAIM. For purposes of comparison, the allocation compliance rates for Compliance Year 2015 were 94% and 97% for NOx and SOx RECLAIM facilities, respectively. In Compliance Year 2016, the 13 facilities that had NOx emissions in excess of their individual NOx allocations had 278.6 tons of NOx emissions and did not have adequate RTCs to cover 8.3 of those tons (or 3.0%). The SOx facility that exceeded its SOx allocation and had total SOx emissions of 0.15 tons did not have adequate allocations to offset 0.10 tons (or 66.7%). The NOx and SOx exceedance amounts are relatively small compared to the overall allocations for Compliance Year 2016 (0.09% of aggregate NOx allocations and less than 0.01% of aggregate SOx allocations). Pursuant to Rule 2010(b)(1)(A), all 13 facilities had their respective NOx or SOx Allocation exceedances



deducted from their annual emissions allocations for the compliance year subsequent to SCAQMD's determination that the facilities exceeded their Compliance Year 2016 allocations.

### **Impact of Missing Data Procedures**

MDP was designed to provide a method for determining emissions when an emission monitoring system does not yield valid emissions. For major sources, these occurrences may be caused by failure of the monitoring systems, the data acquisition and handling systems, or by lapses in the Continuous Emissions Monitoring System (CEMS) certification period. Major sources are also required to use MDP for determining emissions whenever daily emissions reports are not submitted by the applicable deadline. When comparing actual emissions with a facility's use of substituted MDP emissions, the range of MDP emissions can vary from "more representative" to being overstated to reflect a "worst case"<sup>1</sup> scenario. For instance, an MDP "worst case" scenario may occur for major sources that fail to have their CEMS certified in a timely manner, and therefore, have no valid CEMS data that can be used for substitution. In other cases, where prior CEMS data is available, MDP is applied in tiers depending on the duration of missing data periods and the historical availability of monitoring systems. As the duration of missing data periods gets shorter and the historical availability of monitoring systems gets higher, the substitute data yielded by MDP becomes more representative of actual emissions<sup>2</sup>.

In addition to MDP for major sources, RECLAIM rules also define MDP for large sources and process units. These procedures are applicable when a process monitoring device fails or when a facility operator fails to record fuel usage or other monitored data (e.g., hours of operation). The resulting MDP emissions reports are reasonably representative of the actual emissions because averaged or maximum emissions from previous operating periods may be used. However, for extended missing data periods (more than two months for large sources or four quarters or more for process units) or when emissions data for the preceding year are unavailable, large source and process unit MDP are also based on maximum operation or worst case assumptions.

Based on APEP reports, 91 NO<sub>x</sub> facilities and 14 SO<sub>x</sub> facilities used MDP in reporting portions of their annual emissions during Compliance Year 2016. In terms of mass emissions, 3.9% of the total reported NO<sub>x</sub> emissions and 6.2% of the total reported SO<sub>x</sub> emissions in the APEP reports were calculated using MDP for Compliance Year 2016. Table 5-1 compares the impact of MDP on reported annual emissions for the last few compliance years to the second compliance year, 1995 (MDP was not fully implemented during Compliance Year 1994).

---

<sup>1</sup> Based on uncontrolled emission factor at maximum rated capacity of the source and 24 hours per day.

<sup>2</sup> Based on averaged emissions during periods before and after the period for which data is not available.



**Table 5-1**  
**MDP Impact on Annual Emissions**

Year	Percent of Reported Emissions Using Substitute Data*	
	NOx	SOx
1995	23.0% (65 / 6,070)	40.0% (12 / 3,403)
2010	7.0% (93 / 488)	6.1% (23 / 168)
2011	6.2% (94 / 435)	12.4% (19 / 328)
2012	7.5% (95 / 560)	4.5% (13 / 114)
2013	3.9% (107 / 287)	5.6% (15 / 113)
2014	3.3% (97 / 247)	3.0% (13 / 66)
2015	6.9% (98 / 502)	10.9% (14 / 229)
2016	3.9% (91 / 288)	6.2% (14 / 125)

\* Numbers in parenthesis that are separated by a slash represent the number of facilities that reported use of MDP in each compliance year and tons of emissions based on MDP.

Most of the issues associated with CEMS certifications were resolved prior to Compliance Year 1999. Since then, very few facilities have had to submit emissions reports based on the worst case scenario under MDP, which may considerably overstate the actual emissions from major sources. As an example, most facilities that reported emissions using MDP in 1995 did so because they did not have their CEMS certified in time to report actual emissions. Since their CEMS had no prior data, MDP called for an application of the most conservative procedure to calculate substitute data by assuming continuous uncontrolled operation at the maximum rated capacity of the facility's equipment, regardless of the actual operational level during the missing data periods. As a result, the calculations yielded substitute data that may have been much higher than the actual emissions. In comparison to the 65 NOx facilities implementing MDP in Compliance Year 1995, 91 facilities reported NOx emissions using MDP in Compliance Year 2016. Even though the number of facilities is higher than in 1995, the percentage of emissions reported using MDP during Compliance Year 2016 is much lower than it was in 1995 (4% compared to 23%). Additionally, in terms of quantity, NOx emissions determined by the use of MDP in Compliance Year 2016 were about 5% of those in Compliance Year 1995 (288 tons compared to 6,070 tons). Since most CEMS were certified and had been reporting actual emissions by the beginning of Compliance Year 2000, facilities that had to calculate substitute data were able to apply less conservative methods of calculating MDP for systems with high availability and shorter duration missing data periods. Therefore, the substitute data they calculated for



their missing data periods were more likely to be representative of the actual emissions.

It is important to note that portions of annual emissions attributed to MDP include actual emissions from the sources as well as the possibility of overestimated emissions. As shown in Table 5-1, approximately 4% of reported NO<sub>x</sub> annual emissions were calculated using MDP in Compliance Year 2016. MDP may significantly overestimate emissions from some of the sources that operate intermittently and have low monitoring system availability, and/or lengthy missing data periods. Even though a portion of the 4% may be overestimated emissions due to conservative MDP, a significant portion (or possibly all) of it could have also been actual emissions from the sources. Unfortunately, the portion that represents the actual emissions cannot be readily estimated because the extent of this effect varies widely, depending on source categories and operating parameters, as well as the tier of MDP applied. For Compliance Year 2016, a significant portion of NO<sub>x</sub> MDP emissions data (58%) and majority of SO<sub>x</sub> MDP emissions data (94%) were reported by refineries, which tend to operate near maximum capacity for 24 hours per day and seven days per week, except for scheduled shutdowns for maintenance and barring major breakdowns or other unforeseeable circumstances. Missing data emissions calculated using the lower tiers of MDP (*i.e.*, 1N Procedure or 30-day maximum value) for facilities such as refineries that have relatively constant operation near their maximum operation are generally reflective of actual emissions because peak values are close to average values for these operations.

## **Emissions Monitoring**

### **Overview**

The reproducibility of reported RECLAIM facility emissions (and the underlying calculations)—and thereby the enforceability of the RECLAIM program—is assured through a tiered hierarchy of MRR requirements. A facility's equipment falls into an MRR category based on the kind of equipment it is and on the level of emissions produced or potentially produced by the equipment. RECLAIM divides all NO<sub>x</sub> sources into major sources, large sources, process units, and equipment exempt from obtaining a written permit pursuant to Rule 219. All SO<sub>x</sub> sources are divided into major sources, process units, and equipment exempt from obtaining a written permit pursuant to Rule 219. Table 5-2 shows the monitoring requirements applicable to each of these categories.



**Table 5-2**  
**Monitoring Requirements for RECLAIM Sources**

Source Category	Major Sources (NOx and SOx)	Large Sources (NOx only)	Process Units and Rule 219 Equipment (NOx and SOx)
Monitoring Method	Continuous Emissions Monitoring System (CEMS) or Alternative CEMS (ACEMS)	Fuel Meter or Continuous Process Monitoring System (CPMS)	Fuel Meter, Timer, or CPMS
Reporting Frequency	Daily	Monthly	Quarterly

### **Continuous Emissions Monitoring System (CEMS)**

#### ***Requirements***

CEMS represent both the most accurate and the most reliable method of calculating emissions because they continuously monitor all of the parameters necessary to directly determine mass emissions of NOx and SOx. They are also the most costly method. These attributes make CEMS the most appropriate method for the largest emission-potential equipment in the RECLAIM universe, major sources.

Alternative Continuous Emissions Monitoring Systems (ACEMS) are alternatives to CEMS that are allowed under the RECLAIM regulation. These are devices that do not directly monitor NOx or SOx mass emissions; instead, they correlate multiple process parameters to arrive at mass emissions. To be approved for RECLAIM MRR purposes, ACEMS must be determined by SCAQMD to be equivalent to CEMS in relative accuracy, reliability, reproducibility, and timeliness

Even though the number of major sources monitored by either CEMS or ACEMS represent 19% and 65% of all permitted RECLAIM NOx and SOx sources during Compliance Year 2016, respectively, reported emissions for Compliance Year 2016 revealed that 76% of all RECLAIM NOx emissions and 97% of all RECLAIM SOx emissions were determined by CEMS or ACEMS.

#### ***Compliance Status***

By the end of calendar year 1999, almost all facilities that were required to have CEMS had their CEMS certified or provisionally approved. The only remaining uncertified CEMS are for sources that recently became subject to major source reporting requirements and sources that modified their CEMS. Typically, there will be a few new major sources each year. Therefore, there will continue to be a small number of CEMS in the certification process at any time.

#### ***Semiannual and Annual Assessments of CEMS***

RECLAIM facilities conduct their Relative Accuracy Test Audit (RATA) of certified CEMS using private sector testing laboratories approved under SCAQMD's Laboratory Approval Program (LAP). These tests are conducted either



semiannually or annually, depending on the most recent relative accuracy value (the sum of the average differences and the confidence coefficient) for each source. The interval is annual only when all required relative accuracies obtained during an audit are 7.5% or less (*i.e.*, more accurate).

To verify the quality of CEMS, the RATA report compares the CEMS data to data taken simultaneously, according to approved testing methods (also known as reference methods), by a LAP-approved source testing contractor. In order to have a passing RATA, each of the following relative accuracy performance criteria must be met: The relative accuracy of the CEMS results relative to the reference method results must be within  $\pm 20\%$  for pollutant concentration,  $\pm 15\%$  for stack flow rate, and  $\pm 20\%$  for pollutant mass emission rate. The RATAs also determine whether CEMS data must be adjusted for low readings compared to the reference method (bias adjustment factor), and by how much. The RATA presents two pieces of data, the CEMS bias (how much it differs from the reference method on the average) and the CEMS confidence coefficient (how variable that bias or average difference is).

Tables 5-3 and 5-4, respectively, summarize the 2016 and 2017 calendar years' passing rates for submitted RATAs of certified CEMS for NO<sub>x</sub> and SO<sub>x</sub> concentration, total sulfur in fuel gas concentrations, stack flow rate (in-stack monitors and F-factor based calculations), and NO<sub>x</sub> and SO<sub>x</sub> mass emissions. However, the tables do not include SO<sub>x</sub> mass emissions calculated from total sulfur analyzer systems because such systems serve numerous devices, and therefore are not suitable for mass emissions-based RATA testing. As noted in the footnotes for each table, the calendar year 2016 and 2017 passing rates are calculated from RATA data submitted before January 5, 2017 and January 9, 2018, respectively, and may exclude some RATA data from the fourth quarter of each year.

**Table 5-3**  
**Passing Rates Based on RATAs of Certified CEMS in 2016<sup>1</sup>**

Concentration						Stack Flow Rate				Mass Emissions			
NO <sub>x</sub>		SO <sub>2</sub>		Total <sup>2</sup> Sulfur		In-Stack Monitor		F-Factor Based Calc.		NO <sub>x</sub>		SO <sub>x</sub> <sup>3</sup>	
No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass
366	100	101	100	15	100	50	100	361	100	366	99.7	93	100

<sup>1</sup> The calculation of passing rates includes all RATAs submitted by January 5, 2017.

<sup>2</sup> Includes Cylinder Gas Audit (CGA) tests.

<sup>3</sup> Does not include SO<sub>x</sub> emissions calculated from total sulfur analyzers.



**Table 5-4**  
**Passing Rates Based on RATAs of Certified CEMS in 2017**

Concentration						Stack Flow Rate				Mass Emissions			
NO <sub>x</sub>		SO <sub>2</sub>		Total <sup>2</sup> Sul fur		In-Stack Monitor		F-Factor Based Calc.		NO <sub>x</sub>		SO <sub>x</sub> <sup>3</sup>	
No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass
346	100	87	100	15	100	43	100	336	100	346	100	78	100

<sup>1</sup> The calculation of passing includes all RATAs submitted by January 9, 2018.

<sup>2</sup> Includes Cylinder Gas Audit (CGA) tests.

<sup>3</sup> Does not include SO<sub>x</sub> emissions calculated from total sulfur analyzers.

As indicated in Tables 5-3 and 5-4, the passing rates for NO<sub>x</sub>/SO<sub>2</sub> concentration, stack flow rate, and mass emissions were at or near 100%. Since the inception of RECLAIM there have been significant improvements with respect to the availability of reliable calibration gas, the reliability of the reference method, and an understanding of the factors that influence valid total sulfur analyzer data.

### ***Electronic Data Reporting of RATA Results***

Facilities operating CEMS under RECLAIM are required to submit RATA results to SCAQMD. An electronic reporting system, known as Electronic Data Reporting (EDR), was set up to allow RATA results to be submitted electronically using a standardized format in lieu of the traditional formal source test reports in paper form. This system minimizes the amount of material the facility must submit to SCAQMD and also expedites reviews. Ninety-nine percent of RATA results for calendar year 2017 were submitted via EDR.

### **Non-Major Source Monitoring, Reporting, and Recordkeeping**

Emissions quantified for large sources are primarily based on concentration limits or emission rates specified in the Facility Permit. Other variables used in the calculation of large source emissions are dependent on the specific process of the equipment, but generally include fuel usage, applicable dry F-factor, and the higher heating value of the fuel used, which are collectively used to calculate stack flow rate. RECLAIM requires large sources to be source tested within defined three-year windows in order to validate fuel meter accuracy and the equipment's concentration limit or emission rate. Since emissions quantification is fuel-based, the monitoring equipment required to quantify emissions is a non-resettable fuel meter that must be corrected to standard temperature and pressure. Large source emission data must be submitted electronically on a monthly basis.

Process unit emission calculations are similar to those of large sources in that emissions are quantified using the fuel-based calculations for either a concentration limit or an emission factor specified in the Facility Permit. Similar to large sources, variables used in emission calculations for process units are dependent on the equipment's specific process, but generally include fuel usage, applicable dry F-factor, and the higher heating value of the fuel used. Process units that are permitted with concentration limits are also required to be source-tested, but within specified five-year windows rather than three-year windows.



Emissions for equipment exempt from obtaining a written permit pursuant to Rule 219 are quantified using emission factors and fuel usage. No source testing is required for such exempt equipment. Since emissions calculations are fuel-based for both process units and exempt equipment, the monitoring equipment required to quantify emissions is a non-resettable fuel meter, corrected to standard temperature and pressure. Alternately, a timer may be used to record operational time. In such cases, fuel usage is determined based on maximum rated capacity of the source. Process units and exempt equipment must submit emission reports electronically on a quarterly basis.

## Emissions Reporting

### Requirements

RECLAIM uses electronic reporting technology to streamline reporting requirements for both facilities and SCAQMD, and to help automate compliance tracking. Under RECLAIM, facilities report their emissions electronically on a per device basis to SCAQMD's Central Station computer as follows:

- Major sources must use a Remote Terminal Unit (RTU) to telecommunicate emission data to SCAQMD's Central Station. The RTU collects data, performs calculations, generates the appropriate data files, and transmits the data to the Central Station. This entire process is required to be performed by the RTU on a daily basis without human intervention.
- Emission data for all equipment other than major sources may be transmitted via RTU or compiled manually and transmitted to the Central Station via modem. Alternatively, operators of non-major sources may use SCAQMD's internet based application, Web Access To Electronic Reporting System (WATERS) to transmit emission data for non-major sources via internet connection. The data may be transmitted directly by the facility or through a third party.

### Compliance Status

The main concern for emission reporting is the timely submittal of accurate daily emissions reports from major sources. If daily reports are not submitted by the specified deadlines, RECLAIM rules may require that emissions from CEMS be ignored and the emissions be calculated using MDP. Daily emission reports are submitted by the RTU of the CEMS to SCAQMD's Central Station via telephone lines. Often communication errors between the two points are not readily detectable by facility operators. Undetected errors can cause facility operators to believe that daily reports were submitted when they were not received by the Central Station. In addition to providing operators a means to confirm the receipt of their reports, the WATERS application can also display electronic reports that were submitted to, and received by, the Central Station. This system helps reduce instances where MDP must be used for late or missing daily reports, because the operators can verify that the Central Station received their daily reports, and can resubmit them if there were communication errors.



## Protocol Review

Even though review of MRR protocols was only required by Rule 2015(b)(1) for the first three compliance years of the RECLAIM program, staff continues to review the effectiveness of enforcement and MRR protocols. Based on such review, occasional revisions to the protocols may be needed to achieve improved measurement and enforcement of RECLAIM emission reductions, while minimizing administrative costs to RECLAIM facilities and SCAQMD.

Since the RECLAIM program was adopted, staff has produced rule interpretations and implementation guidance documents to clarify and resolve specific concerns about the protocols raised by RECLAIM participants or observed by SCAQMD staff. In situations where staff could not interpret existing rule requirements to adequately address the issues at hand, the protocols and/or rules have been amended.



## CHAPTER 6

### REPORTED JOB IMPACTS

---

#### Summary

*This chapter compiles data as reported by RECLAIM facilities in their Annual Permit Emissions Program (APEP) reports. The analysis focuses exclusively on job impacts at RECLAIM facilities and determination if those job impacts were directly attributable to RECLAIM as reported by those facilities. Additional benefits to the local economy (e.g., generating jobs for consulting firms, source testing firms and CEMS vendors) attributable to the RECLAIM program, as well as factors outside of RECLAIM (e.g., the prevailing economic climate), impact the job market. However, these factors are not evaluated in this report. Also, job losses and job gains are strictly based on RECLAIM facilities' reported information. SCAQMD staff is not able to independently verify the accuracy of the reported job impact information.*

*According to the Compliance Year 2016 employment survey data gathered from APEP reports, RECLAIM facilities reported a net loss of 982 jobs, representing 0.88% of their total employment. None of the eight RECLAIM facilities that shut down or ceased operations during Compliance Year 2016 cited RECLAIM as a factor contributing to the decision to shutdown. One facility reported a loss of 15 jobs due to RECLAIM, but they did not shut down operations.*

#### Background

The APEP reports submitted by RECLAIM facilities include survey forms that are used to evaluate the socioeconomic impacts of the program. Facilities were asked to indicate the number of jobs at the beginning of Compliance Year 2016 and any changes in the number of jobs that took place during the compliance year in each of three categories: manufacturing, sale of products, and non-manufacturing. The numbers of jobs gained and lost reported by facilities in each category during the compliance year were tabulated.

Additionally, APEP reports ask facilities that shut down during Compliance Year 2016 to provide the reasons for their closure. APEP reports also allow facilities to indicate whether the RECLAIM program led to the creation or elimination of jobs during Compliance Year 2016.

Since data regarding job impacts and facility shutdowns are derived from the APEP reports, the submittal of these reports is essential to assessing the influence that the RECLAIM program has on these issues. The following discussion represents data obtained from APEP reports submitted to SCAQMD for Compliance Year 2016 and clarifying information collected by SCAQMD staff. SCAQMD staff is not able to verify the accuracy of the reported job impact information.

#### Job Impacts

Table 6-1 summarizes job impact data gathered from Compliance Year 2016 APEP reports and follow-up contacts with facilities. A total of 125 facilities reported 7,144 job gains, while 133 facilities reported a total of 8,126 job losses.



Net job losses were reported in two of the three categories: manufacturing (42), and non-manufacturing (953), whereas a net job gain was reported in the remaining category: sales of products (13). Table 6-1 shows a total net loss of 982 jobs, which represents a net jobs decrease of 0.88% at RECLAIM facilities during Compliance Year 2016.

**Table 6-1**  
**Job Impacts at RECLAIM Facilities for Compliance Year 2016**

Description	Manufacture	Sales of Products	Non-Manufacture	Total <sup>1</sup>
Initial Jobs	40,215	948	70,278	111,441
Overall Job Gain	2,321	72	4,751	7,144
Overall Job Loss	2,363	59	5,704	8,126
Final Jobs	40,173	961	69,325	110,459
Net Job Change	-42	13	-953	-982
Percent (%) Job Change	-0.10%	1.37%	-1.36%	-0.88%
Facilities Reporting Job Gains	85	26	74	125
Facilities Reporting Job Losses	94	17	87	133

<sup>1</sup> The total number of facilities reporting job gains or losses does not equal the sum of the number of facilities reporting job changes in each category (*i.e.*, the manufacture, sales of products, and non-manufacture categories) due to the fact that some facilities may report changes under more than one of these categories.

Data in Table 6-1 include eight RECLAIM facilities that were reported to have shut down or ceased operations in Compliance Year 2016 as listed in Appendix C. One facility claimed a more attractive utility of land and resources, and three other facilities were liquidated or consolidated their operations and moved out of state. The fifth facility stated the cost of manufacturing, production and raw materials was too high. The sixth facility inactivated all of its permits and consolidated its operations with two company-owned facilities, one within the region and one outside the country. The seventh facility sold its property to a new operator with no permitted equipment remaining onsite. The eighth facility shutdown due to declining demand for its products. The last two facilities had no operations for many years and finally surrendered their permits in 2016. These shutdowns led to a total loss of 272 jobs (240 manufacturing jobs, 6 sales jobs, and 26 non-manufacturing jobs, according to the submitted APEP reports.

One facility that did not shut down, attributed 15 jobs lost to RECLAIM due to increased cost of operation for compliance, and permitting fees (refer to Appendix E). No other RECLAIM facilities attributed job gains or losses to RECLAIM for Compliance Year 2016.

The analysis in this report only considers job gains and losses at RECLAIM facilities. It should be noted that this analysis of socioeconomic impacts based on APEP reports and follow-up interviews is focused exclusively on changes in employment that occurred at RECLAIM facilities. The effect of the program on the local economy outside of RECLAIM facilities, including consulting and source testing jobs, is not considered.



It is not possible to compare the impact of the RECLAIM program on the job market *vis-à-vis* a scenario without RECLAIM. This is because factors other than RECLAIM (e.g., the prevailing economic climate), also impact the job market. Furthermore, there is no way to directly compare job impacts attributed to RECLAIM to job impacts attributed to command-and-control rules that would have been adopted in RECLAIM's absence, because these command-and-control rules do not exist for these facilities. As mentioned previously, the effect of the RECLAIM program on the local economy outside of RECLAIM facilities (e.g., generating jobs for consulting firms, source testing firms and CEMS vendors) is also not considered in this report.



## CHAPTER 7

### AIR QUALITY AND PUBLIC HEALTH IMPACTS

---

#### Summary

*Audited RECLAIM emissions have been in an overall downward trend since the program's inception. Compliance Year 2016 NOx emissions increased slightly (1.1%) relative to Compliance Year 2015, and Compliance Year 2016 SOx emissions were 3.4% less than the previous year. Quarterly calendar year 2016 NOx emissions fluctuated within seven percent of the mean NOx emissions for the year. Quarterly calendar year 2016 SOx emissions fluctuated within seven percent of the year's mean SOx emissions. There was no significant shift in seasonal emissions from the winter season to the summer season for either pollutant.*

*The California Clean Air Act (CCAA) required a 50% reduction in population exposure to ozone, relative to a baseline averaged over three years (1986 through 1988), by December 31, 2000. The Basin achieved the December 2000 target for ozone well before the deadline. In calendar year 2017, the per capita exposure to ozone (the average length of time each person is exposed) continued to be well below the target set for December 2000.*

*Air toxic health risk is primarily caused by emissions of certain volatile organic compounds (VOCs) and fine particulates, such as metals. RECLAIM facilities are subject to the same air toxic, VOC, and particulate matter regulations as other sources in the Basin. All sources are subject, where applicable, to the NSR rule for toxics (Rule 1401 and/or Rule 1401.1). In addition, new or modified sources with NOx or SOx emission increases are required to be equipped with BACT, which minimizes to the extent feasible the increase of NOx and SOx emissions. RECLAIM and non-RECLAIM facilities that emit toxic air contaminants are required to report those emissions to SCAQMD. Those emissions reports are used to identify candidates for the Toxics Hot Spots program (AB2588). This program requires emission inventories and, depending on the type and amount of emissions, facilities may be required to do public notice and/or prepare and implement a plan to reduce emissions. There is no evidence that RECLAIM has caused or allowed higher toxic risk in areas adjacent to RECLAIM facilities.*

#### Background

RECLAIM is designed to achieve the same, or higher level of, air quality and public health benefits as would have been achieved from implementation of the control measures and command-and-control rules that RECLAIM subsumed. Therefore, as a part of each annual program audit, SCAQMD staff evaluates per capita exposure to air pollution, toxic risk reductions, emission trends, and seasonal fluctuations in emissions. SCAQMD staff also generates quarterly emissions maps depicting the geographic distribution of RECLAIM emissions. These maps are generated and posted quarterly on SCAQMD's website<sup>1</sup>, and

---

<sup>1</sup> The quarterly emission maps can be found at: <http://www.aqmd.gov/home/programs/business/about-reclaim/quarterly-emission-maps>.



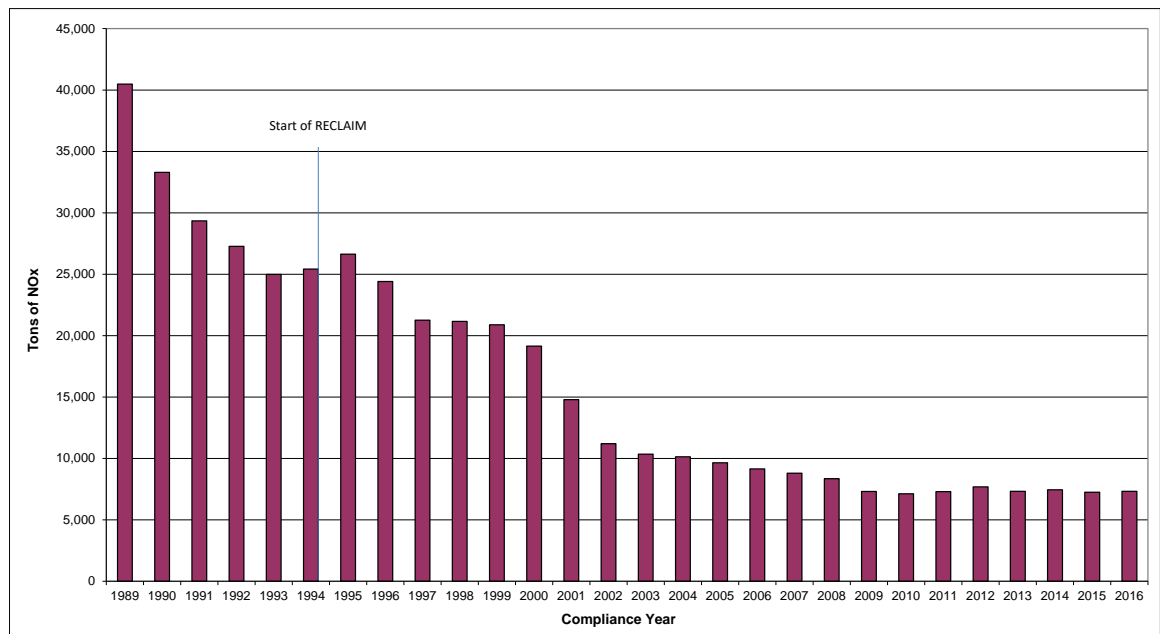
include all the quarterly emissions maps presented in previous annual program audit reports. This chapter addresses:

- Emission trends for RECLAIM facilities;
- Seasonal fluctuations in emissions;
- Per capita exposure to air pollution; and
- Toxics impacts.

## Emission Trends for RECLAIM Sources

Concerns were expressed during program development that RECLAIM might cause sources to increase their aggregate emissions during the early years of the program due to perceived over-allocation of emissions. As depicted in Figures 7-1 and 7-2, which show NO<sub>x</sub> and SO<sub>x</sub> emissions from RECLAIM sources since 1989, the analysis of emissions from RECLAIM sources indicates that overall, RECLAIM emissions have been in a downward trend since program inception, and the emission increases during early years of RECLAIM that were anticipated by some did not materialize.

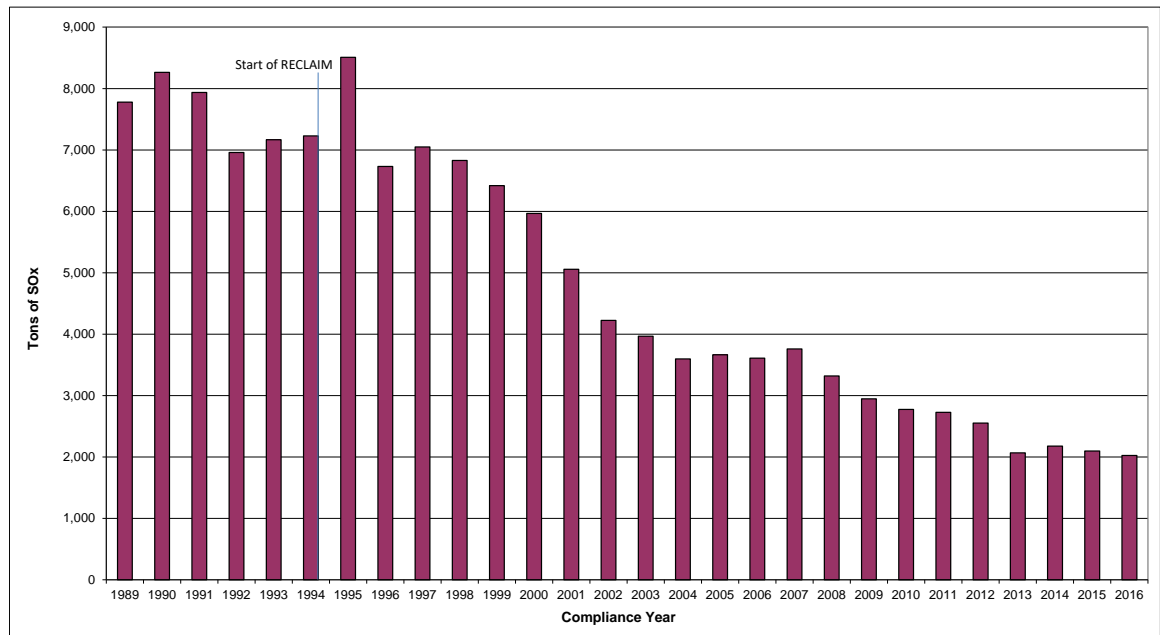
**Figure 7-1**  
**NO<sub>x</sub> Emission Trend for RECLAIM Sources**



Note: 1989-1993 emissions presented in this figure are the emissions from the facilities in the 1994 NO<sub>x</sub> universe.



**Figure 7-2**  
**SOx Emission Trend for RECLAIM Sources**



Note: 1989-1993 emissions presented in this figure are the emissions from the facilities in the 1994 SOx universe.

NOx emissions decreased every year from Compliance Year 1995 through Compliance Year 2009, and the emissions from Compliance Year 2009 to Compliance Year 2016 have fluctuated within a narrow range (7,121 – 7,691 ton/yr, or  $< \pm 4\%$  of the mid-point). Since Compliance Year 1995, annual SOx emissions have also followed a general downward trend, except for slight increases in Compliance Years 1997, 2005, 2007, and 2014 compared to each respective previous compliance year. As discussed in Chapter 3, NOx and SOx emissions are much lower than the programmatic goals (see Figures 3-1 and 3-2).

The increase in NOx and SOx emissions from Compliance Year 1994 to 1995 can be attributed to the application of MDP at the onset of RECLAIM implementation. RECLAIM provides for emissions from each major source's first year in the program to be quantified using an emission factor and fuel throughput (interim reporting) while they certify their CEMS. However, at the beginning of the program (Compliance Year 1994), many facilities had difficulties certifying their CEMS within this time frame, and consequently reported their Compliance Year 1995 emissions using MDP. As discussed in Chapter 5, since CEMS for these major sources had no prior data, MDP required the application of the most conservative procedure to calculate substitute data. As a result, the application of MDP during this time period yielded substitute data that may have been much higher than the actual emissions. In addition, emissions after Compliance Year 1995 decreased steadily through 2000. Thus, RECLAIM facilities did not increase their actual aggregate emissions during the early years of the program.



## Seasonal Fluctuation in Emissions for RECLAIM Sources

Another concern during program development was that RECLAIM might cause facilities to shift emissions from the winter season into the summer ozone season and exacerbate poor summer air quality since RECLAIM emission goals are structured on an annual basis. To address this concern, “seasonal fluctuations” were added as part of the analysis required by Rule 2015. Accordingly, SCAQMD staff performed a two-part analysis of the quarterly variation in RECLAIM emissions:

1. In the first part, staff qualitatively compared the quarterly variation in Compliance Year 2016 RECLAIM emissions to the quarterly variation in emissions from the RECLAIM universe prior to the implementation of RECLAIM.
2. In the second part, staff analyzed quarterly audited emissions during calendar year 2016 and compared them with quarterly audited emissions for prior years to assess if there had been such a shift in emissions. This analysis is reflected in Figures 7-3 through 7-6.<sup>2</sup>

Quarterly emissions data from the facilities in RECLAIM before they were in the program is not available. Therefore, a quantitative comparison of the seasonal variation of emissions from these facilities while operating under RECLAIM with their seasonal emissions variation prior to RECLAIM is not feasible. However, a qualitative comparison has been conducted, as follows:

- NOx emissions from RECLAIM facilities are dominated by refineries and power plants.
- SOx emissions from RECLAIM facilities are especially dominated by refineries.
- Prior to RECLAIM, refinery production was generally highest in the summer months because more people travel during summer; thus, increasing demand for gasoline and other transportation fuels.
- Electricity generation prior to RECLAIM was generally highest in the summer months because of increased demand for electricity to drive air conditioning units.

Emissions from refineries (NOx and SOx) and from power plants (NOx) are typically higher in the summer months, which was the trend prior to implementation of RECLAIM for the reasons described above. Therefore, provided a year’s summer quarter RECLAIM emissions do not exceed that year’s quarterly average emissions by a substantial amount, it can be concluded that, for that year, RECLAIM has not resulted in a shift of emissions to the summer months relative to the pre-RECLAIM emission pattern.

Figure 7-3 shows the 2016 mean quarterly NOx emission level, which is the average of the aggregate audited emissions for each of the four quarters, and the 2016 audited quarterly emissions. Figure 7-4 compares the 2016 quarterly NOx emissions with the quarterly emissions from 2005 through 2015. During calendar year 2016, quarterly NOx emissions varied from seven percent below the mean

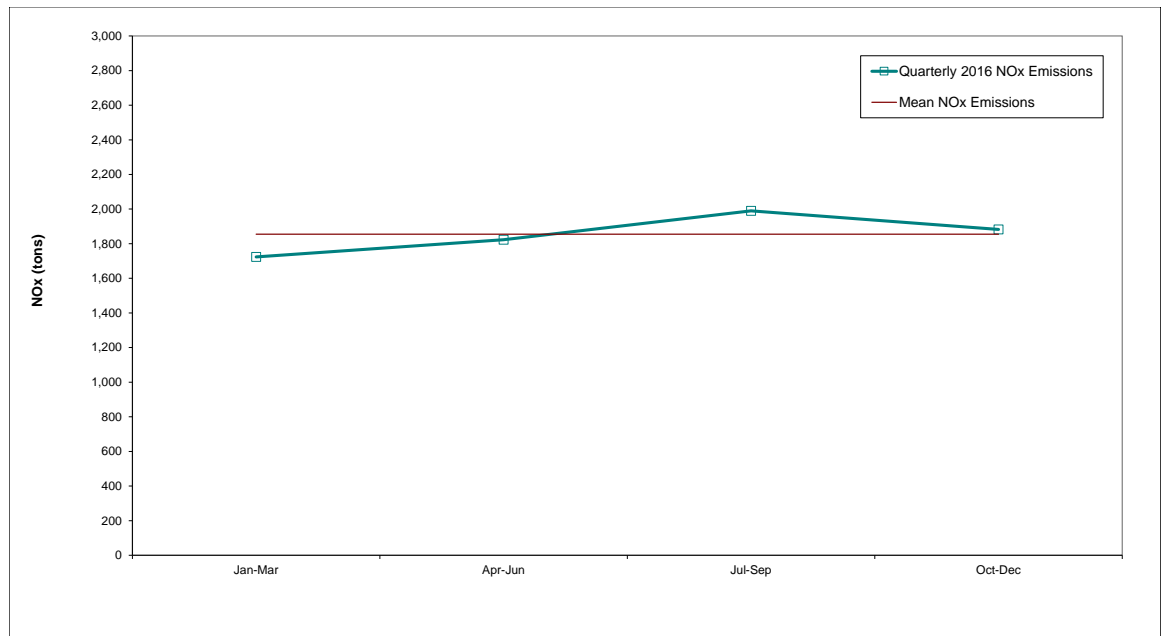
---

<sup>2</sup> Data used to generate these figures were derived from audited data. Similar figures for calendar years 1994 through 2007 in previous annual reports were generated from a combination of audited and reported data available at the time the reports were written.



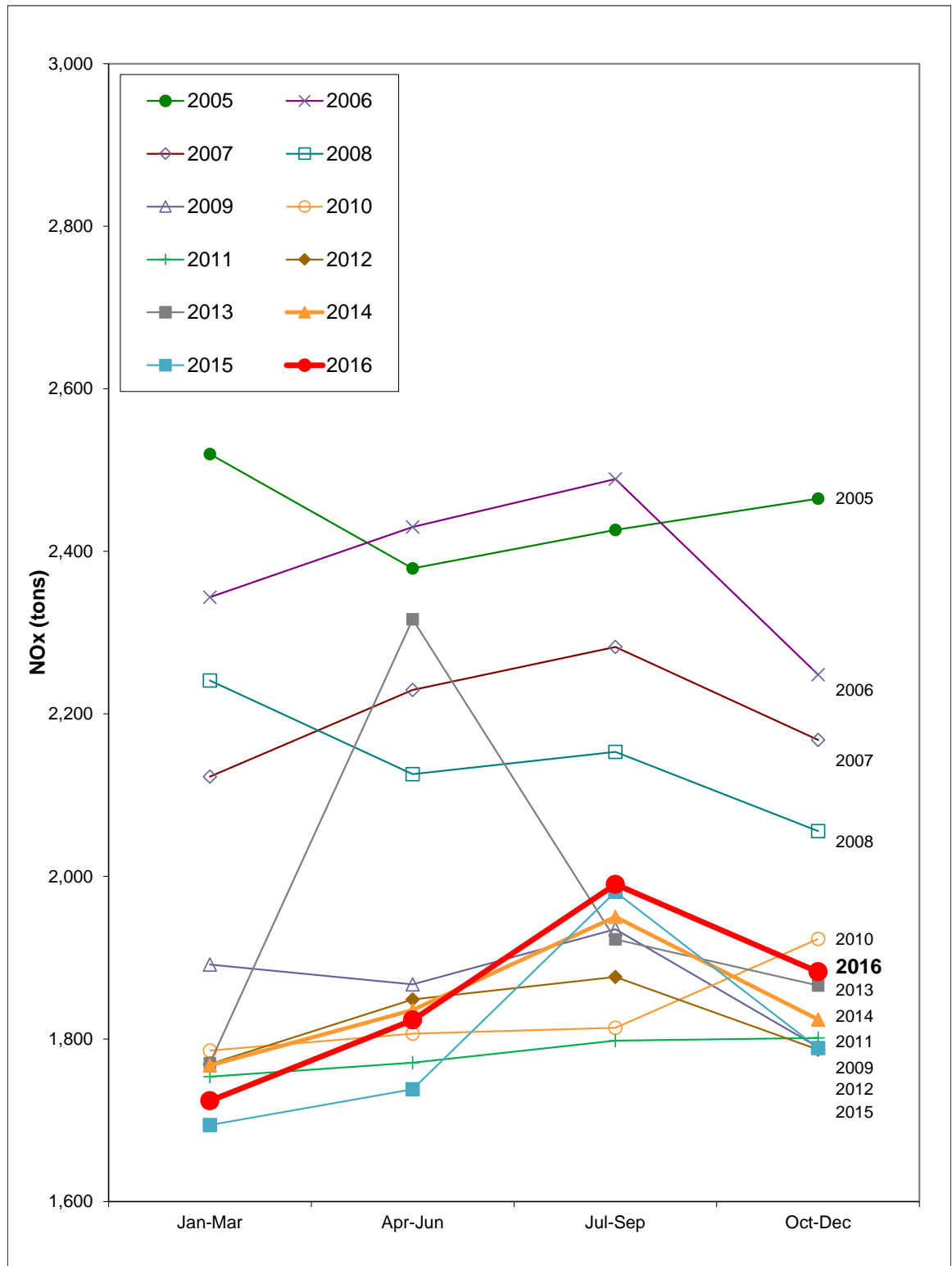
in the first quarter (January through March) to about seven percent above the mean in the third quarter (July through September). Figure 7-4 shows that the calendar year 2016 quarterly emissions profile is consistent with previous years under RECLAIM, with calendar year 2013 being the only notable exception. Figures 7-3 and 7-4, along with the qualitative analysis performed above, show that in calendar year 2016 there has not been a significant shift in NO<sub>x</sub> emissions from the winter months to the summer months.

**Figure 7-3**  
**Calendar Year 2016 NO<sub>x</sub> Quarterly Emissions**





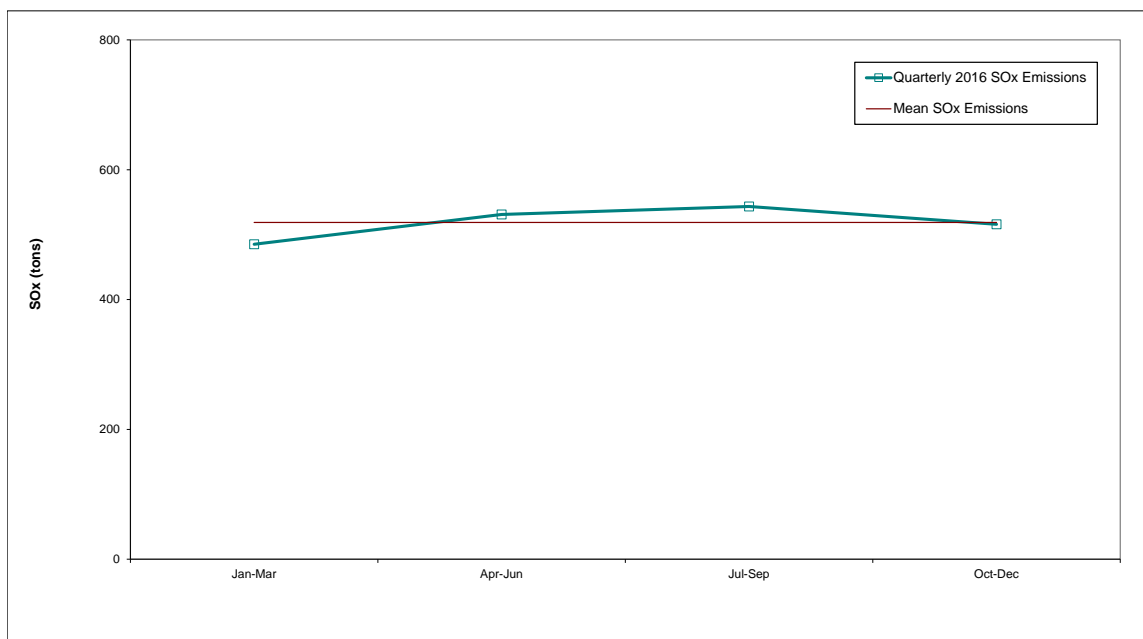
**Figure 7-4**  
**Quarterly NOx Emissions from Calendar Years 2005 through 2016**





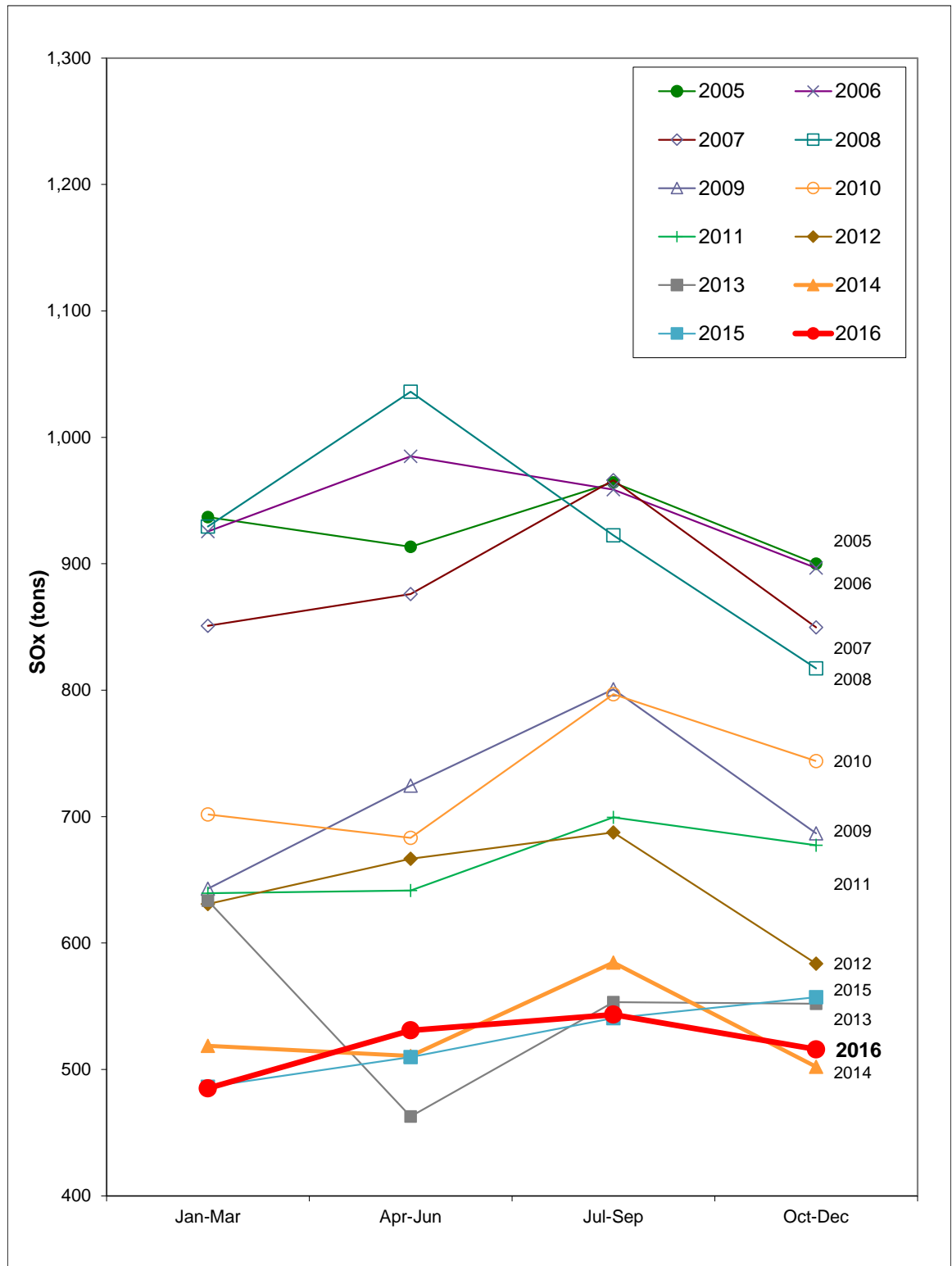
Similar to Figure 7-3 and 7-4 for NO<sub>x</sub> quarterly emissions, Figure 7-5 presents the 2016 mean quarterly SO<sub>x</sub> emissions and the 2016 audited quarterly emissions, while Figure 7-6 compares the 2016 quarterly SO<sub>x</sub> emissions with the quarterly emissions from 2005 through 2015. Figure 7-5 shows that quarterly SO<sub>x</sub> emissions during calendar year 2016 varied from seven percent below the mean in the first quarter (January to March) to about five percent above the mean in the third quarter (July to September). Figure 7-6 shows that the calendar year 2016 quarterly emissions profile is roughly consistent with previous years under RECLAIM. Both Figures 7-5 and 7-6, along with the qualitative analysis performed above, show that in calendar year 2016 there was not a significant shift in SO<sub>x</sub> emissions from the winter months to the summer months.

**Figure 7-5**  
**Calendar Year 2016 SO<sub>x</sub> Quarterly Emissions**





**Figure 7-6**  
**Quarterly SOx Emissions from Calendar Years 2005 through 2016**





## Per Capita Exposure to Pollution

The predicted effects of RECLAIM on air quality and public health were thoroughly analyzed through modeling during program development. The results were compared to the projected impacts from continuing traditional command-and-control regulations and to implementing control measures in the 1991 AQMP. One of the criteria examined in the analysis was per capita population exposure.

Per capita population exposure reflects the length of time each person is exposed to unhealthful air quality. The modeling performed in the program development analysis projected that the reductions in per capita exposure under RECLAIM in calendar year 1994 would be nearly identical to the reductions projected for implementation of the control measures in the 1991 AQMP, and the reductions resulting from RECLAIM would be greater in calendar years 1997 and 2000. As reported in previous annual reports, actual per capita exposures to ozone for 1994 and 1997 were below the projections.

As part of the Children's Environmental Health Protection Act that was passed in 1999, and in consultation with the OEHHA, CARB is to "review all existing health-based ambient air quality standards to determine whether these standards protect public health, including infants and children, with an adequate margin of safety." As a result of that requirement, CARB adopted a new 8-hour ozone standard (0.070 ppm), which became effective May 17, 2006, in addition to the 1-hour ozone standard (0.09 ppm) already in place. Table 7-1 shows the number of days that both the state 8-hour ozone standard of 0.070 ppm and the 1-hour standard of 0.09 ppm were exceeded.

In July 1997, the USEPA established an ozone National Ambient Air Quality Standard (NAAQS) of 0.085 ppm based on an 8-hour average measurement. As part of the Phase I implementation that was finalized in June 2004, the federal 1-hour ozone standard (0.12 ppm) was revoked effective June 2005. Effective May 27, 2008, the 8-hour NAAQS for ozone was reduced to 0.075 ppm. Table 7-1 shows monitoring results based on this 8-hour federal standard. Effective December 28, 2015, the 8-hour NAAQS for ozone was further reduced to 0.070 ppm, the level of the current California Ambient Air Quality Standard. Table 7-1 shows that the Basin exceeded both the newer 8-hour federal 0.07 ppm standard and the state 0.07 ppm standard by 145 and 150 days, respectively, in 2017. The number of days in exceedance of the federal and state standards were the same last year, though not this year. This difference could occur again in the future due to the differing language and methods for deriving exceedance days in the federal and state rules.

Table 7-1 summarizes ozone data for calendar years 2001 through 2017 in terms of the number of days that exceeded the state's 1-hour and 8-hour ozone standards, the 2008 and 2015 federal ambient 8-hour ozone standard, and both the Basin's maximum 1-hour and 8-hour ozone concentrations in each calendar year. This table shows that the number of days that exceeded the 1-hour state and the older 8-hour federal ambient ozone standards in calendar year 2017 increased when compared to 2016. The data shows the number of days in exceedance of most of these standards has grown since 2015 after a drop from 2014. Table 7-1 also shows, however, that while the Basin Maximum 8-hour



ozone concentration has gone up, the Basin Maximum 1-hour ozone concentration dropped relative to last year.

**Table 7-1**  
**Summary of Ozone Data**

Year	Days exceeding state 1-hour standard (0.09 ppm)	Days exceeding state 8-hour standard (0.07 ppm)	Days exceeding old federal 8-hour standard (0.075 ppm)	Days exceeding new federal 8-hour standard (0.07 ppm)	Basin Maximum 1-hour ozone concentration (ppm)	Basin Maximum 8-hour ozone concentration (ppm)
2001	121	156	132	N/A	0.191	0.146
2002	118	149	135	N/A	0.169	0.148
2003	133	161	141	N/A	0.216	0.200
2004	110	161	126	N/A	0.163	0.148
2005	111	142	116	N/A	0.163	0.145
2006	102	121	114	N/A	0.175	0.142
2007	99	128	108	N/A	0.171	0.137
2008	98	136	121	N/A	0.176	0.131
2009	100	131	113	N/A	0.176	0.128
2010	83	128	109	N/A	0.143	0.123
2011	94	127	107	N/A	0.160	0.136
2012	97	140	111	N/A	0.147	0.112
2013	92	123	106	N/A	0.151	0.122
2014	76	134	93	N/A	0.142	0.114
2015	72	116	83	113	0.144	0.127
2016	85	132	105	132	0.164	0.122
2017	109	150	122	145	0.158	0.136

The CCAA, which was enacted in 1988, established targets for reducing overall population exposure to severe non-attainment pollutants in the Basin—a 25% reduction by December 31, 1994, a 40% reduction by December 31, 1997, and a 50% reduction by December 31, 2000 relative to a calendar years' 1986-88 baseline. These targets are based on the average number of hours a person is exposed ("per capita exposure"<sup>3</sup>) to ozone concentrations above the state 1-hour standard of 0.09 ppm. Table 7-2 shows the 1986-88 baseline per capita exposure, the actual per capita exposures each year since 1994 (RECLAIM's initial year), and the 1997 and 2000 targets set by the CCAA for each of the four counties in the district and the Basin overall. As shown in Table 7-2, the CCAA

<sup>3</sup> SCAQMD staff divides the air basin into a grid of square cells and interpolates recorded ozone data from ambient air quality monitors to determine ozone levels experienced in each of these cells. The total person-hours in a county experiencing ozone higher than the state ozone standard is determined by summing over the whole county the products of the number of hours exceeding the state ozone standard per grid cell with the number of residents in the corresponding cell. The per capita ozone exposures are then calculated by dividing the sum of person-hours by the total population within a county. Similar calculations are used to determine the Basin-wide per capita exposure by summing and dividing over the whole Basin.



reduction targets were achieved as early as 1994 (actual 1994 Basin per capita exposure was 37.6 hours, which is below the 2000 target of 40.2 hours). The per capita exposure continues to remain much lower than the CCAA targets. For calendar year 2017, the actual per capita exposure for the Basin was 4.94 hours, which represents a 93.9% reduction from the 1986-88 baseline level.

**Table 7-2****Per Capita Exposure to Ozone above the State One-Hour Standard of 0.09 ppm (hours)**

Calendar Year	Basin	Los Angeles	Orange	Riverside	San Bernardino
1986-88 baseline <sup>1</sup>	80.5	75.8	27.2	94.1	192.6
1994 actual	37.6	26.5	9	71.1	124.9
1995 actual	27.7	20	5.7	48.8	91.9
1996 actual	20.3	13.2	4	42.8	70
1997 actual	5.9	3	0.6	13.9	24.5
1998 actual	12.1	7.9	3.1	25.2	40.2
2000 actual	3.8	2.6	0.7	8.5	11.4
2001 actual	1.73	0.88	0.15	6	5.68
2002 actual	3.87	2.16	0.13	11.12	12.59
2003 actual	10.92	6.3	0.88	20.98	40.21
2004 actual	3.68	2.26	0.50	6.82	12.34
2005 actual	3.11	1.43	0.03	6.06	12.54
2006 actual	4.56	3.08	0.68	8.02	13.30
2007 actual	2.90	1.50	0.35	4.65	10.53
2008 actual	4.14	2.04	0.26	7.50	14.71
2009 actual	2.87	1.54	0.08	3.88	10.54
2010 actual	1.18	0.38	0.11	2.45	4.48
2011 actual	2.10	0.85	0.02	3.46	8.13
2012 actual	2.37	1.05	0.05	2.59	9.78
2013 actual	1.31	0.52	0.07	1.61	5.50
2014 actual	1.84	1.26	0.29	1.47	6.02
2015 actual	1.96	0.76	0.10	2.14	8.47
2016 actual	2.64	1.14	0.07	2.19	11.56
2017 actual	4.94	2.90	0.14	4.01	18.78
1997 target <sup>2</sup>	48.3	45.5	16.3	56.5	115.6
2000 target <sup>3</sup>	40.2	37.9	13.6	47	96.3

<sup>1</sup> Average over three years, 1986 through 1988.

<sup>2</sup> 60% of the 1986-88 baseline exposures.

<sup>3</sup> 50% of the 1986-88 baseline exposures.

Table 7-2 shows that actual per capita exposures during all the years mentioned were well under the 1997 and 2000 target exposures limits. It should also be noted that air quality in the Basin is a complex function of meteorological conditions and an array of different emission sources, including mobile, area, RECLAIM stationary sources, and non-RECLAIM stationary sources. Therefore, the reduction of per capita exposure beyond the projected level is not necessarily wholly attributable to implementation of the RECLAIM program in lieu of the command-and-control regulations.



## Toxic Impacts

Based on a comprehensive toxic impact analysis performed during program development, it was concluded that RECLAIM would not result in any significant impacts on air toxic emissions. Nevertheless, to ensure that the implementation of RECLAIM does not result in adverse toxic impacts, each annual program audit is required to assess any increase in the public health exposure to air toxics potentially caused by RECLAIM.

One of the safeguards to ensure that the implementation of RECLAIM does not result in adverse air toxic health impacts is that RECLAIM sources are subject to the same air toxic statutes and regulations (e.g., SCAQMD Regulation XIV, State AB 2588, State Air Toxics Control Measures, Federal National Emissions Standards for Hazardous Air Pollutants, etc.) as other sources in the Basin. Additionally, air toxic health risk is primarily caused by emissions of VOCs and fine particulates such as certain metals. VOC sources at RECLAIM facilities are subject to source-specific command-and-control rules the same way as are non-RECLAIM facilities, in addition to the toxics requirements described above. Sources of fine particulates and toxic metal emissions are also subject to the above-identified regulations pertaining to toxic emissions. Moreover, new or modified RECLAIM sources with NO<sub>x</sub> or SO<sub>x</sub> emission increases are also required to be equipped with BACT, which minimizes to the extent feasible NO<sub>x</sub> and SO<sub>x</sub> emissions, which are precursors to particulate matter.

There have been concerns raised that trading RTCs could allow for higher production at a RECLAIM facility, which may indirectly cause higher emissions of toxic air contaminants, and thereby make the health risk in the vicinity of the facility worse. Other SCAQMD rules and programs for toxic air contaminants apply to facilities regardless of them being in RECLAIM or under traditional command and control rules. Emission increases at permit units are subject to new source review. RECLAIM facilities must also comply with any applicable Regulation XIV rules for toxics. Permits generally include limiting throughput conditions for new source review or applicable source specific rules. AB2588 and Rule 1402 could also be triggered based on risk, which would require the facility to take appropriate risk reduction measures.

Under the AER program, facilities that emit either: 1) four tons per year or more of VOC, NO<sub>x</sub>, SO<sub>x</sub>, or PM, or 100 tons per year or more of CO; or 2) any one of 24 toxic air contaminants (TACs) and ozone depleting compounds (ODCs) emitted above specific thresholds (Rule 301 Table IV), are required to report their emissions annually to SCAQMD. Beginning with the FY 2000-01 reporting cycle, toxics emission reporting for the AB2588 Program was incorporated into SCAQMD's AER Program. The data collected in the AER program is used to determine which facilities will be required to take further actions under the AB2588 Hot Spots Program.

Facilities in the AB2588 Program are required to submit a comprehensive toxics inventory, which is then prioritized using Board-approved procedures<sup>4</sup> into one of three categories: low, intermediate, or high priority. Facilities ranked with low priority are exempt from future reporting. Facilities ranked with intermediate

---

<sup>4</sup> The toxics prioritization procedures can be found at: <http://www.aqmd.gov/home/regulations/compliance/toxic-hot-spots-ab-2588>



priority are classified as District tracking facilities, which are then required to submit a complete toxics inventory once every four years. In addition to reporting their toxic emissions quadrennially, facilities designated as high priority are required to submit a health risk assessment (HRA) to determine their impacts to the surrounding community.

According to SCAQMD's 2016 Annual Report on the AB2588 Air Toxics "Hot Spots" program<sup>5</sup>, staff has reviewed and approved 341 facility HRAs as of the end calendar year 2016. About 95% of the facilities have cancer risks below 10 in a million and 96% of the facilities have acute and chronic non-cancer hazard indices less than 1. Facilities with cancer risks above 10 in a million or a non-cancer hazard index above 1 are required to issue public notices informing the community. A public meeting is held during which SCAQMD discusses the health risks from the facility. SCAQMD has conducted such public notification meetings for 55 facilities under the AB2588 Program.

The Board has also established the following action risk levels in Rule 1402 – Control of Toxic Air Contaminants from Existing Sources: a cancer burden of 0.5, a cancer risk of 25 in a million, and a hazard index of 3.0. Facilities above any of the action risk levels must reduce their risks below the action risk levels within three years. To date, 26 facilities have been required to reduce risks and all of these facilities have reduced risks well below the action risk levels mandated by Rule 1402.

The impact of the above rules and measures are analyzed in Multiple Air Toxic Exposure Studies (MATES), which SCAQMD staff conducts periodically to assess cumulative air toxic impacts to the residents and workers of southern California. The fourth version of MATES (*i.e.*, MATES IV) was conducted over a one year period from July 2012 to June 2013, and the final MATES IV report was released on May 1, 2015<sup>6</sup>. Monitoring conducted at that time indicated that the basin-wide population-weighted air toxics exposure was reduced by 57% since MATES III (conducted from April 2004 to March 2006). The results of these recent MATES studies continue to show that the region-wide cumulative air toxic impacts on residents and workers in southern California have been declining. Therefore, staff has not found any evidence that would suggest that the substitution of NO<sub>x</sub> and SO<sub>x</sub> RECLAIM for the command-and-control rules and the measures RECLAIM subsumes caused a significant increase in public exposure to air toxic emissions relative to what would have happened if the RECLAIM program was not implemented. SCAQMD has initiated a MATES V study and has begun to measure regional air toxics in January 2018. Additional flight measurements, mobile monitoring and sensor networks will soon be deployed to find potential hot-spots and to demonstrate real-time and continuous facility and community monitoring. Efforts will focus on refineries, as well as other industrial sources. Modeling will be performed once all data is compiled.

Staff will continue to monitor and assess toxic impacts as part of future annual program audits.

---

<sup>5</sup> The 2016 AB2588 Annual Report can be found at: [http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588\\_annual\\_report\\_2016.pdf?sfvrsn=4](http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588_annual_report_2016.pdf?sfvrsn=4)

<sup>6</sup> The Final MATES IV Report can be found at: <http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf>



## APPENDIX A

### RECLAIM UNIVERSE OF SOURCES

---

The RECLAIM universe of active sources as of the end of Compliance Year 2016 is provided below.

Facility ID	Cycle	Facility Name	Program
800088	2	3M COMPANY	NOx
23752	2	AEROCRAFT HEAT TREATING CO INC	NOx
115394	1	AES ALAMITOS, LLC	NOx
115389	2	AES HUNTINGTON BEACH, LLC	NOx/SOx
115536	1	AES REDONDO BEACH, LLC	NOx
148236	2	AIR LIQUIDE LARGE INDUSTRIES U.S., LP	NOx/SOx
3417	1	AIR PROD & CHEM INC	NOx
101656	2	AIR PRODUCTS AND CHEMICALS, INC.	NOx
5998	1	ALL AMERICAN ASPHALT	NOx
114264	1	ALL AMERICAN ASPHALT	NOx
3704	2	ALL AMERICAN ASPHALT, UNIT NO.01	NOx
176708	2	ALTAGAS POMONA ENERGY INC.	NOx
800196	2	AMERICAN AIRLINES, INC.	NOx
156722	1	AMERICAN APPAREL KNIT AND DYE	NOx
21598	2	ANGELICA TEXTILE SERVICES	NOx
74424	2	ANGELICA TEXTILE SERVICES	NOx
16642	1	ANHEUSER-BUSCH LLC., (LA BREWERY)	NOx/SOx
117140	2	AOC, LLC	NOx
124619	1	ARDAGH METAL PACKAGING USA INC.	NOx
174406	1	ARLON GRAPHICS LLC	NOx
12155	1	ARMSTRONG FLOORING INC	NOx
122666	2	A'S MATCH DYEING & FINISHING	NOx
183832	2	AST TEXTILE GROUP, INC.	NOx
181510	1	AVCORP COMPOSITE FABRICATION, INC	NOx
117290	2	B BRAUN MEDICAL, INC	NOx
800016	2	BAKER COMMODITIES INC	NOx
800205	2	BANK OF AMERICA NT & SA, BREA CENTER	NOx
40034	1	BENTLEY PRINCE STREET INC	NOx
166073	1	BETA OFFSHORE	NOx
155474	2	BICENT (CALIFORNIA) MALBURG LLC	NOx



**ANNUAL RECLAIM AUDIT**

---

Facility ID	Cycle	Facility Name	Program
132068	1	BIMBO BAKERIES USA INC	NOx
1073	1	BORAL ROOFING LLC	NOx
150201	2	BREITBURN OPERATING LP	NOx
174544	2	BREITBURN OPERATING LP	NOx
25638	2	BURBANK CITY, BURBANK WATER & POWER	NOx
128243	1	BURBANK CITY,BURBANK WATER & POWER,SCPPA	NOx
800344	1	CALIFORNIA AIR NATIONAL GUARD, MARCH AFB	NOx
22607	2	CALIFORNIA DAIRIES, INC	NOx
138568	1	CALIFORNIA DROP FORGE, INC	NOx
800181	2	CALIFORNIA PORTLAND CEMENT CO	NOx/SOx
148896	2	CALIFORNIA RESOURCES PRODUCTION CORP	NOx
148897	2	CALIFORNIA RESOURCES PRODUCTION CORP	NOx
151899	2	CALIFORNIA RESOURCES PRODUCTION CORP	NOx
46268	1	CALIFORNIA STEEL INDUSTRIES INC	NOx
107653	2	CALMAT CO	NOx
107654	2	CALMAT CO	NOx
107655	2	CALMAT CO	NOx
107656	2	CALMAT CO	NOx
153992	1	CANYON POWER PLANT	NOx
94930	1	CARGILL INC	NOx
22911	2	CARLTON FORGE WORKS	NOx
118406	1	CARSON COGENERATION COMPANY	NOx
141555	2	CASTAIC CLAY PRODUCTS, LLC	NOx
14944	1	CENTRAL WIRE, INC.	NOx/SOx
42676	2	CES PLACERITA INC	NOx
148925	1	CHERRY AEROSPACE	NOx
800030	2	CHEVRON PRODUCTS CO.	NOx/SOx
56940	1	CITY OF ANAHEIM/COMB TURBINE GEN STATION	NOx
172077	1	CITY OF COLTON	NOx
129810	1	CITY OF RIVERSIDE PUBLIC UTILITIES DEPT	NOx
139796	1	CITY OF RIVERSIDE PUBLIC UTILITIES DEPT	NOx
164204	2	CITY OF RIVERSIDE, PUBLIC UTILITIES DEPT	NOx
14502	2	VERNON PUBLIC UTILITIES	NOx
16978	2	CLOUGHERTY PACKING LLC/HORMEL FOODS CORP	NOx
182561	1	COLTON POWER, LP	NOx
182563	1	COLTON POWER, LP	NOx



**ANNUAL RECLAIM AUDIT**

---

Facility ID	Cycle	Facility Name	Program
38440	2	COOPER & BRAIN - BREA	NOx
68042	2	CORONA ENERGY PARTNERS, LTD	NOx
126536	1	CPP – POMONA	NOx
50098	1	D&D DISPOSAL INC, WEST COAST RENDERING CO	NOx
63180	1	DARLING INGREDIENTS INC.	NOx
3721	2	DART CONTAINER CORP OF CALIFORNIA	NOx
7411	2	DAVIS WIRE CORP	NOx
143738	2	DCOR LLC	NOx
143739	2	DCOR LLC	NOx
143740	2	DCOR LLC	NOx
143741	1	DCOR LLC	NOx
47771	1	DELEO CLAY TILE CO INC	NOx
800037	2	DEMENNO-KERDOON DBA WORLD OIL RECYCLING	NOx
125579	1	DIRECTV	NOx
800189	1	DISNEYLAND RESORT	NOx
142536	2	DRS SENSORS & TARGETING SYSTEMS, INC	NOx
178639	1	ECO SERVICES OPERATIONS LLC	NOx/SOx
800264	2	EDGINGTON OIL COMPANY	NOx/SOx
115663	1	EL SEGUNDO POWER, LLC	NOx
800372	2	EQUILON ENTER. LLC, SHELL OIL PROD. US	NOx/SOx
124838	1	EXIDE TECHNOLOGIES	NOx/SOx
95212	1	FABRICA	NOx
11716	1	FONTANA PAPER MILLS INC	NOx
175154	2	FREEPORT-MCMORAN OIL & GAS	NOx
346	1	FRITO-LAY, INC.	NOx
2418	2	FRUIT GROWERS SUPPLY CO	NOx
142267	2	FS PRECISION TECH LLC	NOx
176934	1	GI TC IMPERIAL HIGHWAY, LLC	NOx
124723	1	GREKA OIL & GAS	NOx
137471	2	GRIFOLS BIOLOGICALS INC	NOx
156741	2	HARBOR COGENERATION CO, LLC	NOx
157359	1	HENKEL ELECTRONIC MATERIALS, LLC	NOx
123774	1	HERAEUS PRECIOUS METALS NO. AMERICA, LLC	NOx
113160	2	HILTON COSTA MESA	NOx
800066	1	HITCO CARBON COMPOSITES INC	NOx
2912	2	HOLLIDAY ROCK CO INC	NOx



**ANNUAL RECLAIM AUDIT**

---

Facility ID	Cycle	Facility Name	Program
800003	2	HONEYWELL INTERNATIONAL INC	NOx
124808	2	INEOS POLYPROPYLENE LLC	NOx/SOx
129816	2	INLAND EMPIRE ENERGY CENTER, LLC	NOx
157363	2	INTERNATIONAL PAPER CO	NOx
16338	1	KAISER ALUMINUM FABRICATED PRODUCTS, LLC	NOx
21887	2	KIMBERLY-CLARK WORLDWIDE INC.-FULT. MILL	NOx/SOx
1744	2	KIRKHILL - TA COMPANY	NOx
800335	2	LA CITY, DEPT OF AIRPORTS	NOx
800170	1	LA CITY, DWP HARBOR GENERATING STATION	NOx
800074	1	LA CITY, DWP HAYNES GENERATING STATION	NOx
800075	1	LA CITY, DWP SCATTERGOOD GENERATING STN	NOx
800193	2	LA CITY, DWP VALLEY GENERATING STATION	NOx
61962	1	LA CITY, HARBOR DEPT	NOx
550	1	LA CO., INTERNAL SERVICE DEPT	NOx
173904	2	LAPEYRE INDUSTRIAL SANDS, INC	NOx
141295	2	LEKOS DYE AND FINISHING, INC	NOx
144455	2	LIFOAM INDUSTRIES, LLC	NOx
83102	2	LIGHT METALS INC	NOx
151394	2	LINN OPERATING INC	NOx
151532	2	LINN OPERATING, INC	NOx
180367	1	LINN OPERATING, INC.	NOx
152054	1	LINN WESTERN OPERATING INC	NOx
151415	2	LINN WESTERN OPERATING, INC	NOx
115314	2	LONG BEACH GENERATION, LLC	NOx
17623	2	LOS ANGELES ATHLETIC CLUB	NOx
58622	2	LOS ANGELES COLD STORAGE CO	NOx
800080	2	LUNDAY-THAGARD CO DBA WORLD OIL REFINING	NOx/SOx
38872	1	MARS PETCARE U.S., INC.	NOx
14049	2	MARUCHAN INC	NOx
3029	2	MATCHMASTER DYEING & FINISHING INC	NOx
182970	1	MATRIX OIL CORP	NOx
2825	1	MCP FOODS INC	NOx
173290	1	MEDICLEAN	NOx
176952	2	MERCEDES-BENZ WEST COAST CAMPUS	NOx
94872	2	METAL CONTAINER CORP	NOx
155877	1	MILLERCOORS USA LLC	NOx



**ANNUAL RECLAIM AUDIT**

---

Facility ID	Cycle	Facility Name	Program
12372	1	MISSION CLAY PRODUCTS	NOx
11887	2	NASA JET PROPULSION LAB	NOx
115563	1	NCI GROUP INC., DBA, METAL COATERS OF CA	NOx
40483	2	NELCO PROD. INC	NOx
172005	2	NEW - INDY ONTARIO, LLC	NOx
12428	2	NEW NGC, INC.	NOx
131732	2	NEWPORT FAB, LLC	NOx
18294	1	NORTHROP GRUMMAN SYSTEMS CORP	NOx
800408	1	NORTHROP GRUMMAN SYSTEMS	NOx
800409	2	NORTHROP GRUMMAN SYSTEMS CORPORATION	NOx
112853	2	NP COGEN INC	NOx
115315	1	NRG CALIFORNIA SOUTH LP, ETIWANDA GEN ST	NOx
89248	2	OLD COUNTRY MILLWORK INC	NOx
47781	1	OLS ENERGY-CHINO	NOx
183564	2	ONNI TIMES SQUARE LP	NOx
183415	2	ONTARIO INTERNATIONAL AIRPORT AUTHORITY	NOx
35302	2	OWENS CORNING ROOFING AND ASPHALT, LLC	NOx/SOx
7427	1	OWENS-BROCKWAY GLASS CONTAINER INC	NOx/SOx
45746	2	PABCO BLDG PRODUCTS LLC,PABCO PAPER, DBA	NOx/SOx
17953	1	PACIFIC CLAY PRODUCTS INC	NOx
59618	1	PACIFIC CONTINENTAL TEXTILES, INC.	NOx
2946	1	PACIFIC FORGE INC	NOx
130211	2	NOVIPAX, INC	NOx
800183	1	PARAMOUNT PETR CORP	NOx/SOx
800168	1	PASADENA CITY, DWP	NOx
171107	2	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL	NOx/SOx
171109	1	PHILLIPS 66 COMPANY/LOS ANGELES REFINERY	NOx/SOx
137520	1	PLAINS WEST COAST TERMINALS LLC	NOx
800416	1	PLAINS WEST COAST TERMINALS LLC	NOx
800417	2	PLAINS WEST COAST TERMINALS LLC	NOx
800419	2	PLAINS WEST COAST TERMINALS LLC	NOx
800420	2	PLAINS WEST COAST TERMINALS LLC	NOx
168088	1	POLYNT COMPOSITES USA INC	NOx
11435	2	PQ CORPORATION	NOx/SOx
7416	1	PRAXAIR INC	NOx
42630	1	PRAXAIR INC	NOx



**ANNUAL RECLAIM AUDIT**

---

Facility ID	Cycle	Facility Name	Program
136	2	PRESS FORGE CO	NOx
105903	1	PRIME WHEEL	NOx
179137	1	QG PRINTING II LLC	NOx
8547	1	QUEMETCO INC	NOx/SOx
19167	2	R J. NOBLE COMPANY	NOx
3585	2	R. R. DONNELLEY & SONS CO, LA MFG DIV	NOx
20604	2	RALPHS GROCERY CO	NOx
114997	1	RAYTHEON COMPANY	NOx
115172	2	RAYTHEON COMPANY	NOx
800371	2	RAYTHEON SYSTEMS COMPANY - FULLERTON OPS	NOx
20203	2	RECONSERVE OF CALIFORNIA-LOS ANGELES INC	NOx
180410	2	REICHHOLD LLC 2	NOx
52517	1	REXAM BEVERAGE CAN COMPANY	NOx
61722	2	RICOH ELECTRONICS INC	NOx
800113	2	ROHR, INC.	NOx
4242	2	SAN DIEGO GAS & ELECTRIC	NOx
161300	2	SAPA EXTRUDER, INC	NOx
155221	2	SAVE THE QUEEN LLC (DBA QUEEN MARY)	NOx
15504	2	SCHLOSSER FORGE COMPANY	NOx
14926	1	SEMPRA ENERGY (THE GAS CO)	NOx
152707	1	SENTINEL ENERGY CENTER LLC	NOx
184301	1	SENTINEL PEAK RESOURCES CALIFORNIA, LLC	NOx
800129	1	SFPP, L.P.	NOx
37603	1	SGL TECHNIC INC, POLYCARBON DIVISION	NOx
131850	2	SHAW DIVERSIFIED SERVICES INC	NOx
117227	2	SHCI SM BCH HOTEL LLC, LOEWS SM BCH HOTE	NOx
16639	1	SHULTZ STEEL CO	NOx
54402	2	SIERRA ALUMINUM COMPANY	NOx
85943	2	SIERRA ALUMINUM COMPANY	NOx
101977	1	SIGNAL HILL PETROLEUM INC	NOx
119596	2	SNACK KING CORPORATION	NOx
43201	2	SNOW SUMMIT INC	NOx
4477	1	SO CAL EDISON CO	NOx
5973	1	SO CAL GAS CO	NOx
800127	1	SO CAL GAS CO	NOx
800128	1	SO CAL GAS CO	NOx



**ANNUAL RECLAIM AUDIT**

---

Facility ID	Cycle	Facility Name	Program
8582	1	SO CAL GAS CO/PLAYA DEL REY STORAGE FAC	NOx
169754	1	SO CAL HOLDING, LLC	NOx
14871	2	SONOCO PRODUCTS CO	NOx
160437	1	SOUTHERN CALIFORNIA EDISON	NOx
800338	2	SPECIALTY PAPER MILLS INC	NOx
1634	2	STEELCASE INC, WESTERN DIV	NOx
126498	2	STEELSCAPE, INC	NOx
105277	2	SULLY MILLER CONTRACTING CO	NOx
19390	1	SULLY-MILLER CONTRACTING CO.	NOx
3968	1	TABC, INC	NOx
18931	2	TAMCO	NOx/SOx
174591	1	TESORO REF & MKTG CO LLC,CALCINER	NOx/SOx
174655	2	TESORO REFINING & MARKETING CO, LLC	NOx/SOx
151798	1	TESORO REFINING AND MARKETING CO, LLC	NOx/SOx
800436	1	TESORO REFINING AND MARKETING CO, LLC	NOx/SOx
96587	1	TEXOLLINI INC	NOx
16660	2	THE BOEING COMPANY	NOx
115241	1	THE BOEING COMPANY	NOx
800067	1	THE BOEING COMPANY	NOx
800038	2	THE BOEING COMPANY - C17 PROGRAM	NOx
148340	2	THE BOEING COMPANY-BUILDING 800 COMPLEX	NOx
14736	2	THE BOEING CO-SEAL BEACH COMPLEX	NOx
11119	1	THE GAS CO./ SEMPRA ENERGY	NOx
153199	1	THE KROGER CO/RALPHS GROCERY CO	NOx
97081	1	THE TERMO COMPANY	NOx
109914	1	THERMAL REMEDIATION SOLUTIONS, LLC	NOx
800330	1	THUMS LONG BEACH	NOx
129497	1	THUMS LONG BEACH CO	NOx
800325	2	TIDELANDS OIL PRODUCTION CO	NOx
68118	2	TIDELANDS OIL PRODUCTION COMPANY ETAL	NOx
171960	2	TIN, INC. DBA INTERNATIONAL PAPER	NOx
137508	2	TONOGA INC, TACONIC DBA	NOx
181667	1	TORRANCE REFINING COMPANY LLC	NOx/SOx
182049	2	TORRANCE VALLEY PIPELINE CO LLC	NOx
182050	1	TORRANCE VALLEY PIPELINE CO LLC	NOx
182051	1	TORRANCE VALLEY PIPELINE CO LLC	NOx



**ANNUAL RECLAIM AUDIT**

---

Facility ID	Cycle	Facility Name	Program
53729	1	TREND OFFSET PRINTING SERVICES, INC	NOx
165192	2	TRIUMPH AEROSTRUCTURES, LLC	NOx
43436	1	TST, INC.	NOx
800026	1	ULTRAMAR INC	NOx/SOx
9755	2	UNITED AIRLINES INC	NOx
800149	2	US BORAX INC	NOx
800150	1	US GOVT, AF DEPT, MARCH AIR RESERVE BASE	NOx
800393	1	VALERO WILMINGTON ASPHALT PLANT	NOx
9053	1	ENWAVE LOS ANGELES INC.	NOx
11034	2	ENWAVE LOS ANGELES INC.	NOx
14495	2	VISTA METALS CORPORATION	NOx
146536	1	WALNUT CREEK ENERGY, LLC	NOx/SOx
42775	1	WEST NEWPORT OIL CO	NOx/SOx
17956	1	WESTERN METAL DECORATING CO	NOx
51620	1	WHEELABRATOR NORWALK ENERGY CO INC	NOx
127299	2	WILDFLOWER ENERGY LP/INDIGO GEN., LLC	NOx



## APPENDIX B

### FACILITY INCLUSIONS

---

As discussed in Chapter 1, three facilities were added to the RECLAIM universe in Compliance Year 2016. The included facilities are identified below, and the reasons for inclusion are also provided.

Facility ID	Cycle	Facility Name	Market	Date	Reason
126536	1	CPP - POMONA	NOx	01-Jan-16	Reported emissions from permitted sources exceeded four tons in a year.
181510	1	AVCORP COMPOSITE FABRICATION, INC	NOx	07-Jun-16	Partial change of operator from an existing facility.
183832	2	AST TEXTILE GROUP, INC.	NOx	24-Mar-17	A new operator took over the operation of a previously shutdown facility and applied for a permit as a change of operator.



## APPENDIX C

### RECLAIM FACILITIES CEASING OPERATION OR EXCLUDED

---

SCAQMD staff is aware of the following RECLAIM facilities that permanently shut down all operations, inactivated all their RECLAIM permits, or were excluded from the RECLAIM universe during Compliance Year 2016. The reasons for shutdowns and exclusions cited below are based on the information provided by the facilities and other information available to SCAQMD staff.

Facility ID	18455
Facility Name	Royalty Carpet Mills, Inc.
City and County	Irvine, Orange County
SIC	2273
Pollutant(s)	NOx
1994 Allocation	14,076 lbs.
Reason for Shutdown	The facility stated more attractive utility of land or resources as the reason for shutdown.

Facility ID	152501
Facility Name	Precision Specialty Metals, Inc.
City and County	Los Angeles, Los Angeles County
SIC	3312
Pollutant(s)	NOx
1994 Allocation	12,420 lbs.
Reason for Shutdown	The facility stated that it was liquidated and their equipment was destroyed or sold, then moved to Monterey, Mexico.

Facility ID	153033
Facility Name	Georgia Pacific Corrugated LLC
City and County	Buena Park, Orange County
SIC	2679
Pollutant(s)	NOx
1994 Allocation	2,082 lbs.
Reason for Shutdown	The company stated the reason for the shutdown was that the manufacturing, production, and raw material cost were too high.

Facility ID	169678
Facility Name	ITT Cannon, LLC
City and County	Santa Ana, Orange County
SIC	3643
Pollutant(s)	NOx
1994 Allocation	3,683 lbs.
Reason for Shutdown	The facility indicated a complete shutdown of this location. Their permits were inactivated, and operations were consolidated and relocated with operations at other ITT facilities, located in Irvine, California and Nogales, Mexico.



**ANNUAL RECLAIM AUDIT**

---

Facility ID 151601  
Facility Name California Resources Production Corporation  
City and County La Habra Heights, Los Angeles County  
SIC 1311  
Pollutant(s) NOx  
1994 Allocation 14,602 lbs.  
Reason for Shutdown This facility has had no equipment requiring permits or RECLAIM emissions in over 10 years. They did file their Rule 219 exempt equipment under Rule 222 as required. When the property was sold to a new owner, no permitted equipment remained on the property.

Facility ID 2083  
Facility Name Superior Industries International, Inc.  
City and County Van Nuys, Los Angeles County  
SIC 3714  
Pollutant(s) NOx  
1994 Allocation 38,948 lbs.  
Reason for Shutdown Facility operations were consolidated and the corporate offices were moved to Southfield, Michigan. The production volumes were moved to Chihuahua, Mexico and the building was sold.

Facility ID 132071  
Facility Name Dean Foods Co. of California  
City and County Buena Park, Orange County  
SIC 2026  
Pollutant(s) NOx  
1994 Allocation 7,558 lbs.  
Reason for Shutdown The facility stated that they had moved to Utah and consolidated with an existing ice cream plant there for logistical benefits.

Facility ID 119104  
Facility Name Calmat Co  
City and County Saugus, Los Angeles  
SIC 2951  
Pollutant(s) NOx / SOx  
1994 Allocation NOx = 40,270 lbs.; SOx = 3,760 lbs.  
Reason for Shutdown The facility stated that due to a market downturn all production ceased and no RECLAIM emissions had been produced since 2009. In December of 2016, it was decided that it would not be feasible to re-open the facility for production, finding no market demand had existed for many years. All permits were cancelled in 2016.

Facility ID 181505  
Facility Name American Airlines Inc.  
City and County Los Angeles, Los Angeles County  
SIC 4512  
Pollutant(s) NOx  
1994 Allocation 25,340 lbs.  
Reason for Shutdown This facility was merged with facility #800196, another RECLAIM facility, who assumed operation of all existing equipment. (This facility was categorized as an exclusion in Chapter 1.)



## APPENDIX D

### FACILITIES THAT EXCEEDED THEIR ANNUAL ALLOCATION FOR COMPLIANCE YEAR 2016

---

The following is a list of facilities that did not have enough RTCs to cover their NOx and/or SOx emissions in Compliance Year 2016 based on the results of audits conducted by SCAQMD staff.

Facility ID	Facility Name	Compliance Year	Emittant
136	Press Forge Co.	2016	NOx
3029	Matchmaster Dyeing and Finishing Inc.	2016	NOx
7411	Davis Wire Corp.	2016	NOx
7427	Owens-Brockway Glass Container Inc.	2016	NOx
16338	Kaiser Aluminum Fabricated Products, LLC	2016	NOx
17956	Western Metal Decorating Co.	2016	NOx
118406	Carson Cogeneration Company	2016	NOx
124723	Greka Oil & Gas	2016	NOx
157359	Henkel Electronic Materials, LLC	2016	NOx
179137	QG Printing II, LLC	2016	NOx
182050	Torrance Valley Pipeline Co., LLC	2016	NOx
800181	California Portland Cement Co.	2016	NOx/SOx
800416	Plains West Coast Terminals, LLC	2016	NOx



## **APPENDIX E**

### **REPORTED JOB IMPACTS ATTRIBUTED TO RECLAIM**

---

Each year, RECLAIM facility operators are asked to provide employment data in their APEP reports. The report asks company representatives to quantify job increases and/or decreases, and to report the positive and/or negative impacts of the RECLAIM program on employment at their facilities. This appendix is included in each Annual RECLAIM Audit Report to provide detailed information for facilities reporting that RECLAIM contributed to job gains or losses.

#### **Facilities with reported job gains or losses attributed to RECLAIM:**

Facility ID:	123774
Facility Name:	Heraeus Precious Metals No. America, LLC
City and County:	Riverside, Riverside County
SIC:	3341
Pollutant(s):	NOx
Cycle:	1
Job Gain:	24
Job Loss:	33
Comments:	The facility claims 15 jobs lost due to RECLAIM because of "increased cost of operation for compliance, [and] permitting fees".





# Annual RECLAIM Audit Report for 2016 Compliance Year

---

South Coast Air Quality Management District  
Governing Board Meeting  
March 2, 2018



A decorative graphic consisting of several overlapping squares in yellow, red, and blue, with a white crosshair-like pattern. The word "RECLAIM" is written in a large, bold, yellow, sans-serif font to the right of the graphic.

# RECLAIM

---

## REgional Clean Air Incentives Market (RECLAIM) program:

- A cap and trade program adopted in October 1993
- Objective is to meet emission reduction requirements and enhance emission monitoring while providing additional flexibility to lower compliance costs
- Includes largest NO<sub>x</sub> and SO<sub>x</sub> sources
- Specifies facility declining annual emissions caps
- Allows options to reduce emissions or buy RECLAIM Trading Credits (RTCs)

Compliance Year (CompYr) 2016 is the 23<sup>rd</sup> year of the program (started in 1994)





# RECLAIM Annual Audit

---

- RECLAIM (Rule 2015) requires an annual audit of the program
- Annual RECLAIM Audit Report for Compliance Year 2016
  - Cycle 1: Jan 1, 2016 – Dec 31, 2016
  - Cycle 2: Jul 1, 2016 – Jun 30, 2017
- RECLAIM had 262 facilities at the end of CompYr 2016 (268 at end of CompYr 2015)





# 2016 Annual RECLAIM Audit Findings Compliance

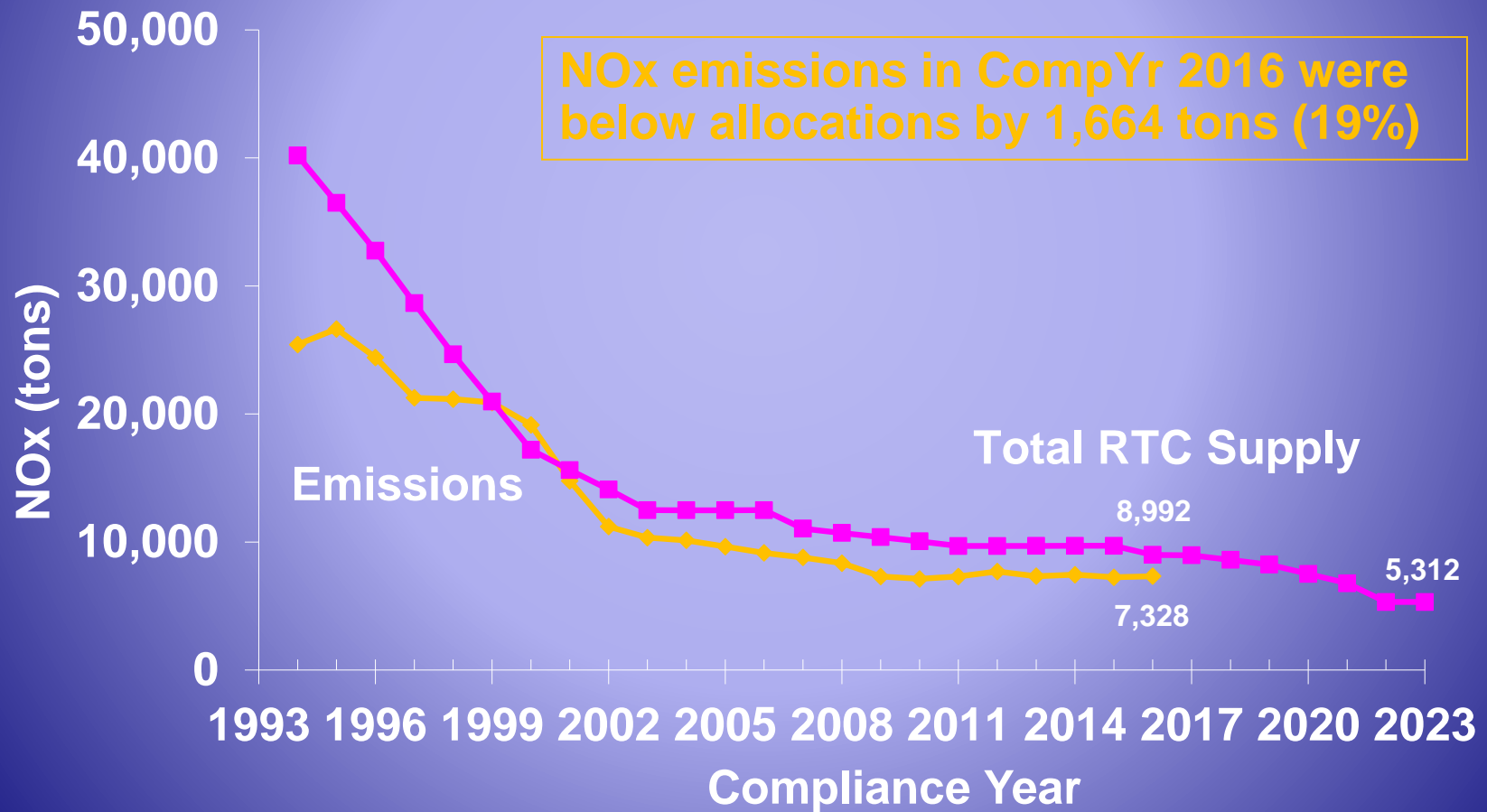
---

- RECLAIM met overall NOx and SOx emissions goals:
  - NOx emissions **19%** below allocations
  - SOx emissions **29%** below allocations
- Allocation Shave
  - NOx Shave of 22.5% adopted January 2005 and implemented in 2007 - 2011
  - SOx Shave of 48.4% adopted November 2010 and implemented in 2013 - 2019
  - Additional NOx Shave of 45.2% adopted in December 2015 and implemented in 2016 - 2022



# RECLAIM

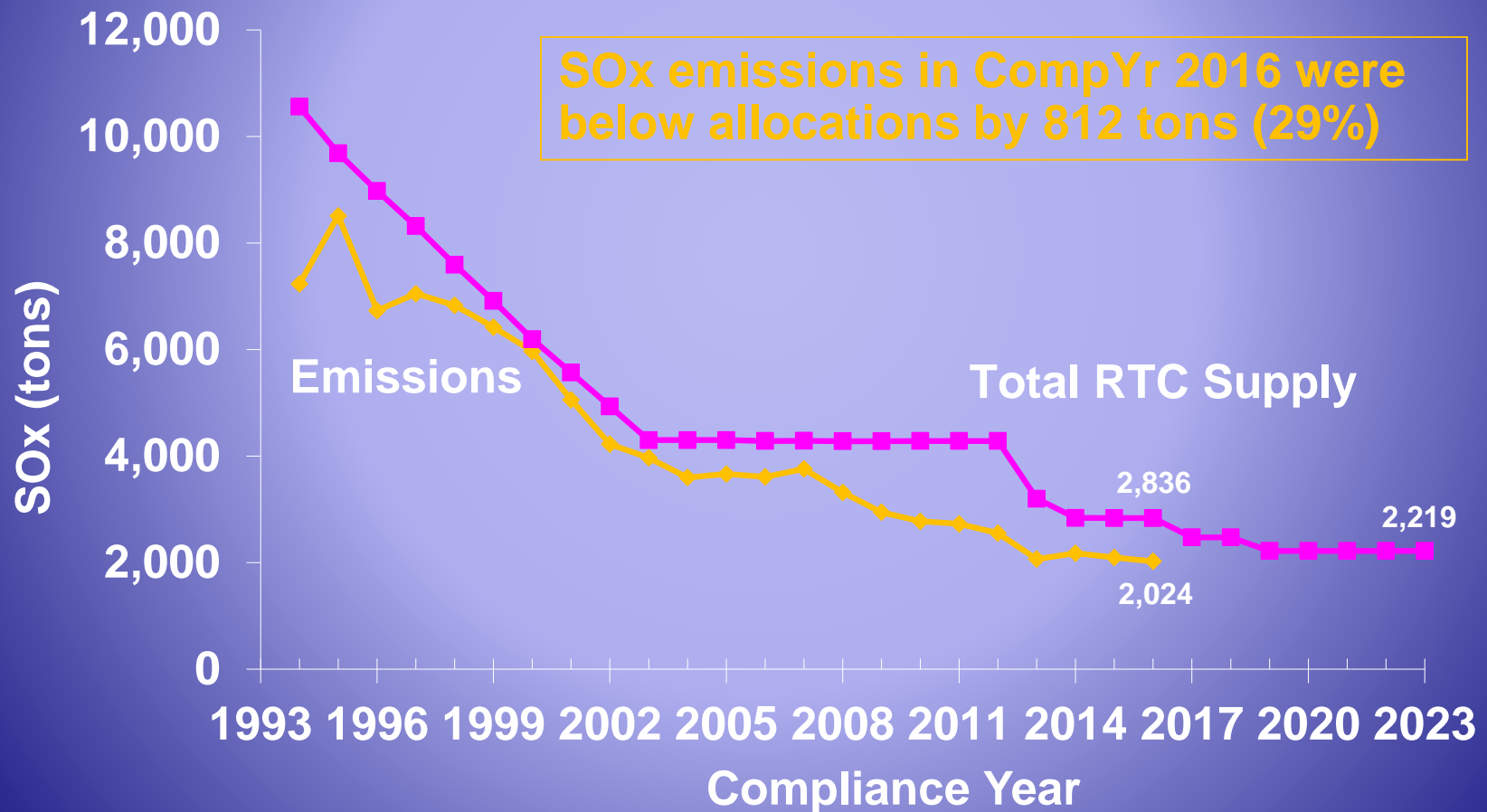
## NOx Emissions vs. Allocations Trends





# RECLAIM

## SOx Emissions vs. Allocations Trends







# 2016 Annual RECLAIM Audit Findings Compliance

---

- RECLAIM had a high rate of facility compliance:
  - NOx Facilities – **95%**
  - SOx Facilities – **97%**
- Facilities exceeding their allocations
  - NOx – 13 facilities exceeded by 8.3 tons (0.09% of total allocations)
  - SOx – one facility exceeded by 0.10 tons (less than 0.01% of total allocations)

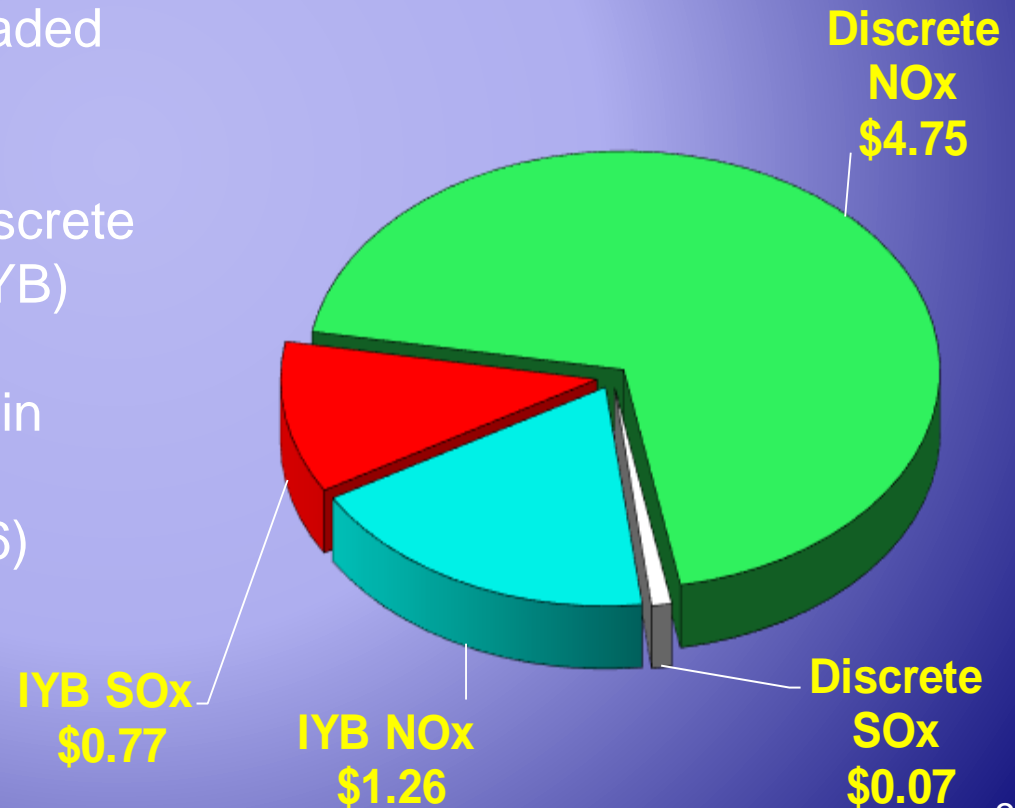


# 2016 Annual RECLAIM Audit Findings

## Credit Trading and Prices

- Over \$1.48 billion of RTCs traded since program inception
- RTCs are traded as either Discrete Year or Infinite-Year Block (IYB)
- \$6.86 million of RTCs traded in Calendar Year (CalYr) 2017 (\$ 118.6 million in CalYr 2016)

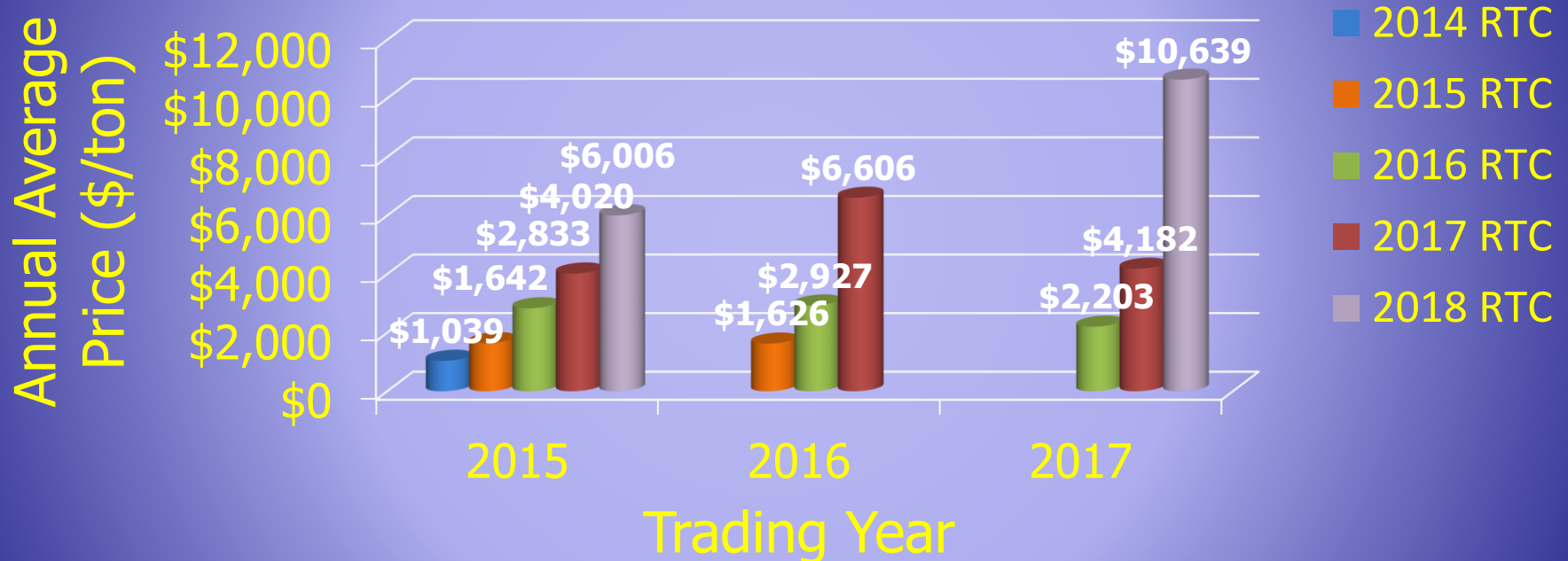
**Value Traded in CalYr 2017  
(Million \$)**





# 2016 Annual RECLAIM Audit Findings

## Average Discrete Year NOx RTC Prices



- Average prices in CalYr 2017 below program review thresholds:
  - \$15,000/ton [Rule 2015]
  - \$44,070/ton [Health and Safety Code]



# 2016 Annual RECLAIM Audit Findings

## Average Discrete Year SOx RTC Prices



- Average prices in CalYr 2017 below program review thresholds:
  - \$15,000/ton [Rule 2015]
  - \$31,730/ton [Health and Safety Code]



# 2016 Annual RECLAIM Audit Findings

## Average IYB RTC Prices



- 2017 IYB RTC average prices remain below program review thresholds [Health and Safety Code]

■ NOx = \$661,045/ton

■ SOx = \$475,952/ton



# 2016 Annual RECLAIM Audit Findings

## Investor Participation during CalYr 2017

- Investors are RTC holders who are not RECLAIM facility operators
- Investor participation remained active in CalYr 2017 trades.

RTC Type	Value		Volume	
	NOx	SOx	NOx	SOx
Discrete	61%	94%	60%	94%
IYB	100%	100%	100%	100%

- Investors' holdings at the end of CalYr 2016
  - 3.3% of IYB NOx RTCs (up from 3.1 % in CalYr 2016)
  - 6.0% of IYB SOx RTCs (up from 5.0 % in CalYr 2016)



# 2016 Annual RECLAIM Audit Findings

## RECLAIM Transition

---

- On January 5, 2018, Board amended Rule 2001 – Applicability, and Rule 2002 – Allocations for Oxides of Nitrogen (NO<sub>x</sub>) and Oxides of Sulfur (SO<sub>x</sub>) to initiate the transition of the RECLAIM program to a command-and-control regulatory structure
- Staff has identified an initial group of 38 facilities that can potentially exit the NO<sub>x</sub> RECLAIM program
- Targeted the first quarter of 2019 to complete this transition





## 2016 Annual RECLAIM Audit Findings

---

- RECLAIM facilities overall employment loss of 0.88% (net loss of 982 jobs)
- Met federal NSR offset ratios
- No significant shift in seasonal emissions
- No evidence of increased health risk due to RECLAIM



# 2016 Annual RECLAIM Audit Findings Summary/Recommendations

---

## Summary:

- Programmatic compliance achieved (NOx and SOx emissions were 19% and 29% below allocations, respectively)
- Individual facility compliance rate remained high (95% & 97% for NOx and SOx, respectively)
- RTC prices stayed far below program review thresholds
- RECLAIM met all other requirements

## Recommendation:

- Approve the Annual RECLAIM Audit Report for 2016 Compliance Year



 [Back to Agenda](#)

BOARD MEETING DATE: March 2, 2018

AGENDA NO. 36

**PROPOSAL:** Approve Amendments to Compensation and Work Condition Provisions for Non-Represented Employees, and Amend Agreements with Executive Officer and the General Counsel for Comparable Terms

**SYNOPSIS:** This action is to present amendments to the SCAQMD *Salary Resolution* and SCAQMD *Administrative Code* for consideration and approval. The proposed amendments address compensation and work conditions for non-represented employees for a three-year period. This action is also to amend the executive management agreements of the Executive Officer and the General Counsel to increase their salary and to amend benefit provisions, with terms comparable to those for the non-represented employees.

**COMMITTEE:** No Committee Review

**RECOMMENDED ACTIONS:**

1. Approve amendments to the SCAQMD *Salary Resolution* and the SCAQMD *Administrative Code* to effect terms to modify compensation and work condition provisions for non-represented employees. Changes to the SCAQMD *Salary Resolution* and SCAQMD *Administrative Code* are shown in Attachments A and B.
2. Adopt the Resolution in Attachment C, amending SCAQMD's *Salary Resolution* and *Administrative Code*.
3. Approve amendments to the Executive Management Agreements with the Executive Officer and the General Counsel to amend salary and benefit provisions with terms comparable to those for the non-represented employees. Proposed amendments are shown in Attachments D and E, respectively.

Dr. William A. Burke  
Chairman



## **Background**

On January 5, 2018, the Board approved a new three-year MOU with Teamsters Local 911, representing the Technical & Enforcement and Office Clerical & Maintenance bargaining units. The MOU included: the addition of three new Salary Steps (6,7,8) with a 3% salary increase with each Step advance; a modified accrual limit, and a new sell back provision for Holiday Earned Hours; a \$2 increase to the Standby Pay rate; a \$1 increase to the Night Service Differential; expansion of the eligibility for Rideshare incentives to all members; and increases to the limit for tuition reimbursement. Other amendments addressed changes to Vacation accrual and payout, Callback pay, the provision for health insurance costs, and work conditions, as well as language clarifications. Where applicable, similar provisions are being proposed for non-represented employees, which includes the Confidential Unit, Management, and Designated Deputies. In addition, amendments to the salary and benefits provisions of the Executive Officer and the General Counsel agreements are being recommended.

## **Proposal**

The proposed amendments to the SCAQMD *Salary Resolution* and SCAQMD *Administrative Code* include: the addition of three new Salary Steps (6,7,8) with a 2.75% salary increase with each Step advance, effective July 1 of 2018, 2019, and 2020, for Confidential and Management employees, and the Health Effects Officer position; annual salary increases of 2.75%, effective July 1 of 2018, 2019, and 2020, for Designated Deputies (other than the Health Effects Officer); a modified accrual limit, and a new sell back provision for Holiday Earned Hours; a \$2 increase to the Standby Pay rate; a \$1 increase to the Night Service Differential; an increase to the limit for tuition reimbursement; and expansion of the eligibility for Rideshare incentives to all Confidential, Management, and Designated Deputies. Other amendments address changes to work conditions, as well as language clarifications. Proposed changes to the *Salary Resolution* and *Administrative Code* are reflected in Attachments A and B, respectively.

Comparable terms for the Executive Officer and the General Counsel are proposed for approval. The Executive Officer's salary will be increased by 2.75%, effective July 1, 2018, to \$278,535.40. In addition, the District's annual contribution amount to the Executive Officer's 401(a) Plan account will be increased by \$500, to match the new IRS limits. The General Counsel's salary will be increased by 2.75%, effective July 1, 2018, to \$208,257.81. Other applicable provisions will be included. Proposed changes to the Executive Management Agreements with the Executive Officer and the General Counsel are reflected in Attachments D and E, respectively.



**Resource Impacts**

There is sufficient funding available in the FY 2017-18 Budget to cover the costs of the proposed adjustments to salary and benefits through June 2018. Funding for costs going forward will be requested in future fiscal year budgets.

**Attachments**

Attachment A – Amendments to *Salary Resolution*

Attachment B – Amendments to *SCAQMD Administrative Code*

Attachment C – Resolution - Amend SCAQMD's *Salary Resolution* and SCAQMD's *Administrative Code*

Attachment D – Amendments to Executive Management Agreement (Executive Officer)

Attachment E – Amendments to Executive Management Agreement (General Counsel)



**ATTACHMENT A**  
**AMENDMENTS TO *SALARY RESOLUTION***

**SOUTH COAST**

**AIR QUALITY MANAGEMENT DISTRICT**

***SALARY RESOLUTION***

**~~March 3, 2017~~March 2, 2018**



## **Section 23. DIFFERENTIAL FOR NIGHT SERVICE**

a. For purposes of this section only:

- (1) An evening shift is a regularly established work shift at least one-half of which falls between the hours of 4 p.m. and 11 p.m.
- (2) A night shift is a regularly established work shift at least one-half of which falls between the hours of 9 p.m. and 8 a.m.

b. A \$12-per-hour bonus may be paid to any employee for each hour worked during an evening or night shift, except as otherwise provided herein.

## **Section 24. STANDBY PAY**

When authorized, a \$13-per-hour payment may be paid to any employee assigned regularly scheduled periods of standby service at off-duty times. Employees who are required to stand by must be available to return to duty with minimal delay, which may or may not require travel to SCAQMD headquarters or another location. Employees on standby shall not be considered to be inconvenienced or have their normal activities restricted if they are required to wear a paging device be available to respond to phone calls or text message by mobile phone, or are required to leave a telephone number where they can be reached by management or management's designee be available to respond to instant messages or emails.

## **Section 25. CALLBACK PAY**

- a. ~~Whenever employees are unexpectedly ordered by their supervisors to return to duty because of unanticipated work requirements, such return to duty shall be deemed to be a callback if the order to return is given to the employee following termination of his or her normal work shift and departure from the work location, and such return occurs within 24 hours of when the order is given, but not less than two (2) hours before the established starting time of the employee's next regular shift. Represented employees shall refer to their MOU for Callback Pay provisions.~~
- b. ~~Any exempt employee as defined under the Fair Labor Standards Act (FLSA) employed in a full-time permanent position shall receive callback pay as follows:~~
- ~~(1) Minimum payment equal to four (4) hours of pay at time and one-half; or~~
  - ~~(2) Minimum payment equal to four (4) hours of compensatory time at time and one-half to be added to his or her balance.~~

~~If the total number of hours worked during the callback exceeds four (4) hours, the employee shall receive compensation at time and one-half for all hours worked. As an alternative, the employee may opt to receive compensatory time at time and one-half for all hours worked. The compensatory time and overtime provisions of this section shall apply regardless of the compensatory time balance of the employee prior to being called back.~~



~~Nonexempt employees as defined by FLSA shall not be afforded the compensating time option cited above. All nonexempt employees shall receive a minimum payment at the rate of four (4) hours of pay at time and one half their regular rate of pay. If the total number of hours worked during the callback exceeds four (4) hours, employees shall receive overtime pay at time and one half their regular rate of pay. The term "regular rate" shall be as defined by FLSA.~~

~~c. Whenever an employee is unexpectedly ordered by his or her supervisor to return to duty as provided above, but such return occurs less than two (2) hours before the established starting time of the employee's next regular shift, it shall be deemed an early shift start, and the employee shall be compensated at overtime rates for any overtime worked as a direct result thereof.~~

~~d.b.~~ This section shall not apply to management and confidential employees.



## Section 27. WORK WEEK

- a. Four-Day Work Week. All persons employed by SCAQMD shall work on a four (4)-day-per-week basis, except as follows:
- (1) Where the Executive Officer finds that a four (4)-day work week is impracticable, he or she may authorize work on a 40-hour week basis. Such change in the number of work days shall not alter the basis for, nor entitlement to receive, the same rights and privileges as provided all employees who work a four (4)-day, 40-hour week.
  - (2) In case of extraordinary emergency, the Board may authorize more than four (4) days (or more than five (5) days, if on a five (5)-day, eight (8)-hour schedule) in any one (1) calendar week.
  - (3) Whenever in Section 53 of this *Resolution* the number of hours for a position is specified following the title of a position, that number shall be the basic number of hours per week for the position.
  - (4) Notwithstanding the above, the appointing authority may require any employee to work for more than four (4) days per week or for more than the regular number of hours in an assigned work day or week when public necessity or convenience requires such work.

Full-time employees shall work four (4) ten (10)-hour days within a seven (7) calendar-day period. This work schedule shall be applied to all employees, unless specifically exempted by management. Beginning January 2, 1995, for Designated Deputies, management, and confidential employees, and employees in the Technical and Enforcement and Office Clerical and Maintenance bargaining units, and May 1, 1996, for employees in the Professional bargaining unit, work days will be Tuesday through Friday, except that management may designate alternative work days for individual employees when operational needs require it.

Employees may choose, subject to supervisory approval, to start work as early as ~~7~~6:30 a.m. and end work as late as ~~6:30~~7:00 p.m.

Management may designate alternative work schedules for individual employees when operational needs require it. Reasonable advance notice shall be given to employees whose work schedules are changed. (Union-represented employees should see Article 5, "Work Week," Section 3, of their *Memorandum of Understanding*.)

Nothing contained herein shall be construed as guaranteeing to any employee a minimum number of hours per day, days per week, weeks per year, or any other guarantee of work.



## Section 28. HOLIDAYS

a. Definition. SCAQMD-paid holidays shall be:

- (1) July 4 (Independence Day)
- (2) First Monday in September (Labor Day)
- (3) November 11 (Veterans' Day)
- (4) Fourth Thursday and following Friday in November (Thanksgiving and following day)
- (5) December 25 (Christmas)
- (6) January 1 (New Year's Day)
- (7) Third Monday in January (Martin Luther King, Jr.'s Birthday)
- (8) Third Monday in February (President's Day)
- (9) Last Monday in May (Memorial Day)

On each September 1, SCAQMD employees shall be granted ten (10) hours (or eight (8) hours if working a 4/8 or 5/8 schedule) of floating holiday time in lieu of celebrating Admissions Day. On each February 1, SCAQMD employees shall be granted ten (10) hours (or eight (8) hours if working a 4/8 or 5/8 schedule) of floating holiday time in lieu of celebrating Abraham Lincoln's birthday.

Whenever any employee is unable to take such time off as provided by this section regarding floating holidays, such time may be carried over into the next succeeding calendar year during which year such time off must be taken or it is lost. However, if a pay period bridges two calendar years, an employee will have until the end of that pay period to take off floating holiday time before it is lost.

b. Paid Leave. Any employee who is employed on a biweekly basis shall be entitled to paid leave for holidays as defined by subsection a. of this section, as follows:

- (1) Forty (40)-hour-per-week employees and employees exempted for a medical condition from the 4/10 schedule who are regularly scheduled to work a minimum of four (4) eight (8)-hour days per week who charge a minimum of four (4) hours work or accrued leave time on the work day falling immediately before or, as long as it is within the same pay period, immediately after a holiday (when two (2) holidays occur on consecutive days, four (4) hours per holiday, or eight (8) hours, must be charged).
  - (a) Any employee working a 4/10 work schedule shall receive ten (10) hours of holiday pay for each said holiday.
  - (b) Any employee working a 4/8 or 5/8 work schedule shall receive eight (8) hours of holiday pay for each said holiday.
  - (c) ~~Whenever a represented employee's regularly scheduled day off falls on a holiday, he or she shall be granted ten (10) hours of compensatory time (eight (8) hours if working a 4/8 or 5/8 schedule). This time shall be accounted for in the same manner as that earned under Article 6 of the MOU.~~ Whenever a management or confidential employee's regularly scheduled day off falls on a holiday, he or she shall be granted



ten (10) hours of holiday leave time (eight (8) hours if working a 4/8 or 5/8 schedule) to be taken off at a later day subject to prior approval by such employee's supervisor.

- (d) Confidential employees working on a fixed SCAQMD holiday shall receive one (1) hour of holiday leave time for each one (1) hour worked up to ten (10) hours (or eight (8) hours if the employee is on a 5/8 work schedule). Any compensation for management employees working on a fixed holiday shall be in accordance with guidelines set by the Executive Officer, except that such compensation shall not exceed that granted confidential employees.
- (2) Part-time employees. Any part-time employee employed on a biweekly basis shall be allowed paid leave for each said holiday in the manner set forth in this section, but in an amount equal to the fraction of ten (10) hours or eight (8) hours equivalent to the basis for compensating said position.

c. Holiday Earned.

~~(3)~~(1) Whenever any employee is unable to take such time off as provided by this section 28b(1)(c) above in the same calendar year in which it is earned, such time may be carried over into the next succeeding calendar year, during which year such time off must be taken or it is lost. However, if a pay period bridges two (2) calendar years, an employee will have until the end of that pay period to take off holiday time before it is lost. accrued for up to 140 hours. Holiday earned accrual will resume at the beginning of the pay period immediately following the pay period in which the balance falls below 140. ~~This paragraph does not apply to compensatory time earned by represented employees under Section 28b(1)(c) above.~~

(2) From March 2, 2018 through March 31, 2018, any non-represented employee who has held a permanent full-time position for 26 consecutive pay periods shall have the option of selling back to SCAQMD up to 70 hours of holiday earned leave time accrued, and not used, during the previous 26 pay periods. Once an employee has sold back any amount of holiday earned leave time, the employee may not do so again for another 26 pay periods.

Beginning April 1, 2018, any non-represented employee who has held a permanent full-time position for 26 consecutive pay periods shall have the option of selling back to SCAQMD up to 40 hours of holiday earned leave time accrued, and not used, during the previous 26 pay periods. Once an employee has sold back any amount of holiday earned leave time, the employee may not do so again for another 26 pay periods.

~~(4)~~ d. Holiday Time Payoff. Any employee about to leave the service of SCAQMD shall be allowed a leave of absence of accumulated holiday time that has not been taken, calculated according to the provisions of this section. In place of this leave, a lump sum payment may be made to the employee. This payment shall be calculated by multiplying the employee's unused holiday time by his or her regular hourly rate at the date of termination.



## Section 54. MANAGEMENT AND CONFIDENTIAL CLASSIFICATION SALARIES

### **Effective April 5, 2013**

Effective with pay period 1310, or as soon as practicable, each management or confidential employee shall receive a one-time payment equal to one percent (1%) of their annual base salary.

### **Effective December 6, 2013**

Effective as soon as practicable after December 6, 2013, each management and confidential employee shall receive a one-time payment equal to 0.5% of their annual base salary.

Effective with the start of the pay period encompassing January 1, 2015.

<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Accountant	<b>\$62,515</b>	<b>\$77,359</b>
Administrative Assistant	<b>\$78,464</b>	<b>\$97,200</b>
Administrative Secretary	<b>\$52,957</b>	<b>\$65,565</b>
Administrative Secretary/Legal	<b>\$57,286</b>	<b>\$70,910</b>
Affirmative Action Officer	<b>\$84,157</b>	<b>\$102,312</b>
Assistant Database Administrator	<b>\$73,068</b>	<b>\$90,529</b>
Atmospheric Measurements Manager	<b>\$112,015</b>	<b>\$136,214</b>
Building Maintenance Manager	<b>\$84,157</b>	<b>\$102,312</b>
Business Services Manager	<b>\$84,157</b>	<b>\$102,312</b>
Clean Fuels Officer	<b>\$101,848</b>	<b>\$123,810</b>
Clerk of the Boards	<b>\$84,157</b>	<b>\$102,312</b>
Community Relations Manager	<b>\$84,157</b>	<b>\$102,312</b>
Controller	<b>\$112,015</b>	<b>\$136,214</b>



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Database Administrator	<b>\$95,079</b>	<b>\$117,738</b>
Deputy District Counsel I	<b>\$75,442</b>	<b>\$93,512</b>
Deputy District Counsel II	<b>\$101,848</b>	<b>\$123,810</b>
Executive Secretary	<b>\$63,939</b>	<b>\$79,335</b>
Financial Analyst	<b>\$78,464</b>	<b>\$97,200</b>
Financial Services Manager	<b>\$112,015</b>	<b>\$136,214</b>
Graphic Arts Manager	<b>\$84,157</b>	<b>\$102,312</b>
Human Resources Analyst	<b>\$78,464</b>	<b>\$97,200</b>
Human Resources Manager	<b>\$112,015</b>	<b>\$136,214</b>
Human Resources Technician	<b>\$51,272</b>	<b>\$63,474</b>
Investigations Manager	<b>\$84,157</b>	<b>\$102,312</b>
Legal Secretary	<b>\$52,957</b>	<b>\$65,565</b>
Legislative Analyst	<b>\$66,611</b>	<b>\$82,530</b>
Legislative Assistant	<b>\$57,286</b>	<b>\$70,910</b>
Planning & Rules Manager	<b>\$112,015</b>	<b>\$136,214</b>
Principal Deputy District Counsel	<b>\$120,768</b>	<b>\$146,859</b>
Procurement Manager	<b>\$112,015</b>	<b>\$136,214</b>
Public Affairs Manager	<b>\$92,610</b>	<b>\$112,596</b>
Quality Assurance Manager	<b>\$101,848</b>	<b>\$123,810</b>
Risk Manager	<b>\$92,610</b>	<b>\$112,596</b>
Secretary (Confidential)	<b>\$43,167</b>	<b>\$53,481</b>
Senior Accountant	<b>\$68,906</b>	<b>\$85,174</b>
Senior Administrative Secretary	<b>\$57,286</b>	<b>\$70,910</b>
Senior AQ Engineering Manager	<b>\$112,015</b>	<b>\$136,214</b>
Senior Deputy District Counsel	<b>\$115,375</b>	<b>\$140,300</b>
Senior Enforcement Manager	<b>\$112,015</b>	<b>\$136,214</b>



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Senior Public Affairs Manager	<b>\$112,015</b>	<b>\$136,214</b>
Senior Public Information Specialist	<b>\$70,503</b>	<b>\$87,294</b>
Supervising Payroll Technician	<b>\$52,550</b>	<b>\$64,984</b>
Systems Analyst	<b>\$85,668</b>	<b>\$106,061</b>
Systems & Programming Supervisor	<b>\$95,079</b>	<b>\$117,738</b>
Technology Implementation Manager	<b>\$112,015</b>	<b>\$136,214</b>
Telecommunications Analyst	<b>\$77,591</b>	<b>\$96,096</b>
Telecommunications Supervisor	<b>\$86,946</b>	<b>\$105,712</b>
Workers Comp. & Safety Analyst	<b>\$62,515</b>	<b>\$77,359</b>

Effective with the start of the pay period encompassing January 1, 2016.

<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Accountant	<b>\$63,453</b>	<b>\$78,519</b>
Administrative Assistant	<b>\$79,640</b>	<b>\$98,658</b>
Administrative Secretary	<b>\$53,752</b>	<b>\$66,548</b>
Administrative Secretary/Legal	<b>\$58,146</b>	<b>\$71,974</b>
Affirmative Action Officer	<b>\$85,419</b>	<b>\$103,847</b>
Assistant Database Administrator	<b>\$74,164</b>	<b>\$91,887</b>
Atmospheric Measurements Manager	<b>\$113,696</b>	<b>\$138,257</b>
Building Maintenance Manager	<b>\$85,419</b>	<b>\$103,847</b>
Business Services Manager	<b>\$85,419</b>	<b>\$103,847</b>
Clean Fuels Officer	<b>\$103,376</b>	<b>\$125,667</b>
Clerk of the Boards	<b>\$85,419</b>	<b>\$103,847</b>
Community Relations Manager	<b>\$85,419</b>	<b>\$103,847</b>



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Controller	\$113,696	\$138,257
Database Administrator	\$96,505	\$119,504
Deputy District Counsel I	\$76,574	\$94,914
Deputy District Counsel II	\$103,376	\$125,667
Executive Secretary	\$64,898	\$80,525
Financial Analyst	\$79,640	\$98,658
Financial Services Manager	\$113,696	\$138,257
Graphic Arts Manager	\$85,419	\$103,847
Human Resources Analyst	\$79,640	\$98,658
Human Resources Manager	\$113,696	\$138,257
Human Resources Technician	\$52,041	\$64,426
Investigations Manager	\$85,419	\$103,847
Legal Secretary	\$53,752	\$66,548
Legislative Analyst	\$67,610	\$83,768
Legislative Assistant	\$58,146	\$71,974
Planning & Rules Manager	\$113,696	\$138,257
Principal Deputy District Counsel	\$122,580	\$149,061
Procurement Manager	\$113,696	\$138,257
Public Affairs Manager	\$93,999	\$114,285
Quality Assurance Manager	\$103,376	\$125,667
Risk Manager	\$93,999	\$114,285
Secretary (Confidential)	\$43,815	\$54,283
Senior Accountant	\$69,940	\$86,452
Senior Administrative Secretary	\$58,146	\$71,974
Senior AQ Engineering Manager	\$113,696	\$138,257
Senior Deputy District Counsel	\$117,106	\$142,404



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Senior Enforcement Manager	<b>\$113,696</b>	<b>\$138,257</b>
Senior Public Affairs Manager	<b>\$113,696</b>	<b>\$138,257</b>
Senior Public Information Specialist	<b>\$71,561</b>	<b>\$88,603</b>
Supervising Payroll Technician	<b>\$53,339</b>	<b>\$65,959</b>
Systems Analyst	<b>\$86,953</b>	<b>\$107,652</b>
Systems & Programming Supervisor	<b>\$96,505</b>	<b>\$119,504</b>
Technology Implementation Manager	<b>\$113,696</b>	<b>\$138,257</b>
Telecommunications Analyst	<b>\$78,755</b>	<b>\$97,538</b>
Telecommunications Supervisor	<b>\$88,250</b>	<b>\$107,297</b>
Workers Comp. & Safety Analyst	<b>\$63,453</b>	<b>\$78,519</b>

Effective with the start of the pay period encompassing January 1, 2017.

<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Accountant	<b>\$64,404</b>	<b>\$79,697</b>
Administrative Assistant	<b>\$80,835</b>	<b>\$100,138</b>
Administrative Secretary	<b>\$54,558</b>	<b>\$67,546</b>
Administrative Secretary/Legal	<b>\$59,018</b>	<b>\$73,054</b>
Affirmative Action Officer	<b>\$86,701</b>	<b>\$105,405</b>
Assistant Database Administrator	<b>\$75,276</b>	<b>\$93,265</b>
Atmospheric Measurements Manager	<b>\$115,401</b>	<b>\$140,331</b>
Building Maintenance Manager	<b>\$86,701</b>	<b>\$105,405</b>
Business Services Manager	<b>\$86,701</b>	<b>\$105,405</b>
Clean Fuels Officer	<b>\$104,926</b>	<b>\$127,552</b>
Clerk of the Boards	<b>\$86,701</b>	<b>\$105,405</b>



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Community Relations Manager	<b>\$86,701</b>	<b>\$105,405</b>
Controller	<b>\$115,401</b>	<b>\$140,331</b>
Database Administrator	<b>\$97,953</b>	<b>\$121,296</b>
Deputy District Counsel I	<b>\$77,723</b>	<b>\$96,338</b>
Deputy District Counsel II	<b>\$104,926</b>	<b>\$127,552</b>
Executive Secretary	<b>\$65,871</b>	<b>\$81,732</b>
Financial Analyst	<b>\$80,835</b>	<b>\$100,138</b>
Financial Services Manager	<b>\$115,401</b>	<b>\$140,331</b>
Graphic Arts Manager	<b>\$86,701</b>	<b>\$105,405</b>
Human Resources Analyst	<b>\$80,835</b>	<b>\$100,138</b>
Human Resources Manager	<b>\$115,401</b>	<b>\$140,331</b>
Human Resources Technician	<b>\$52,822</b>	<b>\$65,392</b>
Investigations Manager	<b>\$86,701</b>	<b>\$105,405</b>
Legal Secretary	<b>\$54,558</b>	<b>\$67,546</b>
Legislative Analyst	<b>\$68,624</b>	<b>\$85,025</b>
Legislative Assistant	<b>\$59,018</b>	<b>\$73,054</b>
Planning & Rules Manager	<b>\$115,401</b>	<b>\$140,331</b>
Principal Deputy District Counsel	<b>\$124,418</b>	<b>\$151,297</b>
Procurement Manager	<b>\$115,401</b>	<b>\$140,331</b>
Public Affairs Manager	<b>\$95,409</b>	<b>\$115,999</b>
Quality Assurance Manager	<b>\$104,926</b>	<b>\$127,552</b>
Risk Manager	<b>\$95,409</b>	<b>\$115,999</b>
Secretary (Confidential)	<b>\$44,472</b>	<b>\$55,097</b>
Senior Accountant	<b>\$70,989</b>	<b>\$87,748</b>
Senior Administrative Secretary	<b>\$59,018</b>	<b>\$73,054</b>
Senior AQ Engineering Manager	<b>\$115,401</b>	<b>\$140,331</b>



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Senior Deputy District Counsel	<b>\$118,862</b>	<b>\$144,541</b>
Senior Enforcement Manager	<b>\$115,401</b>	<b>\$140,331</b>
Senior Public Affairs Manager	<b>\$115,401</b>	<b>\$140,331</b>
Senior Public Information Specialist	<b>\$72,634</b>	<b>\$89,932</b>
Supervising Payroll Technician	<b>\$54,139</b>	<b>\$66,948</b>
Systems Analyst	<b>\$88,257</b>	<b>\$109,266</b>
Systems & Programming Supervisor	<b>\$97,953</b>	<b>\$121,296</b>
Technology Implementation Manager	<b>\$115,401</b>	<b>\$140,331</b>
Workers Comp. & Safety Analyst	<b>\$64,404</b>	<b>\$79,697</b>

Effective with the start of the pay period encompassing July 1, 2018.

<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>	<b>Step 6</b>
<u>Accountant</u>	<b><u>\$64,404</u></b>	<b><u>\$79,697</u></b>	<b><u>\$81,889</u></b>
<u>Administrative Assistant</u>	<b><u>\$80,835</u></b>	<b><u>\$100,138</u></b>	<b><u>\$102,892</u></b>
<u>Administrative Secretary</u>	<b><u>\$54,558</u></b>	<b><u>\$67,546</u></b>	<b><u>\$69,405</u></b>
<u>Administrative Secretary/Legal</u>	<b><u>\$59,018</u></b>	<b><u>\$73,054</u></b>	<b><u>\$75,062</u></b>
<u>Affirmative Action Officer</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>
<u>Assistant Database Administrator</u>	<b><u>\$75,276</u></b>	<b><u>\$93,265</u></b>	<b><u>\$95,831</u></b>
<u>Atmospheric Measurements Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>
<u>Building Maintenance Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>
<u>Business Services Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>
<u>Clean Fuels Officer</u>	<b><u>\$104,926</u></b>	<b><u>\$127,552</u></b>	<b><u>\$131,060</u></b>
<u>Clerk of the Boards</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>
<u>Community Relations Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>	<b>Step 6</b>
<u>Controller</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Database Administrator</u>	<u>\$97,953</u>	<u>\$121,296</u>	<u>\$124,633</u>
<u>Deputy District Counsel I</u>	<u>\$77,723</u>	<u>\$96,338</u>	<u>\$98,986</u>
<u>Deputy District Counsel II</u>	<u>\$104,926</u>	<u>\$127,552</u>	<u>\$131,060</u>
<u>Executive Secretary</u>	<u>\$65,871</u>	<u>\$81,732</u>	<u>\$83,980</u>
<u>Financial Analyst</u>	<u>\$80,835</u>	<u>\$100,138</u>	<u>\$102,892</u>
<u>Financial Services Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Graphic Arts Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>
<u>Human Resources Analyst</u>	<u>\$80,835</u>	<u>\$100,138</u>	<u>\$102,892</u>
<u>Human Resources Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Human Resources Technician</u>	<u>\$52,822</u>	<u>\$65,392</u>	<u>\$67,190</u>
<u>Investigations Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>
<u>Legal Secretary</u>	<u>\$54,558</u>	<u>\$67,546</u>	<u>\$69,405</u>
<u>Legislative Analyst</u>	<u>\$68,624</u>	<u>\$85,025</u>	<u>\$87,362</u>
<u>Legislative Assistant</u>	<u>\$59,018</u>	<u>\$73,054</u>	<u>\$75,062</u>
<u>Planning &amp; Rules Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Principal Deputy District Counsel</u>	<u>\$124,418</u>	<u>\$151,297</u>	<u>\$155,457</u>
<u>Procurement Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Public Affairs Manager</u>	<u>\$95,409</u>	<u>\$115,999</u>	<u>\$119,190</u>
<u>Quality Assurance Manager</u>	<u>\$104,926</u>	<u>\$127,552</u>	<u>\$131,060</u>
<u>Risk Manager</u>	<u>\$95,409</u>	<u>\$115,999</u>	<u>\$119,190</u>
<u>Secretary (Confidential)</u>	<u>\$44,472</u>	<u>\$55,097</u>	<u>\$56,612</u>
<u>Senior Accountant</u>	<u>\$70,989</u>	<u>\$87,748</u>	<u>\$90,161</u>
<u>Senior Administrative Secretary</u>	<u>\$59,018</u>	<u>\$73,054</u>	<u>\$75,062</u>
<u>Senior AQ Engineering Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Senior Deputy District Counsel</u>	<u>\$118,862</u>	<u>\$144,541</u>	<u>\$148,516</u>



<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>
<u>Senior Enforcement Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Senior Public Affairs Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Senior Public Information Specialist</u>	<u>\$72,634</u>	<u>\$89,932</u>	<u>\$92,406</u>
<u>Supervising Payroll Technician</u>	<u>\$54,139</u>	<u>\$66,948</u>	<u>\$68,789</u>
<u>Systems Analyst</u>	<u>\$88,257</u>	<u>\$109,266</u>	<u>\$112,271</u>
<u>Systems &amp; Programming Supervisor</u>	<u>\$97,953</u>	<u>\$121,296</u>	<u>\$124,633</u>
<u>Technology Implementation Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Workers Comp. &amp; Safety Analyst</u>	<u>\$64,404</u>	<u>\$79,697</u>	<u>\$81,889</u>

Effective with the start of the pay period encompassing July 1, 2019.

<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>	<b><u>Step 7</u></b>
<u>Accountant</u>	<u>\$64,404</u>	<u>\$79,697</u>	<u>\$81,889</u>	<u>\$84,141</u>
<u>Administrative Assistant</u>	<u>\$80,835</u>	<u>\$100,138</u>	<u>\$102,892</u>	<u>\$105,721</u>
<u>Administrative Secretary</u>	<u>\$54,558</u>	<u>\$67,546</u>	<u>\$69,405</u>	<u>\$71,313</u>
<u>Administrative Secretary/Legal</u>	<u>\$59,018</u>	<u>\$73,054</u>	<u>\$75,062</u>	<u>\$77,126</u>
<u>Affirmative Action Officer</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>
<u>Assistant Database Administrator</u>	<u>\$75,276</u>	<u>\$93,265</u>	<u>\$95,831</u>	<u>\$98,466</u>
<u>Atmospheric Measurements Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>
<u>Building Maintenance Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>
<u>Business Services Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>
<u>Clean Fuels Officer</u>	<u>\$104,926</u>	<u>\$127,552</u>	<u>\$131,060</u>	<u>\$134,664</u>
<u>Clerk of the Boards</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>
<u>Community Relations Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>
<u>Controller</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>



<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>	<b><u>Step 7</u></b>
<u>Database Administrator</u>	<b><u>\$97,953</u></b>	<b><u>\$121,296</u></b>	<b><u>\$124,633</u></b>	<b><u>\$128,060</u></b>
<u>Deputy District Counsel I</u>	<b><u>\$77,723</u></b>	<b><u>\$96,338</u></b>	<b><u>\$98,986</u></b>	<b><u>\$101,708</u></b>
<u>Deputy District Counsel II</u>	<b><u>\$104,926</u></b>	<b><u>\$127,552</u></b>	<b><u>\$131,060</u></b>	<b><u>\$134,664</u></b>
<u>Executive Secretary</u>	<b><u>\$65,871</u></b>	<b><u>\$81,732</u></b>	<b><u>\$83,980</u></b>	<b><u>\$86,289</u></b>
<u>Financial Analyst</u>	<b><u>\$80,835</u></b>	<b><u>\$100,138</u></b>	<b><u>\$102,892</u></b>	<b><u>\$105,721</u></b>
<u>Financial Services Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Graphic Arts Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>
<u>Human Resources Analyst</u>	<b><u>\$80,835</u></b>	<b><u>\$100,138</u></b>	<b><u>\$102,892</u></b>	<b><u>\$105,721</u></b>
<u>Human Resources Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Human Resources Technician</u>	<b><u>\$52,822</u></b>	<b><u>\$65,392</u></b>	<b><u>\$67,190</u></b>	<b><u>\$69,038</u></b>
<u>Investigations Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>
<u>Legal Secretary</u>	<b><u>\$54,558</u></b>	<b><u>\$67,546</u></b>	<b><u>\$69,405</u></b>	<b><u>\$71,313</u></b>
<u>Legislative Analyst</u>	<b><u>\$68,624</u></b>	<b><u>\$85,025</u></b>	<b><u>\$87,362</u></b>	<b><u>\$89,765</u></b>
<u>Legislative Assistant</u>	<b><u>\$59,018</u></b>	<b><u>\$73,054</u></b>	<b><u>\$75,062</u></b>	<b><u>\$77,126</u></b>
<u>Planning &amp; Rules Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Principal Deputy District Counsel</u>	<b><u>\$124,418</u></b>	<b><u>\$151,297</u></b>	<b><u>\$155,457</u></b>	<b><u>\$159,732</u></b>
<u>Procurement Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Public Affairs Manager</u>	<b><u>\$95,409</u></b>	<b><u>\$115,999</u></b>	<b><u>\$119,190</u></b>	<b><u>\$122,468</u></b>
<u>Quality Assurance Manager</u>	<b><u>\$104,926</u></b>	<b><u>\$127,552</u></b>	<b><u>\$131,060</u></b>	<b><u>\$134,664</u></b>
<u>Risk Manager</u>	<b><u>\$95,409</u></b>	<b><u>\$115,999</u></b>	<b><u>\$119,190</u></b>	<b><u>\$122,468</u></b>
<u>Secretary (Confidential)</u>	<b><u>\$44,472</u></b>	<b><u>\$55,097</u></b>	<b><u>\$56,612</u></b>	<b><u>\$58,169</u></b>
<u>Senior Accountant</u>	<b><u>\$70,989</u></b>	<b><u>\$87,748</u></b>	<b><u>\$90,161</u></b>	<b><u>\$92,640</u></b>
<u>Senior Administrative Secretary</u>	<b><u>\$59,018</u></b>	<b><u>\$73,054</u></b>	<b><u>\$75,062</u></b>	<b><u>\$77,126</u></b>
<u>Senior AQ Engineering Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Senior Deputy District Counsel</u>	<b><u>\$118,862</u></b>	<b><u>\$144,541</u></b>	<b><u>\$148,516</u></b>	<b><u>\$152,600</u></b>
<u>Senior Enforcement Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>



<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>	<b><u>Step 7</u></b>
<u>Senior Public Affairs Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Senior Public Information Specialist</u>	<b><u>\$72,634</u></b>	<b><u>\$89,932</u></b>	<b><u>\$92,406</u></b>	<b><u>\$94,947</u></b>
<u>Supervising Payroll Technician</u>	<b><u>\$54,139</u></b>	<b><u>\$66,948</u></b>	<b><u>\$68,789</u></b>	<b><u>\$70,681</u></b>
<u>Systems Analyst</u>	<b><u>\$88,257</u></b>	<b><u>\$109,266</u></b>	<b><u>\$112,271</u></b>	<b><u>\$115,358</u></b>
<u>Systems &amp; Programming Supervisor</u>	<b><u>\$97,953</u></b>	<b><u>\$121,296</u></b>	<b><u>\$124,633</u></b>	<b><u>\$128,060</u></b>
<u>Technology Implementation Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Workers Comp. &amp; Safety Analyst</u>	<b><u>\$64,404</u></b>	<b><u>\$79,697</u></b>	<b><u>\$81,889</u></b>	<b><u>\$84,141</u></b>

Effective the start of the pay period encompassing July 1, 2020.

<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>	<b><u>Step 7</u></b>	<b><u>Step 8</u></b>
<u>Accountant</u>	<b><u>\$64,404</u></b>	<b><u>\$79,697</u></b>	<b><u>\$81,889</u></b>	<b><u>\$84,141</u></b>	<b><u>\$86,454</u></b>
<u>Administrative Assistant</u>	<b><u>\$80,835</u></b>	<b><u>\$100,138</u></b>	<b><u>\$102,892</u></b>	<b><u>\$105,721</u></b>	<b><u>\$108,629</u></b>
<u>Administrative Secretary</u>	<b><u>\$54,558</u></b>	<b><u>\$67,546</u></b>	<b><u>\$69,405</u></b>	<b><u>\$71,313</u></b>	<b><u>\$73,274</u></b>
<u>Administrative Secretary/Legal</u>	<b><u>\$59,018</u></b>	<b><u>\$73,054</u></b>	<b><u>\$75,062</u></b>	<b><u>\$77,126</u></b>	<b><u>\$79,247</u></b>
<u>Affirmative Action Officer</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>	<b><u>\$114,342</u></b>
<u>Assistant Database Administrator</u>	<b><u>\$75,276</u></b>	<b><u>\$93,265</u></b>	<b><u>\$95,831</u></b>	<b><u>\$98,466</u></b>	<b><u>\$101,174</u></b>
<u>Atmospheric Measurements Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>	<b><u>\$152,230</u></b>
<u>Building Maintenance Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>	<b><u>\$114,342</u></b>
<u>Business Services Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>	<b><u>\$114,342</u></b>
<u>Clean Fuels Officer</u>	<b><u>\$104,926</u></b>	<b><u>\$127,552</u></b>	<b><u>\$131,060</u></b>	<b><u>\$134,664</u></b>	<b><u>\$138,367</u></b>
<u>Clerk of the Boards</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>	<b><u>\$114,342</u></b>
<u>Community Relations Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>	<b><u>\$114,342</u></b>
<u>Controller</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>	<b><u>\$152,230</u></b>
<u>Database Administrator</u>	<b><u>\$97,953</u></b>	<b><u>\$121,296</u></b>	<b><u>\$124,633</u></b>	<b><u>\$128,060</u></b>	<b><u>\$131,582</u></b>



<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>	<b><u>Step 7</u></b>	<b><u>Step 8</u></b>
<u>Deputy District Counsel I</u>	<u>\$77,723</u>	<u>\$96,338</u>	<u>\$98,986</u>	<u>\$101,708</u>	<u>\$104,505</u>
<u>Deputy District Counsel II</u>	<u>\$104,926</u>	<u>\$127,552</u>	<u>\$131,060</u>	<u>\$134,664</u>	<u>\$138,367</u>
<u>Executive Secretary</u>	<u>\$65,871</u>	<u>\$81,732</u>	<u>\$83,980</u>	<u>\$86,289</u>	<u>\$88,662</u>
<u>Financial Analyst</u>	<u>\$80,835</u>	<u>\$100,138</u>	<u>\$102,892</u>	<u>\$105,721</u>	<u>\$108,629</u>
<u>Financial Services Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>
<u>Graphic Arts Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>	<u>\$114,342</u>
<u>Human Resources Analyst</u>	<u>\$80,835</u>	<u>\$100,138</u>	<u>\$102,892</u>	<u>\$105,721</u>	<u>\$108,629</u>
<u>Human Resources Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>
<u>Human Resources Technician</u>	<u>\$52,822</u>	<u>\$65,392</u>	<u>\$67,190</u>	<u>\$69,038</u>	<u>\$70,937</u>
<u>Investigations Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>	<u>\$114,342</u>
<u>Legal Secretary</u>	<u>\$54,558</u>	<u>\$67,546</u>	<u>\$69,405</u>	<u>\$71,313</u>	<u>\$73,274</u>
<u>Legislative Analyst</u>	<u>\$68,624</u>	<u>\$85,025</u>	<u>\$87,362</u>	<u>\$89,765</u>	<u>\$92,233</u>
<u>Legislative Assistant</u>	<u>\$59,018</u>	<u>\$73,054</u>	<u>\$75,062</u>	<u>\$77,126</u>	<u>\$79,247</u>
<u>Planning &amp; Rules Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>
<u>Principal Deputy District Counsel</u>	<u>\$124,418</u>	<u>\$151,297</u>	<u>\$155,457</u>	<u>\$159,732</u>	<u>\$164,124</u>
<u>Procurement Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>
<u>Public Affairs Manager</u>	<u>\$95,409</u>	<u>\$115,999</u>	<u>\$119,190</u>	<u>\$122,468</u>	<u>\$125,836</u>
<u>Quality Assurance Manager</u>	<u>\$104,926</u>	<u>\$127,552</u>	<u>\$131,060</u>	<u>\$134,664</u>	<u>\$138,367</u>
<u>Risk Manager</u>	<u>\$95,409</u>	<u>\$115,999</u>	<u>\$119,190</u>	<u>\$122,468</u>	<u>\$125,836</u>
<u>Secretary (Confidential)</u>	<u>\$44,472</u>	<u>\$55,097</u>	<u>\$56,612</u>	<u>\$58,169</u>	<u>\$59,769</u>
<u>Senior Accountant</u>	<u>\$70,989</u>	<u>\$87,748</u>	<u>\$90,161</u>	<u>\$92,640</u>	<u>\$95,188</u>
<u>Senior Administrative Secretary</u>	<u>\$59,018</u>	<u>\$73,054</u>	<u>\$75,062</u>	<u>\$77,126</u>	<u>\$79,247</u>
<u>Senior AQ Engineering Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>
<u>Senior Deputy District Counsel</u>	<u>\$118,862</u>	<u>\$144,541</u>	<u>\$148,516</u>	<u>\$152,600</u>	<u>\$156,797</u>
<u>Senior Enforcement Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>
<u>Senior Public Affairs Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>



<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>	<b><u>Step 7</u></b>	<b><u>Step 8</u></b>
<u>Senior Public Information Specialist</u>	<b><u>\$72,634</u></b>	<b><u>\$89,932</u></b>	<b><u>\$92,406</u></b>	<b><u>\$94,947</u></b>	<b><u>\$97,558</u></b>
<u>Supervising Payroll Technician</u>	<b><u>\$54,139</u></b>	<b><u>\$66,948</u></b>	<b><u>\$68,789</u></b>	<b><u>\$70,681</u></b>	<b><u>\$72,624</u></b>
<u>Systems Analyst</u>	<b><u>\$88,257</u></b>	<b><u>\$109,266</u></b>	<b><u>\$112,271</u></b>	<b><u>\$115,358</u></b>	<b><u>\$118,531</u></b>
<u>Systems &amp; Programming Supervisor</u>	<b><u>\$97,953</u></b>	<b><u>\$121,296</u></b>	<b><u>\$124,633</u></b>	<b><u>\$128,060</u></b>	<b><u>\$131,582</u></b>
<u>Technology Implementation Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>	<b><u>\$152,230</u></b>
<u>Workers Comp. &amp; Safety Analyst</u>	<b><u>\$64,404</u></b>	<b><u>\$79,697</u></b>	<b><u>\$81,889</u></b>	<b><u>\$84,141</u></b>	<b><u>\$86,454</u></b>



## ARTICLE 2

### DESIGNATED DEPUTY SALARIES

#### Section 55. SALARY

Designated Deputy base salaries are listed in Chapter III, Article 7, of this document.

~~Effective with pay period 1310, or as soon as practicable, each Designated Deputy shall receive a one time payment equal to one percent (1%) of their annual base salary.~~

~~Effective as soon as practicable after December 6, 2013, each Designated Deputy shall receive a one time payment equal to 0.5% of their annual base salary.~~

Designated Deputies shall receive the same percentage increase as approved by the Board for management employees. The term "base salary" shall not include any benefits that the Designated Deputy shall receive under the terms of this *Salary Resolution*. Said base salary shall be less federal and State taxes and other customary payroll withholdings which are also applicable to other employees of SCAQMD and shall be payable every two weeks commencing on the first applicable payday following appointment.



## ARTICLE 7

### DESIGNATED DEPUTY ANNUAL SALARIES

(Effective with the start of the pay period encompassing January 1, 2015)

Assistant Chief Deputy Counsel, Major Prosecutions	\$158,049
Assistant Deputy Executive Officer	\$155,669
Chief Deputy Counsel	\$178,398
Deputy Executive Officer, including Chief Financial Officer	\$166,615
Director of Strategic Initiatives	\$148,723
Health Effects Officer	\$148,723
Intergovernmental Affairs Officer	Vacant
Senior Policy Advisor	\$151,614

(Effective with the start of the pay period encompassing January 1, 2016)

Assistant Chief Deputy Counsel, Major Prosecutions	\$160,420
Assistant Deputy Executive Officer	\$158,004
Chief Deputy Counsel	\$181,074
Deputy Executive Officer, including Chief Financial Officer	\$169,114
Director of Strategic Initiatives	\$150,954
Health Effects Officer	\$150,954
Intergovernmental Affairs Officer	— Vacant
Senior Policy Advisor	\$153,888

(Effective with the start of the pay period encompassing January 1, 2017)

Assistant Chief Deputy Counsel, Major Prosecutions	\$162,826
Assistant Deputy Executive Officer	\$160,374
Chief Deputy Counsel	\$183,790
Deputy Executive Officer, including Chief Operating Officer	\$171,651
Director of Strategic Initiatives	\$153,218
Director of Communications	\$153,218
Health Effects Officer	\$126,053 - \$153,218
	(Steps 1 – 5)
Intergovernmental Affairs Officer	Vacant
Senior Policy Advisor	\$156,196

(Effective with the start of the pay period encompassing July 1, 2018)

<u>Assistant Chief Deputy Counsel, Major Prosecutions</u>	<u>\$167,304</u>
<u>Assistant Deputy Executive Officer</u>	<u>\$164,784</u>
<u>Chief Deputy Counsel</u>	<u>\$188,844</u>
<u>Deputy Executive Officer, including Chief Operating Officer and</u> <u>Chief Administrative Officer</u>	<u>\$176,371</u>



<u>Director of Strategic Initiatives</u>	<u>\$157,432</u>
<u>Director of Communications</u>	<u>\$157,432</u>
<u>Health Effects Officer</u>	<u>\$126,053 - \$157,432</u>
	<u>(Steps 1 – 6)</u>
<u>Intergovernmental Affairs Officer</u>	<u>Vacant</u>
<u>Senior Policy Advisor</u>	<u>Vacant</u>

(Effective with the start of the pay period encompassing July 1, 2019)

<u>Assistant Chief Deputy Counsel, Major Prosecutions</u>	<u>\$171,905</u>
<u>Assistant Deputy Executive Officer</u>	<u>\$169,316</u>
<u>Chief Deputy Counsel</u>	<u>\$194,037</u>
<u>Deputy Executive Officer, including Chief Operating Officer and</u>	
<u>Chief Administrative Officer</u>	<u>\$181,222</u>
<u>Director of Strategic Initiatives</u>	<u>\$161,761</u>
<u>Director of Communications</u>	<u>\$161,761</u>
<u>Health Effects Officer</u>	<u>\$126,053 - \$161,761</u>
	<u>(Steps 1 – 7)</u>
<u>Intergovernmental Affairs Officer</u>	<u>Vacant</u>
<u>Senior Policy Advisor</u>	<u>Vacant</u>

(Effective with the start of the pay period encompassing July 1, 2020)

<u>Assistant Chief Deputy Counsel, Major Prosecutions</u>	<u>\$176,632</u>
<u>Assistant Deputy Executive Officer</u>	<u>\$173,972</u>
<u>Chief Deputy Counsel</u>	<u>\$199,373</u>
<u>Deputy Executive Officer, including Chief Operating Officer and</u>	
<u>Chief Administrative Officer</u>	<u>\$186,205</u>
<u>Director of Strategic Initiatives</u>	<u>\$166,209</u>
<u>Director of Communications</u>	<u>\$166,209</u>
<u>Health Effects Officer</u>	<u>\$126,053 - \$166,209</u>
	<u>(Steps 1 – 8)</u>
<u>Intergovernmental Affairs Officer</u>	<u>Vacant</u>
<u>Senior Policy Advisor</u>	<u>Vacant</u>



**ATTACHMENT B**  
**AMENDMENTS TO SCAQMD ADMINISTRATIVE CODE**

**SOUTH COAST**  
**AIR QUALITY MANAGEMENT DISTRICT**

***ADMINISTRATIVE CODE***

*Revised ~~July 7, 2017~~ March 2, 2018*



## **Section 100.1 – Rideshare Incentive**

~~All Employees hired prior to January 1, 2006, are eligible to participate in SCAQMD's rideshare program and to receive incentives as provided for under the program. Those hired on or after January 1, 2006, may participate in the rideshare program but are not eligible to receive cash incentives.~~ Represented employees shall consult their MOU for eligibility.

## **Section 140 - Tuition Reimbursement**

*Represented employees should consult Article 27, "Training," of their MOU.*

The objective of the tuition reimbursement program is to aid employees in career development within the scope of SCAQMD service.

The Designated Deputy over Administrative and Human Resources, or designee, shall administer SCAQMD's Tuition Reimbursement Program. Tuition reimbursement for management and confidential employees will apply to general, elective, and core courses which are related to the employee's career development and are of benefit to SCAQMD. Applications for tuition reimbursement must be reviewed and approved by the employee's Designated Deputy.

An employee or Designated Deputy of SCAQMD, who has been appointed to a full-time position or Designated Deputy class, is eligible to apply for tuition reimbursement. Employees must successfully pass the course with a grade of "C" or better (or a "pass," if a "pass"/"no pass" system) in order to be reimbursed. Effective for classes beginning on or after May 9, 1997, employees eligible for tuition reimbursement shall be entitled to receive a maximum of \$23,000 per calendar year.

The necessary financing for reimbursement of employees shall be determined by SCAQMD's Board in the annual budget.

## **Section 141 - Professional Licenses and Memberships**

Management employees, other than attorneys, shall be eligible to be reimbursed for professional licenses/memberships (e.g., Professional Engineering Registration, etc.) up to a maximum of \$300 per fiscal year. Confidential employees and Attorneys shall be eligible to be reimbursed for professional licenses/memberships up to a maximum of \$100 per fiscal year. Professional licenses and memberships are those licenses and organizational affiliations which are closely related, as determined by the Executive Officer, or designee, to one's duties and responsibilities with SCAQMD and/or one's field of professional expertise. Attorneys shall also be reimbursed for required bar affiliation up to a maximum of \$478 per year. This section does not apply to memberships which the Executive Officer, or his designee, requires the employee to have, and which, therefore, are paid in full by SCAQMD. This section does apply to professional licenses or memberships that the employee is required to have by the class specification.



**ATTACHMENT C**

RESOLUTION NO. 18-\_\_\_\_\_

**A Resolution of the South Coast Air Quality Management District Governing Board to amend SCAQMD's *Salary Resolution* and SCAQMD's *Administrative Code*, to approve, for non-represented employees, such as Confidential and Management employees, and Designated Deputies, modifications to compensation and work condition provisions.**

**WHEREAS**, the Governing Board of the South Coast Air Quality Management District exercises its duty to review and determine appropriate wages, hours, and other terms and conditions of employment provided to its employees.

**THEREFORE, BE IT RESOLVED** that the Board of the South Coast Air Quality Management District, in a regular session assembled on March 2, 2018, in Diamond Bar, California, does hereby amend SCAQMD's *Salary Resolution* and SCAQMD's *Administrative Code*, as set forth in the attachments (Attachment A and Attachment B) hereto and incorporated by reference herein, modifying the terms and conditions for compensation and work conditions.

AYES:

NOES:

ABSTAIN:

ABSENT:

\_\_\_\_\_  
Date

\_\_\_\_\_  
Clerk of the Boards



**ATTACHMENT A**  
**AMENDMENTS TO SALARY RESOLUTION**

**SOUTH COAST**

**AIR QUALITY MANAGEMENT DISTRICT**

***SALARY RESOLUTION***

**~~March 3, 2017~~March 2, 2018**



## **Section 23. DIFFERENTIAL FOR NIGHT SERVICE**

a. For purposes of this section only:

- (1) An evening shift is a regularly established work shift at least one-half of which falls between the hours of 4 p.m. and 11 p.m.
- (2) A night shift is a regularly established work shift at least one-half of which falls between the hours of 9 p.m. and 8 a.m.

b. A \$12-per-hour bonus may be paid to any employee for each hour worked during an evening or night shift, except as otherwise provided herein.

## **Section 24. STANDBY PAY**

When authorized, a \$13-per-hour payment may be paid to any employee assigned regularly scheduled periods of standby service at off-duty times. Employees who are required to stand by must be available to return to duty with minimal delay, which may or may not require travel to SCAQMD headquarters or another location. Employees on standby shall not be considered to be inconvenienced or have their normal activities restricted if they are required to wear a paging device be available to respond to phone calls or text message by mobile phone, or are required to leave a telephone number where they can be reached by management or management's designee be available to respond to instant messages or emails.

## **Section 25. CALLBACK PAY**

- a. ~~Whenever employees are unexpectedly ordered by their supervisors to return to duty because of unanticipated work requirements, such return to duty shall be deemed to be a callback if the order to return is given to the employee following termination of his or her normal work shift and departure from the work location, and such return occurs within 24 hours of when the order is given, but not less than two (2) hours before the established starting time of the employee's next regular shift. Represented employees shall refer to their MOU for Callback Pay provisions.~~
- b. ~~Any exempt employee as defined under the Fair Labor Standards Act (FLSA) employed in a full-time permanent position shall receive callback pay as follows:~~
- ~~(1) Minimum payment equal to four (4) hours of pay at time and one-half; or~~
  - ~~(2) Minimum payment equal to four (4) hours of compensatory time at time and one-half to be added to his or her balance.~~

~~If the total number of hours worked during the callback exceeds four (4) hours, the employee shall receive compensation at time and one-half for all hours worked. As an alternative, the employee may opt to receive compensatory time at time and one-half for all hours worked. The compensatory time and overtime provisions of this section shall apply regardless of the compensatory time balance of the employee prior to being called back.~~



~~Nonexempt employees as defined by FLSA shall not be afforded the compensating time option cited above. All nonexempt employees shall receive a minimum payment at the rate of four (4) hours of pay at time and one half their regular rate of pay. If the total number of hours worked during the callback exceeds four (4) hours, employees shall receive overtime pay at time and one half their regular rate of pay. The term "regular rate" shall be as defined by FLSA.~~

~~c. Whenever an employee is unexpectedly ordered by his or her supervisor to return to duty as provided above, but such return occurs less than two (2) hours before the established starting time of the employee's next regular shift, it shall be deemed an early shift start, and the employee shall be compensated at overtime rates for any overtime worked as a direct result thereof.~~

~~d.b.~~ This section shall not apply to management and confidential employees.



## Section 27. WORK WEEK

- a. Four-Day Work Week. All persons employed by SCAQMD shall work on a four (4)-day-per-week basis, except as follows:
- (1) Where the Executive Officer finds that a four (4)-day work week is impracticable, he or she may authorize work on a 40-hour week basis. Such change in the number of work days shall not alter the basis for, nor entitlement to receive, the same rights and privileges as provided all employees who work a four (4)-day, 40-hour week.
  - (2) In case of extraordinary emergency, the Board may authorize more than four (4) days (or more than five (5) days, if on a five (5)-day, eight (8)-hour schedule) in any one (1) calendar week.
  - (3) Whenever in Section 53 of this *Resolution* the number of hours for a position is specified following the title of a position, that number shall be the basic number of hours per week for the position.
  - (4) Notwithstanding the above, the appointing authority may require any employee to work for more than four (4) days per week or for more than the regular number of hours in an assigned work day or week when public necessity or convenience requires such work.

Full-time employees shall work four (4) ten (10)-hour days within a seven (7) calendar-day period. This work schedule shall be applied to all employees, unless specifically exempted by management. Beginning January 2, 1995, for Designated Deputies, management, and confidential employees, and employees in the Technical and Enforcement and Office Clerical and Maintenance bargaining units, and May 1, 1996, for employees in the Professional bargaining unit, work days will be Tuesday through Friday, except that management may designate alternative work days for individual employees when operational needs require it.

Employees may choose, subject to supervisory approval, to start work as early as ~~7~~6:30 a.m. and end work as late as ~~6:30~~7:00 p.m.

Management may designate alternative work schedules for individual employees when operational needs require it. Reasonable advance notice shall be given to employees whose work schedules are changed. (Union-represented employees should see Article 5, "Work Week," Section 3, of their *Memorandum of Understanding*.)

Nothing contained herein shall be construed as guaranteeing to any employee a minimum number of hours per day, days per week, weeks per year, or any other guarantee of work.



## Section 28. HOLIDAYS

a. Definition. SCAQMD-paid holidays shall be:

- (1) July 4 (Independence Day)
- (2) First Monday in September (Labor Day)
- (3) November 11 (Veterans' Day)
- (4) Fourth Thursday and following Friday in November (Thanksgiving and following day)
- (5) December 25 (Christmas)
- (6) January 1 (New Year's Day)
- (7) Third Monday in January (Martin Luther King, Jr.'s Birthday)
- (8) Third Monday in February (President's Day)
- (9) Last Monday in May (Memorial Day)

On each September 1, SCAQMD employees shall be granted ten (10) hours (or eight (8) hours if working a 4/8 or 5/8 schedule) of floating holiday time in lieu of celebrating Admissions Day. On each February 1, SCAQMD employees shall be granted ten (10) hours (or eight (8) hours if working a 4/8 or 5/8 schedule) of floating holiday time in lieu of celebrating Abraham Lincoln's birthday.

Whenever any employee is unable to take such time off as provided by this section regarding floating holidays, such time may be carried over into the next succeeding calendar year during which year such time off must be taken or it is lost. However, if a pay period bridges two calendar years, an employee will have until the end of that pay period to take off floating holiday time before it is lost.

b. Paid Leave. Any employee who is employed on a biweekly basis shall be entitled to paid leave for holidays as defined by subsection a. of this section, as follows:

- (1) Forty (40)-hour-per-week employees and employees exempted for a medical condition from the 4/10 schedule who are regularly scheduled to work a minimum of four (4) eight (8)-hour days per week who charge a minimum of four (4) hours work or accrued leave time on the work day falling immediately before or, as long as it is within the same pay period, immediately after a holiday (when two (2) holidays occur on consecutive days, four (4) hours per holiday, or eight (8) hours, must be charged).
  - (a) Any employee working a 4/10 work schedule shall receive ten (10) hours of holiday pay for each said holiday.
  - (b) Any employee working a 4/8 or 5/8 work schedule shall receive eight (8) hours of holiday pay for each said holiday.
  - (c) ~~Whenever a represented employee's regularly scheduled day off falls on a holiday, he or she shall be granted ten (10) hours of compensatory time (eight (8) hours if working a 4/8 or 5/8 schedule). This time shall be accounted for in the same manner as that earned under Article 6 of the MOU.~~ Whenever a management or confidential employee's regularly scheduled day off falls on a holiday, he or she shall be granted



ten (10) hours of holiday leave time (eight (8) hours if working a 4/8 or 5/8 schedule) to be taken off at a later day subject to prior approval by such employee's supervisor.

- (d) Confidential employees working on a fixed SCAQMD holiday shall receive one (1) hour of holiday leave time for each one (1) hour worked up to ten (10) hours (or eight (8) hours if the employee is on a 5/8 work schedule). Any compensation for management employees working on a fixed holiday shall be in accordance with guidelines set by the Executive Officer, except that such compensation shall not exceed that granted confidential employees.
- (2) Part-time employees. Any part-time employee employed on a biweekly basis shall be allowed paid leave for each said holiday in the manner set forth in this section, but in an amount equal to the fraction of ten (10) hours or eight (8) hours equivalent to the basis for compensating said position.

c. Holiday Earned.

~~(3)(1)~~ Whenever any employee is unable to take such time off as provided by this section 28b(1)(c) above in the same calendar year in which it is earned, such time may be ~~carried over into the next succeeding calendar year, during which year such time off must be taken or it is lost.~~ However, if a pay period bridges two (2) calendar years, an employee will have until the end of that pay period to take off holiday time before it is lost. accrued for up to 140 hours. Holiday earned accrual will resume at the beginning of the pay period immediately following the pay period in which the balance falls below 140. ~~This paragraph does not apply to compensatory time earned by represented employees under Section 28b(1)(c) above.~~

(2) From March 2, 2018 through March 31, 2018, any non-represented employee who has held a permanent full-time position for 26 consecutive pay periods shall have the option of selling back to SCAQMD up to 70 hours of holiday earned leave time accrued, and not used, during the previous 26 pay periods. Once an employee has sold back any amount of holiday earned leave time, the employee may not do so again for another 26 pay periods.

Beginning April 1, 2018, any non-represented employee who has held a permanent full-time position for 26 consecutive pay periods shall have the option of selling back to SCAQMD up to 40 hours of holiday earned leave time accrued, and not used, during the previous 26 pay periods. Once an employee has sold back any amount of holiday earned leave time, the employee may not do so again for another 26 pay periods.

~~(4)~~ d. Holiday Time Payoff. Any employee about to leave the service of SCAQMD shall be allowed a leave of absence of accumulated holiday time that has not been taken, calculated according to the provisions of this section. In place of this leave, a lump sum payment may be made to the employee. This payment shall be calculated by multiplying the employee's unused holiday time by his or her regular hourly rate at the date of termination.



## Section 54. MANAGEMENT AND CONFIDENTIAL CLASSIFICATION SALARIES

### **Effective April 5, 2013**

Effective with pay period 1310, or as soon as practicable, each management or confidential employee shall receive a one-time payment equal to one percent (1%) of their annual base salary.

### **Effective December 6, 2013**

Effective as soon as practicable after December 6, 2013, each management and confidential employee shall receive a one-time payment equal to 0.5% of their annual base salary.

Effective with the start of the pay period encompassing January 1, 2015.

<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Accountant	<b>\$62,515</b>	<b>\$77,359</b>
Administrative Assistant	<b>\$78,464</b>	<b>\$97,200</b>
Administrative Secretary	<b>\$52,957</b>	<b>\$65,565</b>
Administrative Secretary/Legal	<b>\$57,286</b>	<b>\$70,910</b>
Affirmative Action Officer	<b>\$84,157</b>	<b>\$102,312</b>
Assistant Database Administrator	<b>\$73,068</b>	<b>\$90,529</b>
Atmospheric Measurements Manager	<b>\$112,015</b>	<b>\$136,214</b>
Building Maintenance Manager	<b>\$84,157</b>	<b>\$102,312</b>
Business Services Manager	<b>\$84,157</b>	<b>\$102,312</b>
Clean Fuels Officer	<b>\$101,848</b>	<b>\$123,810</b>
Clerk of the Boards	<b>\$84,157</b>	<b>\$102,312</b>
Community Relations Manager	<b>\$84,157</b>	<b>\$102,312</b>
Controller	<b>\$112,015</b>	<b>\$136,214</b>



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Database Administrator	<b>\$95,079</b>	<b>\$117,738</b>
Deputy District Counsel I	<b>\$75,442</b>	<b>\$93,512</b>
Deputy District Counsel II	<b>\$101,848</b>	<b>\$123,810</b>
Executive Secretary	<b>\$63,939</b>	<b>\$79,335</b>
Financial Analyst	<b>\$78,464</b>	<b>\$97,200</b>
Financial Services Manager	<b>\$112,015</b>	<b>\$136,214</b>
Graphic Arts Manager	<b>\$84,157</b>	<b>\$102,312</b>
Human Resources Analyst	<b>\$78,464</b>	<b>\$97,200</b>
Human Resources Manager	<b>\$112,015</b>	<b>\$136,214</b>
Human Resources Technician	<b>\$51,272</b>	<b>\$63,474</b>
Investigations Manager	<b>\$84,157</b>	<b>\$102,312</b>
Legal Secretary	<b>\$52,957</b>	<b>\$65,565</b>
Legislative Analyst	<b>\$66,611</b>	<b>\$82,530</b>
Legislative Assistant	<b>\$57,286</b>	<b>\$70,910</b>
Planning & Rules Manager	<b>\$112,015</b>	<b>\$136,214</b>
Principal Deputy District Counsel	<b>\$120,768</b>	<b>\$146,859</b>
Procurement Manager	<b>\$112,015</b>	<b>\$136,214</b>
Public Affairs Manager	<b>\$92,610</b>	<b>\$112,596</b>
Quality Assurance Manager	<b>\$101,848</b>	<b>\$123,810</b>
Risk Manager	<b>\$92,610</b>	<b>\$112,596</b>
Secretary (Confidential)	<b>\$43,167</b>	<b>\$53,481</b>
Senior Accountant	<b>\$68,906</b>	<b>\$85,174</b>
Senior Administrative Secretary	<b>\$57,286</b>	<b>\$70,910</b>
Senior AQ Engineering Manager	<b>\$112,015</b>	<b>\$136,214</b>
Senior Deputy District Counsel	<b>\$115,375</b>	<b>\$140,300</b>
Senior Enforcement Manager	<b>\$112,015</b>	<b>\$136,214</b>



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Senior Public Affairs Manager	<b>\$112,015</b>	<b>\$136,214</b>
Senior Public Information Specialist	<b>\$70,503</b>	<b>\$87,294</b>
Supervising Payroll Technician	<b>\$52,550</b>	<b>\$64,984</b>
Systems Analyst	<b>\$85,668</b>	<b>\$106,061</b>
Systems & Programming Supervisor	<b>\$95,079</b>	<b>\$117,738</b>
Technology Implementation Manager	<b>\$112,015</b>	<b>\$136,214</b>
Telecommunications Analyst	<b>\$77,591</b>	<b>\$96,096</b>
Telecommunications Supervisor	<b>\$86,946</b>	<b>\$105,712</b>
Workers Comp. & Safety Analyst	<b>\$62,515</b>	<b>\$77,359</b>

Effective with the start of the pay period encompassing January 1, 2016.

<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Accountant	<b>\$63,453</b>	<b>\$78,519</b>
Administrative Assistant	<b>\$79,640</b>	<b>\$98,658</b>
Administrative Secretary	<b>\$53,752</b>	<b>\$66,548</b>
Administrative Secretary/Legal	<b>\$58,146</b>	<b>\$71,974</b>
Affirmative Action Officer	<b>\$85,419</b>	<b>\$103,847</b>
Assistant Database Administrator	<b>\$74,164</b>	<b>\$91,887</b>
Atmospheric Measurements Manager	<b>\$113,696</b>	<b>\$138,257</b>
Building Maintenance Manager	<b>\$85,419</b>	<b>\$103,847</b>
Business Services Manager	<b>\$85,419</b>	<b>\$103,847</b>
Clean Fuels Officer	<b>\$103,376</b>	<b>\$125,667</b>
Clerk of the Boards	<b>\$85,419</b>	<b>\$103,847</b>
Community Relations Manager	<b>\$85,419</b>	<b>\$103,847</b>



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Controller	\$113,696	\$138,257
Database Administrator	\$96,505	\$119,504
Deputy District Counsel I	\$76,574	\$94,914
Deputy District Counsel II	\$103,376	\$125,667
Executive Secretary	\$64,898	\$80,525
Financial Analyst	\$79,640	\$98,658
Financial Services Manager	\$113,696	\$138,257
Graphic Arts Manager	\$85,419	\$103,847
Human Resources Analyst	\$79,640	\$98,658
Human Resources Manager	\$113,696	\$138,257
Human Resources Technician	\$52,041	\$64,426
Investigations Manager	\$85,419	\$103,847
Legal Secretary	\$53,752	\$66,548
Legislative Analyst	\$67,610	\$83,768
Legislative Assistant	\$58,146	\$71,974
Planning & Rules Manager	\$113,696	\$138,257
Principal Deputy District Counsel	\$122,580	\$149,061
Procurement Manager	\$113,696	\$138,257
Public Affairs Manager	\$93,999	\$114,285
Quality Assurance Manager	\$103,376	\$125,667
Risk Manager	\$93,999	\$114,285
Secretary (Confidential)	\$43,815	\$54,283
Senior Accountant	\$69,940	\$86,452
Senior Administrative Secretary	\$58,146	\$71,974
Senior AQ Engineering Manager	\$113,696	\$138,257
Senior Deputy District Counsel	\$117,106	\$142,404



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Senior Enforcement Manager	<b>\$113,696</b>	<b>\$138,257</b>
Senior Public Affairs Manager	<b>\$113,696</b>	<b>\$138,257</b>
Senior Public Information Specialist	<b>\$71,561</b>	<b>\$88,603</b>
Supervising Payroll Technician	<b>\$53,339</b>	<b>\$65,959</b>
Systems Analyst	<b>\$86,953</b>	<b>\$107,652</b>
Systems & Programming Supervisor	<b>\$96,505</b>	<b>\$119,504</b>
Technology Implementation Manager	<b>\$113,696</b>	<b>\$138,257</b>
Telecommunications Analyst	<b>\$78,755</b>	<b>\$97,538</b>
Telecommunications Supervisor	<b>\$88,250</b>	<b>\$107,297</b>
Workers Comp. & Safety Analyst	<b>\$63,453</b>	<b>\$78,519</b>

Effective with the start of the pay period encompassing January 1, 2017.

<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Accountant	<b>\$64,404</b>	<b>\$79,697</b>
Administrative Assistant	<b>\$80,835</b>	<b>\$100,138</b>
Administrative Secretary	<b>\$54,558</b>	<b>\$67,546</b>
Administrative Secretary/Legal	<b>\$59,018</b>	<b>\$73,054</b>
Affirmative Action Officer	<b>\$86,701</b>	<b>\$105,405</b>
Assistant Database Administrator	<b>\$75,276</b>	<b>\$93,265</b>
Atmospheric Measurements Manager	<b>\$115,401</b>	<b>\$140,331</b>
Building Maintenance Manager	<b>\$86,701</b>	<b>\$105,405</b>
Business Services Manager	<b>\$86,701</b>	<b>\$105,405</b>
Clean Fuels Officer	<b>\$104,926</b>	<b>\$127,552</b>
Clerk of the Boards	<b>\$86,701</b>	<b>\$105,405</b>



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Community Relations Manager	<b>\$86,701</b>	<b>\$105,405</b>
Controller	<b>\$115,401</b>	<b>\$140,331</b>
Database Administrator	<b>\$97,953</b>	<b>\$121,296</b>
Deputy District Counsel I	<b>\$77,723</b>	<b>\$96,338</b>
Deputy District Counsel II	<b>\$104,926</b>	<b>\$127,552</b>
Executive Secretary	<b>\$65,871</b>	<b>\$81,732</b>
Financial Analyst	<b>\$80,835</b>	<b>\$100,138</b>
Financial Services Manager	<b>\$115,401</b>	<b>\$140,331</b>
Graphic Arts Manager	<b>\$86,701</b>	<b>\$105,405</b>
Human Resources Analyst	<b>\$80,835</b>	<b>\$100,138</b>
Human Resources Manager	<b>\$115,401</b>	<b>\$140,331</b>
Human Resources Technician	<b>\$52,822</b>	<b>\$65,392</b>
Investigations Manager	<b>\$86,701</b>	<b>\$105,405</b>
Legal Secretary	<b>\$54,558</b>	<b>\$67,546</b>
Legislative Analyst	<b>\$68,624</b>	<b>\$85,025</b>
Legislative Assistant	<b>\$59,018</b>	<b>\$73,054</b>
Planning & Rules Manager	<b>\$115,401</b>	<b>\$140,331</b>
Principal Deputy District Counsel	<b>\$124,418</b>	<b>\$151,297</b>
Procurement Manager	<b>\$115,401</b>	<b>\$140,331</b>
Public Affairs Manager	<b>\$95,409</b>	<b>\$115,999</b>
Quality Assurance Manager	<b>\$104,926</b>	<b>\$127,552</b>
Risk Manager	<b>\$95,409</b>	<b>\$115,999</b>
Secretary (Confidential)	<b>\$44,472</b>	<b>\$55,097</b>
Senior Accountant	<b>\$70,989</b>	<b>\$87,748</b>
Senior Administrative Secretary	<b>\$59,018</b>	<b>\$73,054</b>
Senior AQ Engineering Manager	<b>\$115,401</b>	<b>\$140,331</b>



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>
Senior Deputy District Counsel	<b>\$118,862</b>	<b>\$144,541</b>
Senior Enforcement Manager	<b>\$115,401</b>	<b>\$140,331</b>
Senior Public Affairs Manager	<b>\$115,401</b>	<b>\$140,331</b>
Senior Public Information Specialist	<b>\$72,634</b>	<b>\$89,932</b>
Supervising Payroll Technician	<b>\$54,139</b>	<b>\$66,948</b>
Systems Analyst	<b>\$88,257</b>	<b>\$109,266</b>
Systems & Programming Supervisor	<b>\$97,953</b>	<b>\$121,296</b>
Technology Implementation Manager	<b>\$115,401</b>	<b>\$140,331</b>
Workers Comp. & Safety Analyst	<b>\$64,404</b>	<b>\$79,697</b>

Effective with the start of the pay period encompassing July 1, 2018.

<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>	<b>Step 6</b>
<u>Accountant</u>	<b><u>\$64,404</u></b>	<b><u>\$79,697</u></b>	<b><u>\$81,889</u></b>
<u>Administrative Assistant</u>	<b><u>\$80,835</u></b>	<b><u>\$100,138</u></b>	<b><u>\$102,892</u></b>
<u>Administrative Secretary</u>	<b><u>\$54,558</u></b>	<b><u>\$67,546</u></b>	<b><u>\$69,405</u></b>
<u>Administrative Secretary/Legal</u>	<b><u>\$59,018</u></b>	<b><u>\$73,054</u></b>	<b><u>\$75,062</u></b>
<u>Affirmative Action Officer</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>
<u>Assistant Database Administrator</u>	<b><u>\$75,276</u></b>	<b><u>\$93,265</u></b>	<b><u>\$95,831</u></b>
<u>Atmospheric Measurements Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>
<u>Building Maintenance Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>
<u>Business Services Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>
<u>Clean Fuels Officer</u>	<b><u>\$104,926</u></b>	<b><u>\$127,552</u></b>	<b><u>\$131,060</u></b>
<u>Clerk of the Boards</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>
<u>Community Relations Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>



<b>Classification</b>	<b>Step 1</b>	<b>Step 5</b>	<b>Step 6</b>
<u>Controller</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Database Administrator</u>	<u>\$97,953</u>	<u>\$121,296</u>	<u>\$124,633</u>
<u>Deputy District Counsel I</u>	<u>\$77,723</u>	<u>\$96,338</u>	<u>\$98,986</u>
<u>Deputy District Counsel II</u>	<u>\$104,926</u>	<u>\$127,552</u>	<u>\$131,060</u>
<u>Executive Secretary</u>	<u>\$65,871</u>	<u>\$81,732</u>	<u>\$83,980</u>
<u>Financial Analyst</u>	<u>\$80,835</u>	<u>\$100,138</u>	<u>\$102,892</u>
<u>Financial Services Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Graphic Arts Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>
<u>Human Resources Analyst</u>	<u>\$80,835</u>	<u>\$100,138</u>	<u>\$102,892</u>
<u>Human Resources Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Human Resources Technician</u>	<u>\$52,822</u>	<u>\$65,392</u>	<u>\$67,190</u>
<u>Investigations Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>
<u>Legal Secretary</u>	<u>\$54,558</u>	<u>\$67,546</u>	<u>\$69,405</u>
<u>Legislative Analyst</u>	<u>\$68,624</u>	<u>\$85,025</u>	<u>\$87,362</u>
<u>Legislative Assistant</u>	<u>\$59,018</u>	<u>\$73,054</u>	<u>\$75,062</u>
<u>Planning &amp; Rules Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Principal Deputy District Counsel</u>	<u>\$124,418</u>	<u>\$151,297</u>	<u>\$155,457</u>
<u>Procurement Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Public Affairs Manager</u>	<u>\$95,409</u>	<u>\$115,999</u>	<u>\$119,190</u>
<u>Quality Assurance Manager</u>	<u>\$104,926</u>	<u>\$127,552</u>	<u>\$131,060</u>
<u>Risk Manager</u>	<u>\$95,409</u>	<u>\$115,999</u>	<u>\$119,190</u>
<u>Secretary (Confidential)</u>	<u>\$44,472</u>	<u>\$55,097</u>	<u>\$56,612</u>
<u>Senior Accountant</u>	<u>\$70,989</u>	<u>\$87,748</u>	<u>\$90,161</u>
<u>Senior Administrative Secretary</u>	<u>\$59,018</u>	<u>\$73,054</u>	<u>\$75,062</u>
<u>Senior AQ Engineering Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Senior Deputy District Counsel</u>	<u>\$118,862</u>	<u>\$144,541</u>	<u>\$148,516</u>



<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>
<u>Senior Enforcement Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Senior Public Affairs Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Senior Public Information Specialist</u>	<u>\$72,634</u>	<u>\$89,932</u>	<u>\$92,406</u>
<u>Supervising Payroll Technician</u>	<u>\$54,139</u>	<u>\$66,948</u>	<u>\$68,789</u>
<u>Systems Analyst</u>	<u>\$88,257</u>	<u>\$109,266</u>	<u>\$112,271</u>
<u>Systems &amp; Programming Supervisor</u>	<u>\$97,953</u>	<u>\$121,296</u>	<u>\$124,633</u>
<u>Technology Implementation Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>
<u>Workers Comp. &amp; Safety Analyst</u>	<u>\$64,404</u>	<u>\$79,697</u>	<u>\$81,889</u>

Effective with the start of the pay period encompassing July 1, 2019.

<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>	<b><u>Step 7</u></b>
<u>Accountant</u>	<u>\$64,404</u>	<u>\$79,697</u>	<u>\$81,889</u>	<u>\$84,141</u>
<u>Administrative Assistant</u>	<u>\$80,835</u>	<u>\$100,138</u>	<u>\$102,892</u>	<u>\$105,721</u>
<u>Administrative Secretary</u>	<u>\$54,558</u>	<u>\$67,546</u>	<u>\$69,405</u>	<u>\$71,313</u>
<u>Administrative Secretary/Legal</u>	<u>\$59,018</u>	<u>\$73,054</u>	<u>\$75,062</u>	<u>\$77,126</u>
<u>Affirmative Action Officer</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>
<u>Assistant Database Administrator</u>	<u>\$75,276</u>	<u>\$93,265</u>	<u>\$95,831</u>	<u>\$98,466</u>
<u>Atmospheric Measurements Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>
<u>Building Maintenance Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>
<u>Business Services Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>
<u>Clean Fuels Officer</u>	<u>\$104,926</u>	<u>\$127,552</u>	<u>\$131,060</u>	<u>\$134,664</u>
<u>Clerk of the Boards</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>
<u>Community Relations Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>
<u>Controller</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>



<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>	<b><u>Step 7</u></b>
<u>Database Administrator</u>	<b><u>\$97,953</u></b>	<b><u>\$121,296</u></b>	<b><u>\$124,633</u></b>	<b><u>\$128,060</u></b>
<u>Deputy District Counsel I</u>	<b><u>\$77,723</u></b>	<b><u>\$96,338</u></b>	<b><u>\$98,986</u></b>	<b><u>\$101,708</u></b>
<u>Deputy District Counsel II</u>	<b><u>\$104,926</u></b>	<b><u>\$127,552</u></b>	<b><u>\$131,060</u></b>	<b><u>\$134,664</u></b>
<u>Executive Secretary</u>	<b><u>\$65,871</u></b>	<b><u>\$81,732</u></b>	<b><u>\$83,980</u></b>	<b><u>\$86,289</u></b>
<u>Financial Analyst</u>	<b><u>\$80,835</u></b>	<b><u>\$100,138</u></b>	<b><u>\$102,892</u></b>	<b><u>\$105,721</u></b>
<u>Financial Services Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Graphic Arts Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>
<u>Human Resources Analyst</u>	<b><u>\$80,835</u></b>	<b><u>\$100,138</u></b>	<b><u>\$102,892</u></b>	<b><u>\$105,721</u></b>
<u>Human Resources Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Human Resources Technician</u>	<b><u>\$52,822</u></b>	<b><u>\$65,392</u></b>	<b><u>\$67,190</u></b>	<b><u>\$69,038</u></b>
<u>Investigations Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>
<u>Legal Secretary</u>	<b><u>\$54,558</u></b>	<b><u>\$67,546</u></b>	<b><u>\$69,405</u></b>	<b><u>\$71,313</u></b>
<u>Legislative Analyst</u>	<b><u>\$68,624</u></b>	<b><u>\$85,025</u></b>	<b><u>\$87,362</u></b>	<b><u>\$89,765</u></b>
<u>Legislative Assistant</u>	<b><u>\$59,018</u></b>	<b><u>\$73,054</u></b>	<b><u>\$75,062</u></b>	<b><u>\$77,126</u></b>
<u>Planning &amp; Rules Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Principal Deputy District Counsel</u>	<b><u>\$124,418</u></b>	<b><u>\$151,297</u></b>	<b><u>\$155,457</u></b>	<b><u>\$159,732</u></b>
<u>Procurement Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Public Affairs Manager</u>	<b><u>\$95,409</u></b>	<b><u>\$115,999</u></b>	<b><u>\$119,190</u></b>	<b><u>\$122,468</u></b>
<u>Quality Assurance Manager</u>	<b><u>\$104,926</u></b>	<b><u>\$127,552</u></b>	<b><u>\$131,060</u></b>	<b><u>\$134,664</u></b>
<u>Risk Manager</u>	<b><u>\$95,409</u></b>	<b><u>\$115,999</u></b>	<b><u>\$119,190</u></b>	<b><u>\$122,468</u></b>
<u>Secretary (Confidential)</u>	<b><u>\$44,472</u></b>	<b><u>\$55,097</u></b>	<b><u>\$56,612</u></b>	<b><u>\$58,169</u></b>
<u>Senior Accountant</u>	<b><u>\$70,989</u></b>	<b><u>\$87,748</u></b>	<b><u>\$90,161</u></b>	<b><u>\$92,640</u></b>
<u>Senior Administrative Secretary</u>	<b><u>\$59,018</u></b>	<b><u>\$73,054</u></b>	<b><u>\$75,062</u></b>	<b><u>\$77,126</u></b>
<u>Senior AQ Engineering Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Senior Deputy District Counsel</u>	<b><u>\$118,862</u></b>	<b><u>\$144,541</u></b>	<b><u>\$148,516</u></b>	<b><u>\$152,600</u></b>
<u>Senior Enforcement Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>



<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>	<b><u>Step 7</u></b>
<u>Senior Public Affairs Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Senior Public Information Specialist</u>	<b><u>\$72,634</u></b>	<b><u>\$89,932</u></b>	<b><u>\$92,406</u></b>	<b><u>\$94,947</u></b>
<u>Supervising Payroll Technician</u>	<b><u>\$54,139</u></b>	<b><u>\$66,948</u></b>	<b><u>\$68,789</u></b>	<b><u>\$70,681</u></b>
<u>Systems Analyst</u>	<b><u>\$88,257</u></b>	<b><u>\$109,266</u></b>	<b><u>\$112,271</u></b>	<b><u>\$115,358</u></b>
<u>Systems &amp; Programming Supervisor</u>	<b><u>\$97,953</u></b>	<b><u>\$121,296</u></b>	<b><u>\$124,633</u></b>	<b><u>\$128,060</u></b>
<u>Technology Implementation Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>
<u>Workers Comp. &amp; Safety Analyst</u>	<b><u>\$64,404</u></b>	<b><u>\$79,697</u></b>	<b><u>\$81,889</u></b>	<b><u>\$84,141</u></b>

Effective the start of the pay period encompassing July 1, 2020.

<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>	<b><u>Step 7</u></b>	<b><u>Step 8</u></b>
<u>Accountant</u>	<b><u>\$64,404</u></b>	<b><u>\$79,697</u></b>	<b><u>\$81,889</u></b>	<b><u>\$84,141</u></b>	<b><u>\$86,454</u></b>
<u>Administrative Assistant</u>	<b><u>\$80,835</u></b>	<b><u>\$100,138</u></b>	<b><u>\$102,892</u></b>	<b><u>\$105,721</u></b>	<b><u>\$108,629</u></b>
<u>Administrative Secretary</u>	<b><u>\$54,558</u></b>	<b><u>\$67,546</u></b>	<b><u>\$69,405</u></b>	<b><u>\$71,313</u></b>	<b><u>\$73,274</u></b>
<u>Administrative Secretary/Legal</u>	<b><u>\$59,018</u></b>	<b><u>\$73,054</u></b>	<b><u>\$75,062</u></b>	<b><u>\$77,126</u></b>	<b><u>\$79,247</u></b>
<u>Affirmative Action Officer</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>	<b><u>\$114,342</u></b>
<u>Assistant Database Administrator</u>	<b><u>\$75,276</u></b>	<b><u>\$93,265</u></b>	<b><u>\$95,831</u></b>	<b><u>\$98,466</u></b>	<b><u>\$101,174</u></b>
<u>Atmospheric Measurements Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>	<b><u>\$152,230</u></b>
<u>Building Maintenance Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>	<b><u>\$114,342</u></b>
<u>Business Services Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>	<b><u>\$114,342</u></b>
<u>Clean Fuels Officer</u>	<b><u>\$104,926</u></b>	<b><u>\$127,552</u></b>	<b><u>\$131,060</u></b>	<b><u>\$134,664</u></b>	<b><u>\$138,367</u></b>
<u>Clerk of the Boards</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>	<b><u>\$114,342</u></b>
<u>Community Relations Manager</u>	<b><u>\$86,701</u></b>	<b><u>\$105,405</u></b>	<b><u>\$108,304</u></b>	<b><u>\$111,282</u></b>	<b><u>\$114,342</u></b>
<u>Controller</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>	<b><u>\$152,230</u></b>
<u>Database Administrator</u>	<b><u>\$97,953</u></b>	<b><u>\$121,296</u></b>	<b><u>\$124,633</u></b>	<b><u>\$128,060</u></b>	<b><u>\$131,582</u></b>



<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>	<b><u>Step 7</u></b>	<b><u>Step 8</u></b>
<u>Deputy District Counsel I</u>	<u>\$77,723</u>	<u>\$96,338</u>	<u>\$98,986</u>	<u>\$101,708</u>	<u>\$104,505</u>
<u>Deputy District Counsel II</u>	<u>\$104,926</u>	<u>\$127,552</u>	<u>\$131,060</u>	<u>\$134,664</u>	<u>\$138,367</u>
<u>Executive Secretary</u>	<u>\$65,871</u>	<u>\$81,732</u>	<u>\$83,980</u>	<u>\$86,289</u>	<u>\$88,662</u>
<u>Financial Analyst</u>	<u>\$80,835</u>	<u>\$100,138</u>	<u>\$102,892</u>	<u>\$105,721</u>	<u>\$108,629</u>
<u>Financial Services Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>
<u>Graphic Arts Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>	<u>\$114,342</u>
<u>Human Resources Analyst</u>	<u>\$80,835</u>	<u>\$100,138</u>	<u>\$102,892</u>	<u>\$105,721</u>	<u>\$108,629</u>
<u>Human Resources Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>
<u>Human Resources Technician</u>	<u>\$52,822</u>	<u>\$65,392</u>	<u>\$67,190</u>	<u>\$69,038</u>	<u>\$70,937</u>
<u>Investigations Manager</u>	<u>\$86,701</u>	<u>\$105,405</u>	<u>\$108,304</u>	<u>\$111,282</u>	<u>\$114,342</u>
<u>Legal Secretary</u>	<u>\$54,558</u>	<u>\$67,546</u>	<u>\$69,405</u>	<u>\$71,313</u>	<u>\$73,274</u>
<u>Legislative Analyst</u>	<u>\$68,624</u>	<u>\$85,025</u>	<u>\$87,362</u>	<u>\$89,765</u>	<u>\$92,233</u>
<u>Legislative Assistant</u>	<u>\$59,018</u>	<u>\$73,054</u>	<u>\$75,062</u>	<u>\$77,126</u>	<u>\$79,247</u>
<u>Planning &amp; Rules Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>
<u>Principal Deputy District Counsel</u>	<u>\$124,418</u>	<u>\$151,297</u>	<u>\$155,457</u>	<u>\$159,732</u>	<u>\$164,124</u>
<u>Procurement Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>
<u>Public Affairs Manager</u>	<u>\$95,409</u>	<u>\$115,999</u>	<u>\$119,190</u>	<u>\$122,468</u>	<u>\$125,836</u>
<u>Quality Assurance Manager</u>	<u>\$104,926</u>	<u>\$127,552</u>	<u>\$131,060</u>	<u>\$134,664</u>	<u>\$138,367</u>
<u>Risk Manager</u>	<u>\$95,409</u>	<u>\$115,999</u>	<u>\$119,190</u>	<u>\$122,468</u>	<u>\$125,836</u>
<u>Secretary (Confidential)</u>	<u>\$44,472</u>	<u>\$55,097</u>	<u>\$56,612</u>	<u>\$58,169</u>	<u>\$59,769</u>
<u>Senior Accountant</u>	<u>\$70,989</u>	<u>\$87,748</u>	<u>\$90,161</u>	<u>\$92,640</u>	<u>\$95,188</u>
<u>Senior Administrative Secretary</u>	<u>\$59,018</u>	<u>\$73,054</u>	<u>\$75,062</u>	<u>\$77,126</u>	<u>\$79,247</u>
<u>Senior AQ Engineering Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>
<u>Senior Deputy District Counsel</u>	<u>\$118,862</u>	<u>\$144,541</u>	<u>\$148,516</u>	<u>\$152,600</u>	<u>\$156,797</u>
<u>Senior Enforcement Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>
<u>Senior Public Affairs Manager</u>	<u>\$115,401</u>	<u>\$140,331</u>	<u>\$144,190</u>	<u>\$148,155</u>	<u>\$152,230</u>



<b><u>Classification</u></b>	<b><u>Step 1</u></b>	<b><u>Step 5</u></b>	<b><u>Step 6</u></b>	<b><u>Step 7</u></b>	<b><u>Step 8</u></b>
<u>Senior Public Information Specialist</u>	<b><u>\$72,634</u></b>	<b><u>\$89,932</u></b>	<b><u>\$92,406</u></b>	<b><u>\$94,947</u></b>	<b><u>\$97,558</u></b>
<u>Supervising Payroll Technician</u>	<b><u>\$54,139</u></b>	<b><u>\$66,948</u></b>	<b><u>\$68,789</u></b>	<b><u>\$70,681</u></b>	<b><u>\$72,624</u></b>
<u>Systems Analyst</u>	<b><u>\$88,257</u></b>	<b><u>\$109,266</u></b>	<b><u>\$112,271</u></b>	<b><u>\$115,358</u></b>	<b><u>\$118,531</u></b>
<u>Systems &amp; Programming Supervisor</u>	<b><u>\$97,953</u></b>	<b><u>\$121,296</u></b>	<b><u>\$124,633</u></b>	<b><u>\$128,060</u></b>	<b><u>\$131,582</u></b>
<u>Technology Implementation Manager</u>	<b><u>\$115,401</u></b>	<b><u>\$140,331</u></b>	<b><u>\$144,190</u></b>	<b><u>\$148,155</u></b>	<b><u>\$152,230</u></b>
<u>Workers Comp. &amp; Safety Analyst</u>	<b><u>\$64,404</u></b>	<b><u>\$79,697</u></b>	<b><u>\$81,889</u></b>	<b><u>\$84,141</u></b>	<b><u>\$86,454</u></b>



## ARTICLE 2

### DESIGNATED DEPUTY SALARIES

#### Section 55. SALARY

Designated Deputy base salaries are listed in Chapter III, Article 7, of this document.

~~Effective with pay period 1310, or as soon as practicable, each Designated Deputy shall receive a one time payment equal to one percent (1%) of their annual base salary.~~

~~Effective as soon as practicable after December 6, 2013, each Designated Deputy shall receive a one time payment equal to 0.5% of their annual base salary.~~

Designated Deputies shall receive the same percentage increase as approved by the Board for management employees. The term "base salary" shall not include any benefits that the Designated Deputy shall receive under the terms of this *Salary Resolution*. Said base salary shall be less federal and State taxes and other customary payroll withholdings which are also applicable to other employees of SCAQMD and shall be payable every two weeks commencing on the first applicable payday following appointment.



## ARTICLE 7

### DESIGNATED DEPUTY ANNUAL SALARIES

(Effective with the start of the pay period encompassing January 1, 2015)

Assistant Chief Deputy Counsel, Major Prosecutions	\$158,049
Assistant Deputy Executive Officer	\$155,669
Chief Deputy Counsel	\$178,398
Deputy Executive Officer, including Chief Financial Officer	\$166,615
Director of Strategic Initiatives	\$148,723
Health Effects Officer	\$148,723
Intergovernmental Affairs Officer	Vacant
Senior Policy Advisor	\$151,614

(Effective with the start of the pay period encompassing January 1, 2016)

Assistant Chief Deputy Counsel, Major Prosecutions	\$160,420
Assistant Deputy Executive Officer	\$158,004
Chief Deputy Counsel	\$181,074
Deputy Executive Officer, including Chief Financial Officer	\$169,114
Director of Strategic Initiatives	\$150,954
Health Effects Officer	\$150,954
Intergovernmental Affairs Officer	— Vacant
Senior Policy Advisor	\$153,888

(Effective with the start of the pay period encompassing January 1, 2017)

Assistant Chief Deputy Counsel, Major Prosecutions	\$162,826
Assistant Deputy Executive Officer	\$160,374
Chief Deputy Counsel	\$183,790
Deputy Executive Officer, including Chief Operating Officer	\$171,651
Director of Strategic Initiatives	\$153,218
Director of Communications	\$153,218
Health Effects Officer	\$126,053 - \$153,218
	(Steps 1 – 5)
Intergovernmental Affairs Officer	Vacant
Senior Policy Advisor	\$156,196

(Effective with the start of the pay period encompassing July 1, 2018)

<u>Assistant Chief Deputy Counsel, Major Prosecutions</u>	<u>\$167,304</u>
<u>Assistant Deputy Executive Officer</u>	<u>\$164,784</u>
<u>Chief Deputy Counsel</u>	<u>\$188,844</u>
<u>Deputy Executive Officer, including Chief Operating Officer and</u> <u>Chief Administrative Officer</u>	<u>\$176,371</u>



<u>Director of Strategic Initiatives</u>	<u>\$157,432</u>
<u>Director of Communications</u>	<u>\$157,432</u>
<u>Health Effects Officer</u>	<u>\$126,053 - \$157,432</u>
	<u>(Steps 1 – 6)</u>
<u>Intergovernmental Affairs Officer</u>	<u>Vacant</u>
<u>Senior Policy Advisor</u>	<u>Vacant</u>

(Effective with the start of the pay period encompassing July 1, 2019)

<u>Assistant Chief Deputy Counsel, Major Prosecutions</u>	<u>\$171,905</u>
<u>Assistant Deputy Executive Officer</u>	<u>\$169,316</u>
<u>Chief Deputy Counsel</u>	<u>\$194,037</u>
<u>Deputy Executive Officer, including Chief Operating Officer and</u>	
<u>Chief Administrative Officer</u>	<u>\$181,222</u>
<u>Director of Strategic Initiatives</u>	<u>\$161,761</u>
<u>Director of Communications</u>	<u>\$161,761</u>
<u>Health Effects Officer</u>	<u>\$126,053 - \$161,761</u>
	<u>(Steps 1 – 7)</u>
<u>Intergovernmental Affairs Officer</u>	<u>Vacant</u>
<u>Senior Policy Advisor</u>	<u>Vacant</u>

(Effective with the start of the pay period encompassing July 1, 2020)

<u>Assistant Chief Deputy Counsel, Major Prosecutions</u>	<u>\$176,632</u>
<u>Assistant Deputy Executive Officer</u>	<u>\$173,972</u>
<u>Chief Deputy Counsel</u>	<u>\$199,373</u>
<u>Deputy Executive Officer, including Chief Operating Officer and</u>	
<u>Chief Administrative Officer</u>	<u>\$186,205</u>
<u>Director of Strategic Initiatives</u>	<u>\$166,209</u>
<u>Director of Communications</u>	<u>\$166,209</u>
<u>Health Effects Officer</u>	<u>\$126,053 - \$166,209</u>
	<u>(Steps 1 – 8)</u>
<u>Intergovernmental Affairs Officer</u>	<u>Vacant</u>
<u>Senior Policy Advisor</u>	<u>Vacant</u>



**ATTACHMENT B**  
**AMENDMENTS TO SCAQMD ADMINISTRATIVE CODE**

**SOUTH COAST**  
**AIR QUALITY MANAGEMENT DISTRICT**

***ADMINISTRATIVE CODE***

*Revised ~~July 7, 2017~~ March 2, 2018*



## **Section 100.1 – Rideshare Incentive**

~~All Employees hired prior to January 1, 2006, are eligible to participate in SCAQMD's rideshare program and to receive incentives as provided for under the program. Those hired on or after January 1, 2006, may participate in the rideshare program but are not eligible to receive cash incentives. Represented employees shall consult their MOU for eligibility.~~

## **Section 140 - Tuition Reimbursement**

*Represented employees should consult Article 27, "Training," of their MOU.*

The objective of the tuition reimbursement program is to aid employees in career development within the scope of SCAQMD service.

The Designated Deputy over Administrative and Human Resources, or designee, shall administer SCAQMD's Tuition Reimbursement Program. Tuition reimbursement for management and confidential employees will apply to general, elective, and core courses which are related to the employee's career development and are of benefit to SCAQMD. Applications for tuition reimbursement must be reviewed and approved by the employee's Designated Deputy.

An employee or Designated Deputy of SCAQMD, who has been appointed to a full-time position or Designated Deputy class, is eligible to apply for tuition reimbursement. Employees must successfully pass the course with a grade of "C" or better (or a "pass," if a "pass"/"no pass" system) in order to be reimbursed. Effective for classes beginning on or after May 9, 1997, employees eligible for tuition reimbursement shall be entitled to receive a maximum of \$23,000 per calendar year.

The necessary financing for reimbursement of employees shall be determined by SCAQMD's Board in the annual budget.

## **Section 141 - Professional Licenses and Memberships**

Management employees shall be eligible to be reimbursed for professional licenses/memberships (e.g., Professional Engineering Registration, etc.) up to a maximum of \$300 per fiscal year. Confidential employees and Attorneys shall be eligible to be reimbursed for professional licenses/memberships up to a maximum of \$100 per fiscal year. Professional licenses and memberships are those licenses and organizational affiliations which are closely related, as determined by the Executive Officer, or designee, to one's duties and responsibilities with SCAQMD and/or one's field of professional expertise. Attorneys shall also be reimbursed for required bar affiliation up to a maximum of \$478 per year. This section does not apply to memberships which the Executive Officer, or his designee, requires the employee to have, and which, therefore, are paid in full by SCAQMD. This section does apply to professional licenses or memberships that the employee is required to have by the class specification.



**ATTACHMENT D**  
**AMENDMENTS TO EXECUTIVE MANAGEMENT AGREEMENT**  
**EXECUTIVE OFFICER**

**EXECUTIVE MANAGEMENT AGREEMENT**  
**between**  
**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**  
**and**  
**EXECUTIVE OFFICER**



## I. TERMS OF AGREEMENT

- B. Effective March 3, 2017, the Executive Officer shall receive an annual base salary of \$271,080.68. The term "base salary" shall not include any benefits that the Executive Officer shall receive under the terms of this Agreement. The District Board may consider increases to the Executive Officer's base salary, at the time and in the manner it deems appropriate. Said annual salary shall be less federal and state taxes which are also applicable to other employees of the District and shall be payable every two weeks commencing on the first applicable payday following Board approval of this Agreement.

~~Executive Officer's base salary will be increased 1.5%, effective the start of the pay period encompassing January 1<sup>st</sup> of 2017. In addition, with approval by the District Board, the Executive Officer may shall receive future annual base salary increases equivalent to any such increases approved by the District Board for management employees.~~ Effective July 1, 2018, the Executive Officer shall receive an annual base salary of \$278,535.

- D. The receipt of benefits customarily given to regular employees does not create a property interest for Executive Officer in his job. Executive Officer shall be entitled to receive the following additional fringe benefits during this Agreement based upon the conditions as set forth below. In no event shall the District's liability exceed the actual cost to the District of the benefits described herein.

7. Holidays. Executive Officer shall receive the same number of paid holidays per year during this Agreement, and shall be subject to the same holiday provisions, as management employees.

10. Other

- d) 401(a) Money Purchase Plan. The District will create a 401(a) Money Purchase Plan, and the Executive Officer will be eligible to participate in the Plan. Starting at the pay period ending January 1, 2017, the District will contribute \$923.00 per bi-weekly pay period, for a total amount of \$24,000 annually into the Executive Officer's 401(a) Plan account. If the 401(a) Money Purchase Plan is established after the pay period ending January 1, 2017, the District will contribute the amount of \$923.00 per pay period, retroactive to the pay period ending January 1, 2017. Retroactive to the pay period encompassing January 1, 2018, the District will contribute \$942.31 per bi-weekly pay period, for a total amount of \$24,500 annually into the Executive Officer's 401(a) Plan account.



**ATTACHMENT E**  
**AMENDMENTS TO EXECUTIVE MANAGEMENT AGREEMENT**  
**GENERAL COUNSEL**

**EXECUTIVE MANAGEMENT AGREEMENT**  
**between**  
**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**  
**and**  
**GENERAL COUNSEL**



**I. TERMS OF AGREEMENT**

- B. General Counsel shall initially receive a base salary of \$202,684. The term "base salary" shall not include any benefits that the General Counsel shall receive under the terms of this Agreement. The District Board may consider increases to the General Counsel's base salary based on his annual performance evaluation and as part of the District's annual budget process. Said annual salary shall be less federal and state taxes which are also applicable to other employees of the District and shall be payable every two weeks commencing on the first applicable payday following Board approval of this Agreement.

Effective July 1, 2018, General Counsel shall receive a base salary of \$208,258.

- D. The receipt of benefits customarily given to regular employees does not create a property interest for General Counsel in his job. General Counsel shall be entitled to receive the following additional fringe benefits during this Agreement based upon the conditions as set forth below. In no event shall the District's liability exceed the actual cost to the District of the benefits described herein.

7. Holidays. General Counsel shall receive the same number of paid holidays per year during this Agreement, and shall be subject to the same holiday provisions, as management employees.