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

A G E N D A

MEETING, MARCH 7, 2014

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.

Questions About an Agenda Item

- The name and telephone number of the appropriate staff person to call for additional information or to resolve concerns is listed for each agenda item.
- In preparation for the meeting, you are encouraged to obtain whatever clarifying information may be needed to allow the Board to move expeditiously in its deliberations.

Meeting Procedures

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

Questions About Progress of the Meeting

- During the meeting, the public may call the Clerk of the Board's Office at (909) 396-2500 for the number of the agenda item the Board is currently discussing.

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 Board's Office, 21865 Copley Drive, Diamond Bar, CA 91765.

The Agenda is subject to revisions. For the latest version of agenda items herein or missing agenda items, check the District's web page (www.aqmd.gov) or contact the Clerk of the Board, (909) 396-2500. Copies of revised agendas will also be available at the Board meeting.

CALL TO ORDER

- Pledge of Allegiance
- Opening Comments: William A. Burke, Ed.D., Chair
  Other Board Members
  Barry R. Wallerstein, D. Env., Executive Officer
- Swearing In of Reappointed Board Member(s) **Burke**

Staff/Phone (909) 396-

CONSENT CALENDAR (Items 1 through 19)

Note: Consent Calendar items held for discussion will be moved to Item No. 20

1. Approve Minutes of February 7, 2014 Board Meeting **McDaniel/2500**

2. Set Public Hearings April 4, 2014 to: **Wallerstein/3131**

   (A) Amend Rule 1130 – Graphic Arts **Chang/3186**

   The proposed amendment incorporates certain U.S. EPA Control Techniques Guidelines recommendations applicable to printing operations not included in the current rule that pertain to the overall add-on control device efficiency and VOC content requirements for fountain solutions. The proposed amendment further adds prohibition of storage of non-compliant VOC-containing materials at a worksite, removes obsolete rule language, updates definitions for consistency with other SCAQMD rules, adds a rule exemption for graphic arts materials that have a VOC content of no more than 10 g/L, as applied, and makes minor corrections and clarifications. (Reviewed: Stationary Source Committee, February 21, 2014)

   (B) Receive Public Input on Executive Officer's Draft Goals & Priority Objectives for FY 2014-15 **Wallerstein/3131**

   A set of draft goals for the FY 2014-15 Budget has been developed. The Executive Officer wishes to receive public and Board Member input on these goals and priority objectives as they serve as the foundation of SCAQMD's Work Program. (Review: Administrative Committee, March 14, 2014)

Budget/Fiscal Impact

3. Amend Contracts to Provide Short- and Long-Term Systems Development, Maintenance and Support Services **Marlia/3148**

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 the contracts approved by the Board to request additional funding of $391,560 for needed development and maintenance work. (Reviewed: Administrative Committee, February 14, 2014, Recommended for Approval)

4. Execute Contracts to Upgrade Existing Hydrogen Fueling Infrastructure **Miyasato/3249**

In June 2013, the Board recognized revenue in the amount of $6,690,828 from CEC into the Hydrogen Fueling Infrastructure Network Fund (63) to upgrade existing hydrogen fueling infrastructure. Subsequently, in November 2013, the Board released RFP #P2014-09 to solicit proposals to upgrade and refurbish existing, publicly accessible hydrogen fueling infrastructure. This action is to execute three contracts to upgrade existing hydrogen fueling infrastructure at a total cost not to exceed $6,445,000 from the Hydrogen Fueling Infrastructure Network Fund (63). The remaining funds are to reimburse administrative costs. (No Committee Review; the February 21, 2014 Technology Committee meeting was cancelled.)

5. Execute Contract to Upgrade Natural Gas Fueling Station **Miyasato/3249**

In September 2010, the Board recognized revenue from CEC into the Clean Fuels Fund (31) in the amount of $300,000 and awarded the funds to Earth Energy Fuels to construct a new CNG station in Ontario. Earth Energy, however, is unable to proceed with the project. SCAQMD and CEC have agreed to re-direct the funds to UPS to upgrade their existing natural gas fueling station in Ontario, which is a key location for local goods movement but lacks sufficient fueling capacity. This action is to execute a contract with UPS in the amount of $300,000 from the Clean Fuels Fund (31) to upgrade their existing natural gas fueling station in Ontario. (No Committee Review; the February 21, 2014 Technology Committee meeting was cancelled.)

6. Adopt Resolution Recognizing Funds and Accepting Terms and Conditions for FY 2013-14 Carl Moyer Program Award, Issue Program Announcements for Carl Moyer Program and SOON Provision, and Execute and Amend Contracts **Miyasato/3249**

These actions are to adopt a resolution recognizing $24,465,399 in Carl Moyer Program grant awards from CARB under SB 1107 with its terms and conditions for FY 2013-14 and to approve the release of Program Announcements for the FY 2013-14 "Year 16" Carl Moyer Program and SOON Provision to provide incentive funding for low-emitting on- and off-road vehicles and equipment. Additionally, this action is to execute and amend Carl Moyer contracts or prior awards in the amount of $680,819 from the Carl Moyer Program SB 1107 Fund (32). (No Committee Review; the February 21, 2014 Technology Committee meeting was cancelled.)

7. Execute Contracts for Technical Assistance for Advanced, Low- and Zero-Emission Mobile and Stationary Source Control Technologies and Implementation of Incentive Programs **Miyasato/3249**

On December 6, 2013, the Board approved the release of RFP #P2014-10 to solicit proposals to provide technical assistance, implementation and outreach support for advanced, low- and zero-emission control technologies for the Clean Fuels Program and various incentive programs. Eight proposals were received in response to the solicitation. These actions are to execute contracts with five technical experts to provide technical assistance and outreach support at a total cost not to exceed $1,150,000, comprised of $180,000 from the Clean Fuels Fund (31); $320,000 from the Carl Moyer Program AB 923 Fund (80); $550,000 from the Proposition 1B-Goods Movement Program Fund (81); and $100,000 from the Proposition 1B-School Bus Program Fund (82). Funding from the Carl Moyer and Proposition 1B funds will be from the administrative portion of those funds. (No Committee Review; the February 21, 2014 Technology Committee meeting was cancelled.)

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

9. Recognize Revenue and Appropriate Funds for Near Road Monitoring Program and Issue Purchase Orders for Air Monitoring Equipment **Fine/2239**

U.S. EPA has allocated Section 103 funds in the amount of $400,000 for the Phase II Implementation of the Near Road Monitoring Program. As such, this action is to: 1) recognize revenue and appropriate funds for Near Road Monitoring Program and 2) issue purchase orders for air monitoring equipment. (Reviewed: Administrative Committee, February 14, 2014; Recommended for Approval)

10. Transfer Funds and Amend/Execute Contracts with Outside Counsel **Wiese/3460**

Legal is currently being assisted in environmental lawsuits by outside law firms and in other matters requiring specialized legal counsel. This action is to transfer $250,000 from Salaries and Employee Benefits Major Object, Salaries account, to the FY 2013-14 Legal Budget and to amend or execute contracts to expend these funds with prequalified counsel approved by the Board as well as specialized legal counsel with monies to be appropriated as the need arises. (Reviewed: Administrative Committee, February 14, 2014; Recommended for Approval)

11. Approve SCAQMD Annual Investment Policy and Delegation of Authority to Appointed Treasurer to Invest SCAQMD Funds **O'Kelly/2828**

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 reinvest funds of the local agency. (Reviewed: Investment Oversight Committee, February 21, 2014; Recommended for Approval)

Items 12 through 19 - Information Only/Receive and File

12. Legislative & Public Affairs Report **Smith/3242**

This report highlights the January 2014 outreach activities of Legislative and Public Affairs, which include: Environmental Justice Update, Community Events/Public Meetings, Business Assistance, and Outreach to Business and Federal, State, and Local Government. (No Committee Review)

13. Hearing Board Report **Camarena/2500**

This reports the actions taken by the Hearing Board during the period of January 1 through January 31, 2014. (No Committee Review)

14. Civil Filings and Civil Penalties Report **Wiese/3460**

This reports the monthly penalties from January 1 through January 31, 2014, and legal actions filed by the General Counsel's Office during January 1 through January 31, 2014. An Index of District Rules is attached with the penalty report. (Reviewed: Stationary Source Committee, February 21, 2014)

15. Lead Agency Projects and Environmental Documents Received by SCAQMD **Chang/3186**

This report provides, for the Board's consideration, a listing of CEQA documents received by the SCAQMD between January 1, 2014 and January 31, 2014, and those projects for which the SCAQMD is acting as lead agency pursuant to CEQA. (Reviewed: Mobile Source Committee, February 21, 2014)

16. Rule and Control Measure Forecast **Chang/3186**

This report highlights SCAQMD rulemaking activities and public workshops potentially scheduled for the year 2014. (No Committee Review)

17. Report of RFPs and RFQs Scheduled for Release in March **O'Kelly/2828**

This report summarizes the RFPs and RFQs for budgeted services over $75,000 scheduled to be released for advertisement for the month of March. (Reviewed: Administrative Committee, February 14, 2014; Recommended for Approval)

18. FY 2013-14 Contract Activity **O'Kelly/2828**

This report lists the number of contracts let during the first six months of FY 2013-14, the respective dollar amounts, award type, and the authorized contract signatory for SCAQMD. (No Committee Review)

19. Status Report on Major Projects for Information Management Scheduled to Start During Last Six Months of FY 2013-14 **Marlia/3148**

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 projects to be initiated by Information Management during the last six months of FY 2013-14. (No Committee Review)

20. Items Deferred from Consent Calendar

BOARD CALENDAR

Note: *The February 20, 2014 MSRC meeting was cancelled; the next MSRC meeting is scheduled for March 20, 2014. The February 21, 2014 Technology Committee meeting was cancelled; the next Technology Committee meeting is scheduled for March 21, 2014.*

21. Administrative Committee (Receive & File) **Chair: Burke** **Wallerstein/3131**

22. Investment Oversight Committee (Receive & File) **Chair: Antonovich** **O'Kelly/2828**

23. Legislative Committee (Receive & File) **Chair: Gonzales** **Smith/3242**

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

Agenda Item	**Recommended Action**
H.R. 3963 (Huffman) Federal Leadership in Energy Efficient Transportation (FLEET) Act of 2014	Support and Recommend Amendment

24. Mobile Source Committee (Receive & File) **Chair: Parker** **Chang/3186**

25. Stationary Source Committee (Receive & File) **Chair: Yates** **Nazemi/2662**

26. California Air Resources Board Monthly Report (Receive & File) **Board Rep: Mitchell** **McDaniel/2500**

PUBLIC HEARINGS

27A. Amend Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities **Chang/3186**

On January 10, 2014, Rule 1420.1 was amended to require owners or operators of large lead-acid battery recycling facilities to reduce arsenic emissions and other key toxic air contaminant emissions. At the Public Hearing, the Board removed the requirement that affected facilities conduct a multi-metals demonstration program to continuously monitor lead, arsenic, and other metals. The Board directed staff to work with stakeholders and return to the March 7, 2014 Public Hearing for Board action on the multi-metal CEMS demonstration program. Under Proposed Amended Rule 1420.1, the affected facilities must provide funding and participate in a multi-metals CEMS demonstration program. Clarifying language is also being proposed at this time that will require affected facilities to reimburse SCAQMD for funds spent to deploy independent third-party contractors who conduct investigations of unplanned shutdowns. This action is to adopt the resolution: 1) Certifying the CEQA Notice of Exemption for Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-acid Battery Recycling Facilities; and 2) Amending Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities. (Reviewed: Stationary Source Committee, February 21, 2014)

27B. Execute Contract and Rental Agreement for Rule 1420.1 Multi-Metals CEMS and Continuous Multi-Metals Ambient Air Monitoring Demonstration Programs

Fine/2239

On January 10, 2014, the Board deferred the multi-metals continuous emission monitoring system (CEMS) provision of Amended Rule 1420.1 to the March 7, 2014 Board meeting. Subject to Board adoption of this provision, this action is to execute a contract with Cooper Environmental Services, LLC in an amount not to exceed $413,451 from the Rule 1420.1 Special Revenue Fund for the multi-metals CEMS demonstration project. Furthermore, this action is to execute a rental agreement to demonstrate a continuous multi-metals ambient air monitoring system with Cooper Environmental Services, LLC for an amount not to exceed $71,000 from the Science and Technology Advancement Budget. (Reviewed: Stationary Source Committee, February 21, 2014; Recommended for Approval)

28. Annual RECLAIM Audit Report for 2012 Compliance Year

Nazemi/2662

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 nineteenth 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 2012 Compliance Year is included with the report. (Reviewed: Stationary Source Committee, February 21, 2014)

29. Approve and Adopt Technology Advancement Office Clean Fuels Program Annual Report and Plan Update, Resolution and Revised Membership of Clean Fuels Advisory Group

Miyasato/3249

Each year by March 31st, 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 2013 Clean Fuels Program with the Clean Fuels Advisory Group, the Technology Advancement Advisory Group and other technical experts. Additionally, the 2014 Clean Fuels Program Draft Plan Update was presented to the Board for review and comment at its October 4, 2013 meeting. Staff recommends the Board approve and adopt the final Technology Advancement Office Clean Fuels Program Annual Report for 2013 and 2014 Plan Update as well as the resolution finding that proposed projects do not duplicate any past or present programs and the revised membership of the Clean Fuels Advisory Group. (No Committee Review; the February 21, 2014 Technology Committee meeting was cancelled.)

OTHER BUSINESS

30. Approval of Corrected Minutes of December 6, 2013 Board Meeting **McDaniel/3186**

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 will enter into a contract modification (No. C115503) with California Cartage Company (Cal Cartage). Cal Cartage 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 modification.

CLOSED SESSION - (*No Written Material*) **Wiese/3460**

It is necessary for the Board to recess to closed session pursuant to Government Code section 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 District is a party. The actions are:

- California Building Industry Association v. Bay Area AQMD, 1st Appellate District Case Nos. A135335 and A136212;
- CBE, CCAT v. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 12-72353 (1315);
- Clean Air Council, California Communities Against Toxics, and Sierra Club v. EPA, et al., U.S. Court of Appeals, D.C. Circuit, Case No. 12-1460 (seeking authorization to file amicus brief);
- Communities for a Better Environment, et al. v. U.S. EPA, et al., U.S. Court of Appeals, Ninth Circuit, Case No. 13-70167 (Sentinel);
- Exide Technologies, Inc. v. SCAQMD, et al v., Los Angeles Superior Court Case No. BC146770;
- Friends of the Fire Rings v. SCAQMD, Orange County Superior Court Case No. 30-2013-00690328-CU-WM-CXC (Nov. 26, 2013).

- Medical Advocates for Healthy Air v. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 12-73386 (San Joaquin §185 Fees);

- NRDC, CBE v. U.S. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 13-70544 (Rule 317);

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

- Petition for Declaratory Order by U.S. Environmental Protection Agency, Surface Transportation Board Docket No. FD 35803 (Railroad Rules);

- Physicians for Social Responsibility, et al. v. U.S. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 12-70016 (Monitoring);

- Physicians for Social Responsibility, et al. v. U.S. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 12-70079 (PM2.5);

- Qualification Settlement Agreement Cases, Court of Appeal of the State of California, Third Appellate District, Case No. C074592 (seeking authorization to file Amicus brief);

- SCAQMD v. City of Los Angeles, et al., Los Angeles Superior Court Case No. BS143381 (SCIG);

- SCAQMD v. U.S. EPA, U.S. Court of Appeals Ninth Circuit No. 13-73936 (Morongo Redesignation);

- Utility Air Regulatory Group v. EPA, U.S. Supreme Court Case No. 12-1146 (consolidated with 12-1272, 12-1248, 12-1254, 12-1268, and 12-1269; EPA GHG permitting rules; amicus)

It is also necessary for the Board to recess to closed session under Government Code sections 54956.9(a) and 54956.9(d)(4) to consider initiation of litigation (one case).

In addition, It is also necessary for the Board to recess to closed session due to significant exposure to litigation pursuant to subdivision (b) of section 54956.9 (one case).

ADJOURNMENT

PUBLIC COMMENTS

Members of the public are afforded an opportunity to speak on any listed item before or during 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 may be limited to three (3) minutes each.

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 Public Comments 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@aqmd.gov of 10 pages or less including attachment, in MS WORD, 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

AQIP = Air Quality Investment Program
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 = U.S. Department of Energy
EV = Electric Vehicle
ERCs = Emission Reduction Credits
FY = Fiscal Year
GHG = Greenhouse Gas
HRA = Health Risk Assessment
IAIC = Interagency AQMP Implementation Committee
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
NO_x = Oxides of Nitrogen
NSPS = New Source Performance Standards
NSR = New Source Review
PAMS = Photochemical Assessment Monitoring Stations
PAR = Proposed Amended Rule
PHEV = Plug-In Hybrid Electric Vehicle
PM_{10} = Particulate Matter $\leq$ 10 microns
$PM_{2.5}$ = Particulate Matter $\leq$ 2.5 microns
PR = Proposed Rule
RFP = Request for Proposals
RFQ = Request for Quotations
SCAG = Southern California Association of Governments
SIP = State Implementation Plan
SO_x = Oxides of Sulfur
SOON = Surplus Off-Road Opt-In for NO_x
SULEV = Super Ultra Low Emission Vehicle
TCM = Transportation Control Measure
ULEV = Ultra Low Emission Vehicle
U.S. EPA = United States Environmental Protection Agency
VMT = Vehicle Miles Traveled
VOC = Volatile Organic Compound
ZEV = Zero Emission Vehicle

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 1

MINUTES: Governing Board Monthly Meeting

SYNOPSIS: Attached are the Minutes of the February 7, 2014 meeting.

RECOMMENDED ACTION:
Approve Minutes of the February 7, 2014 Board Meeting.

Saundra McDaniel,
Clerk of the Boards

SM:ar

FRIDAY, FEBRUARY 7, 2014

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

Mayor Dennis R. Yates, Vice Chairman
Cities of San Bernardino County

Supervisor Michael D. Antonovich (arrived at 9:20 a.m.)
County of Los Angeles

Mayor Pro Tem Ben Benoit
Cities of Riverside County

Supervisor John J. Benoit
County of Riverside

Councilmember Joe Buscaino
City of Los Angeles

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

Supervisor Josie Gonzales
County of San Bernardino

Dr. Joseph K. Lyou
Governor's Appointee

Mayor Judith Mitchell
Cities of Los Angeles County – Western Region

Supervisor Shawn Nelson (arrived at 9:40 a.m.)
County of Orange

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

Mayor Miguel A. Pulido
Cities of Orange County

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

- Pledge of Allegiance: Led by Mayor Pro Tem Benoit.

- Opening Comments

Dr. Lyou. Mentioned a report released by CalTrans. It was an independent report performed by an independent contractor resulting in severe criticism for CalTrans for failing to deal with sustainability and environmental justice issues. The Senate Transportation Committee will be holding a hearing on CalTrans and he thought this would be a good opportunity for SCAQMD and CalTrans to work together to develop solutions for air quality issues.

Councilman Cacciotti. Responded to Dr. Lyou on the CalTrans report explaining that CalTrans has only been focusing on the highways although they have been directed to look at multi-modal strategies and CalTrans has failed to follow that direction.

Dr. Barry R. Wallerstein, Executive Officer. Pointed out for the Board and the public that there were three errata sheets that had been made available containing changes to: Item 3, clarifying the evaluation criteria for the Request for Proposal; Item 11, removing the name of a company that failed to submit contribution information pertaining to the Prop 1B Goods Movement; and, in Item 23, a small correction to the Minutes from the Mobile Source Committee meeting.

Dr. Burke. Asked Dr. Wallerstein for an update on the oil fields.

Dr. Wallerstein reported that information on Allenco was presented at the last Stationary Source Committee meeting in detail. He also mentioned that two other fields, the Murphy Field and the Jefferson Field, have drawn public attention and have been visited and inspected several times by SCAQMD staff. There have been a few small things found, but nothing on the level of Allenco. We are continuing to work with all the operators.

- Swearing In of Reappointed Board Members Joe Buscaino and John Benoit

Dr. Burke administered the oath of office to Joe Buscaino, who was reappointed to the Board by Los Angeles Mayor Eric Garcetti, for a term ending January 15, 2018.

Mayor Pro Tem Ben Benoit administered the oath of office to John Benoit, who was reappointed to the Board by the Riverside County Board of Supervisors, for a term ending January 15, 2018.

CONSENT CALENDAR

1. Minutes of January 10, 2014 Board Meeting

2. Set Public Hearings March 7, 2014 to:

   (A). Receive Public Input on Executive Officer's Draft Goals Priority Objectives for FY 2014-15

   THIS ITEM WAS CONTINUED, AT THE CHAIRMAN AND DR. LYOU'S RECOMMENDATION, TO THE MARCH 7, 2014 MEETING.

   (B). Amend Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities

Budget/Fiscal Impact

3. Issue RFP to Establish List of Pre-Qualified Consultants for Third Party Analysis at Lead-Acid Battery Recycling Facilities

   An errata sheet containing a modification to the evaluation criteria language was provided to the Board Members and copies made available to the public.

4. Transfer Funds Between Major Objects in FY 2013-14 Adopted Budget for Enhanced Particulate Monitoring Program

5. Execute Contract to Develop and Demonstrate Catenary Zero Emission Goods Movement System

6. Execute Contract to Develop and Test Retrofit All-Electric Transit Bus

7. Execute Contract to Develop Plug-In Hybrid Electric Retrofit System for Class 6 to 8 Work Trucks

8. Execute Contract for Second Year of Research to Develop Quantitative Assays for Air Pollutant Toxicity

9. Amend Contracts for Tier 4 Passenger Locomotives and Off-Road Construction Project

10. Recognize Funds, Execute Contracts for Electric School Bus Conversions and Demonstration, Amend Contract for School Bus Replacement, and Reimburse General Fund for Administrative Costs

11. Recognize Funds and Approve Truck Projects under "Year 4" Proposition 1B-Goods Movement Program, and Amend Contract for Technical Assistance

An errata sheet identifying the applicant that has been removed from this item for failing to submit the Campaign Contribution Form was provided to the Board Members and copies made available to the public.

12. Establish List of Prequalified Vendors to Provide Computer, Network, and Printer Hardware and Software, and to Purchase Desktop Computer Hardware Upgrades

13. Approve Contract Awards Approved by MSRC

Items 14 through 19 – Information Only/Receive and File

14. Legislative & Public Affairs 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 Projects for Information Management Scheduled to Start During Last Six Months of FY 2013-14

Dr. Lyou announced his abstention on the following items where companies or people have made contribution to his employer, Coalition for Clean Air. On Agenda Item No. 5, as the Port of Los Angeles is a potential source of income and is materially affected by this Item. Additionally, Coalition for Clean Air is a plaintiff in the China Shipping case and may conflict with SCAQMD on how the settlement funds from this case may be spent. Item No. 6, as Complete Coachworks and US Hybrid are potential sources of income and are materially affected by this item. Agenda Item No. 11, as Gladstein, Neandros and Associates as part of the contract are potential sources of income affected by this item.

Supervisor Benoit announced his abstention on Agenda Item No. 11, due to campaign contributions from five of the companies listed in the item: CalPortland Company, WC Management, Inc., Matich Corporation, Robertson's Ready Mix, and CR&R Incorporated; and Councilman Buscaino announced his abstention on Item 11 as well, because of campaign contributions from CalPortland Company within the last 12 months.

Agenda Item No. 8 was withheld for comment.

MOVED BY YATES, SECONDED BY MITCHELL AGENDA ITEMS 1, 2B, THROUGH 7, and 9 THROUGH 19 APPROVED AS RECOMMENDED, WITH THE MODIFICATIONS TO ITEM NOS. 3 AND 11 AS STATED ON THE ERRATA SHEETS AND NOTED BELOW, BY THE FOLLOWING VOTE:

AYES: B. Benoit, J. Benoit (except Item #11) Burke, Buscaino (except Item #11), Cacciotti, Gonzales, Lyou (except Item Nos. 5, 6, and 11), Mitchell, Parker, Pulido, and Yates.

NOES: None.

ABSTAIN: J. Benoit (*Item #11 only*), Buscaino (Item #11 only), and Lyou (*Item #5, #6, & #11).*

ABSENT: Antonovich and Nelson.

Modify the evaluation criteria language in Item #3 on Page 12 of RFP #2014-13 as follows:

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.

Proposal Evaluation Criteria
(a)Special Project Requiring Unique Knowledge of Abilities

No **or limited** Relationship with Large Lead-acid Battery Recyclers **other than Exide or Quemetco**	20~~50~~
Contractor Qualifications	60~~40~~
Cost	20~~10~~
TOTAL	100

The following applicant with projects identified in the table below are hereby removed from Item#11 of the Governing Board meeting, since the applicant did not submit the Campaign Contribution Form.

Project ID	Rank	Applicant Name	Project Type	Maximum Prop 1B Award
148-23-GU	889	EXPRESS WASTE & RECYCLING	Replacement	$40,000
148-25-GU	1157	EXPRESS WASTE & RECYCLING	Replacement	$40,000
148-14-GU	1236	EXPRESS WASTE & RECYCLING	Replacement	$40,000

(Supervisor Antonovich arrived at 9:20 a.m.)

20. Items Deferred from Consent Calendar

8. Execute Contract for Second Year of Research to Develop Quantitative Assays for Air Pollution Toxicity

Enthusiastic about studies being done at Cedars-Sinai Medical Center on the connection between vehicle emissions, pollution and health impacts, Councilman Cacciotti asked Health Effects Officer, Dr. Jean Ospital to shed some light on what these studies are and what we expect to learn from them. Dr. Ospital indicated that several local Universities such as UCLA and UC Riverside were conducting studies to measure how alternate fuel and alternate technology affects our health.

Dr. Lyou clarified that some of the studies for adverse health impacts on the molecular and/or cellular level resulted from a couple of processes: (i) oxidative stress, which is tearing something apart at the molecular and/or cellular level; and (ii) electrophilic chemical reaction, which is putting things together the wrong way. Dr. Lyou stated that these studies are very important as they assist in developing how to address toxic chemicals from a regulatory standpoint that will be an investment for this agency.

Mayor Mitchell asked if these studies included testing on both PM10 and PM2.5. Dr. Ospital answered in the affirmative for PM2.5. He indicated that the objective is to tease out some of the components, some particles, and some gaseous chemicals to try and identify which components, the oxidation pathway or the biochemical pathway, that needs to be controlled better. Preliminary results for PM2.5 show that the process is complex and that some indicate increased damage and some show increased protective mechanisms.

Mayor Pulido mentioned a similar study being conducted at Stanford University, in which chemicals are added to the cell, and the cell becomes stressed. The cell is measured, like a battery measuring the voltage across the cell. Some chemicals interfere with the natural event and reduce the voltage in the cell causing the cell to go from aerobic, using oxygen to live, to anaerobic, which becomes a cancer cell. Mayor Pulido encouraged staff that the work being done at this agency is very important and to continue to participate and make these connections.

Dr. Ospital summed up that through these studies, questions are asked; and through the processes, we learn things about how the cells work and how it is affected by biochemistry, and helps us to understand how our bodies work and how the pollutants work, and we can get real results from these projects.

MOVED BY CACCIOTTI, SECONDED BY MITCHELL, AGENDA ITEM 8 APPROVED BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Buscaino, Cacciotti, Gonzales, Lyou, Mitchell, Parker, Pulido and Yates.

NOES: None.

ABSENT: Nelson.

BOARD CALENDAR

21. Administrative Committee

22. Legislative Committee

23. Mobile Source Committee

An errata sheet correcting typographical errors on page 2 of the meeting minutes was provided to the Board Members and copies Made available to the public.

24. Stationary Source Committee

25. Technology Committee

26. Mobile Source Air Pollution Reduction Review Committee

27. California Air Resources Board Monthly Report

28. Status Report on Regulation XIII – New Source Review

MOVED BY YATES, SECONDED BY CACCOITTI, AGENDA ITEMS 21 THROUGH 28 APPROVED AS RECOMMENDED, RECEIVING AND FILING THE BOARD COMMITTEES, MSRC, AND CARB REPORTS, WITH THE MODIFICATION TO ITEM NO. 23 AS STATED IN THE ERRATA SHEET AND NOTED BELOW, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Buscaino, Caccoitti, Gonzales, Lyou, Mitchell, Parker, Pulido and Yates.

NOES: None.

ABSENT: Nelson.

Correct the following typographical errors in Item #23 on page 2 of the meeting minutes:

"He added that the simulations replicated the ongoing **patterns** ~~patens~~ well but **were** also able to project future potential shifts in the air quality patterns due to implementation of different control strategies."

At the request of the Coalition for Clean Air, please remove Ms. Candice Kim as an alternate from the Proposed AQMP Advisory Group Roster and replace with Ms. Laura Baker.

(Supervisor Nelson arrived at 9:40 a.m.)

PUBLIC HEARINGS

29. Approve Staff Recommendation to Proceed with Rulemaking to Expedite Natural Gas Power Plant Capacities to be Permitted in SCAQMD, if Needed

Dr. Elaine Chang, Deputy Executive Officer, Planning, Rules Development, gave the staff presentation.

Mayor Yates requested to interrupt the staff presentation to ask why we are starting this process so early, when we will not need any more power plants until 2022.

Dr. Chang explained that the process is long, that it usually takes seven or eight years. She also stated that the potential to be left out of pertinent decision-making can occur if we are not involved based on the current situation.

Mayor Yates commented that this long process was a result of the CEQA process. He suggested that we sponsor a bill specifically for the need to generate electricity on an emergency basis without having to go through the CEQA process that we can use if a dire emergency were to occur.

Dr. Wallerstein reiterated that with the loss of San Onofre, a contingency plan is needed; and having offsets is the only way that many of these projects will be done. He reiterated that this is a request to move forward with rulemaking. If the Board is presented with something that they do not think is appropriate, the rule would not be approved; but a dialogue is opened about this critical issue.

Mayor Pulido agreed with Mayor Yates that a parallel plan for emergencies may be needed, but that right now in central and south Orange County, with the loss of the San Onofre, they are having to get power from far away. There is no longer a local source, and this is going to be a problem in this region. He reiterated the need for the utilities to change and emphasized that storage capabilities is going to be a key, and that is why we need to get this process going now.

Dr. Lyou expressed that our mission is to clean up the air and that San Diego County does not have the same type of air problems that we have. He asked if we need power plants in Orange County or, as clarification, is voltage support between Orange and San Diego Counties what we need?

Dr. Wallerstein replied that it is both areas, San Diego to the southern and mid-part of Orange County. If you look at the recommendations in the report from the energy agencies to the Governor, we participated in the development of the report, and now the energy agencies recognize that San Diego has to carry its fair share of the burden as San Diego is better able to absorb the emissions than we are. These efforts will give us a better seat at the table to have the energy agencies recognize our needs and this Board's policies.

Dr. Lyou stated his agreement with the necessity for preferred resources, and energy storage capacity. He asked if the once through cooling plants qualify for offsets if they are re-powered, understanding that they will re-power and be more efficient and less NOx-polluting, but possibly more PM-polluting.

Dr. Wallerstein responded that the location of the power plant is at issue here. Since the loss of San Onofre, it would be good to have a plant in south Orange County to insure the grid. We are not proposing power plants that are not needed, we are just trying to prepare so that if plants are needed we can proceed to avoid some of the issues we had some years ago because of inadequate electricity.

The public hearing was opened and the following individuals addressed the Board on Agenda Item 29.

AURA VASQUEZ, SIERRA CLUB
ROBERT CABRALES, Communities for a Better Environment

Expressed opposition, asking the Board to direct staff to focus on renewable energy, alternative sources and storage. Also to withhold making credits available to build natural gas plants, as there currently is no need for these types of plants.

MAYA GOLDEN-KRASNER, Attorney for Communities for a Better Environment
PATRICIA OCHOA, Coalition for Clean Air, Deputy Policy Director

Stated that SCAQMD should spend efforts on closing the black box or promoting preferred resources rather than wasting resources on facilitating power plants and trying to block emissions reduction credit monopolies. They requested that rather than start rule making today, the Board postpone for at least one year until after the PUC process is completed.

CASEY KAZMER, My Generation,
BARBARA ASCENCIO, My Generation
MAX GUY, My Generation
CARLOS I. HERNANDEZ, My Generation
YASSAMIN KAVEZADE, My Generation and UC Riverside Student
NAYELI FIGUEROA, UC Riverside Student
TRACEY WALTERS, UC Riverside Student, Sustainable UCR
AI FURUKAWA, My Generation
MARICELA TALAMANTES, Communities for a Better Environment
SOCORRO VASQUEZ, Huntington Park Resident
GABRIEL GUERRERO, Communities for a Better Environment
VIRGINIA VELA, Communities for a Better Environment
NANCY OCON, UC Riverside Student

Shared their personal experiences with adverse health issues within their own families. They expressed opposition to building power plants that will continue to pollute the air in southern California; and requested that the Board look into using solar and wind for alternative energy production.

ADRIAN MARTINEZ, Earthjustice
ALFRED SATTLER, San Pedro Resident
DR. JIM STEWART, Co-Chair, Energy Climate Committee, Sierra Club

Expressed opposition to setting up offset reserves for unneeded power plants. Commented that: the Governor's task force did not include any environmental groups, or independent engineering input; this is just a process to start the permitting process for building unneeded power plants that rate payers will be paying on for the next 40 years, while still polluting the air; this is a good time to implement preferred resources and storage, if you really want to close the black box; and this measure is premature and should be delayed.

OPAMAGO AGYEMANG,

Expressed opposition, indicating that more natural gas power plants would be harmful to the air, and alternatives need to be considered. He mentioned that in seven years, we do not know what solar panels and renewable energy may have

developed into. He requested that renewable energy be given a chance. However, if the Board decides to go ahead with the rulemaking process, then let everyone be involved, unlike what was done with the Governor.

DAVID ROTHBART, Los Angeles County Sanitation District, SCAP
BILL QUINN, California Counsel for Environmental and Economic Balance
MIKE CARROLL, Latham and Watkins, Regulatory Flexibility Group
BARBARA McBRIDE, Director of Environmental Services, Calpine Corporation

Expressed support for staff's recommendation to start the rulemaking process and the offset program. The development and access to the offset program needs to be improved. The stakeholders plan to work with SCAQMD staff to help develop how this rule will interact with the private offset market.

LEE WALLACE, Southern California Gas and San Diego Gas and Electric

Urged District staff to work with the CPUC, CEC and Cal-ISO in developing plans to ensure grid reliability. He indicated that problems are already in progress in south Orange and San Diego Counties. He reported that the five preferred resources are a priority, they are: local energy efficiency, demand response, renewable generation, combined heat and power, and storage. All of this should be a part of the planning process.

TOM GROSS, Southern California Edison

Mentioned that Edison has a mandated preferred resources project, and it is a goal that the CPUC plans on advancing. Stated that there are a lot of renewables out there, but they are not always available; so, storage is going to be essential, along with other technology advancements. Stated also that they support moving forward, as this is a contingency plan. If we are unable to move forward completely with renewable technology, we will have a back up plan so that we will continue with reliable energy sources.

HARVEY EDER, Public Solar Power Coalition

Expressed opposition to implementing any plans that use natural gas and fossil fuels. Indicated that solar conversion is needed and can be implemented with a five-year plan. Urged the District to stop allowing the use of natural gas and fossil fuels.

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

Written Comments Submitted by:
Jim Stewart
Harvey Eder
California Communities Against Toxics, Coalition for Clean Air, Coalition for Safe Environment, Communities for Better Environment; Sierra Club

Supervisor Benoit took a moment to recognize and thank the students from Riverside County. He shared that he has lived and worked in Riverside County for many years. He has seen the air quality improve greatly. He explained that today we are talking about planning for how we will discuss the question if it comes to us in a few years for potentially needing an additional power plant in the basin. He also stated that Riverside County takes the lead on renewable energy, solar and wind and alternatives that do not burn fossil fuels, but we cannot rely on them all the time. The discussion today is what to do in the future if we do not have enough capacity. It is about planning for the future, if we need it, and we will have that discussion when the time comes.

Dr. Lyou noted that he was not comfortable with sending a message that we are willing to give up the only leverage we have in this area of energy issues; at least until we have some commitments from those that we have to partner with in order to get this done. The approach is to make sure that we are in the path to clean air first and foremost. Staff has said there could be conditions on releasing the offsets; if there are going to be conditions, then we have to be sure that we are going to eliminate the black box. He expressed his belief that the way to do this is to take a pathway of trying to reach a consensus agreement among the stakeholders before starting a war over this.

Supervisor Gonzales stated that this is an act to move forward to explore and identify continuous energy under the present conditions of how we are currently generating energy, if we need it in the future to meet population demands, while new alternative energy exploration and identification projects are coming to fruition. There is also a discussion to include emergency reserves, if they may be needed and how they may used.

Commenting that there are exciting conversations going on about storage for electricity, solar, and wind; and the District needs to be at the table and included in the decision-making process as to what we need for clean air,

> MAYOR PULIDO MOVED APPROVAL OF AGENDA ITEM NO. 29, AS RECOMMENDED BY STAFF. THE MOTION WAS SECONDED BY SUPERVISOR BENOIT.

Dr. Parker explained that there is a very orderly process that has to be conducted in order to build a power plant in this state, and the District needs to be involved in that process from the beginning. Otherwise, decisions may be made that will limit what we can do if we wait until the process comes to us in its natural course.

Councilman Cacciotti offered a compromise that might get all the Board Members on the same page and address some of the concerns of the public. The time-table in the proposal has staff bringing a regulatory proposal to the Board for consideration in the third quarter of 2014. He suggested a friendly amendment to move the process forward in order to allow for discussion with different stakeholders,

but instead of coming back in the third quarter of 2014, it would be the first quarter in 2015.

Dr. Wallerstein responded that the target in the proposal is aggressive and that many times these things get pushed back anyway, however, by pushing it back stakeholders may wait to engage in conversation and that can hamper proposal development and consensus.

Dr. Lyou expressed his disagreement with the message that adopting the staff proposal is not the path that gives the District the most leverage; his strategic vision on this is that the District does not want to send a message that they can build a power plant wherever they want. His belief is they are going to have to be able to build a power plant wherever they put us on a pathway to clean air.

COUNCILMAN CACCIOTTI MADE A SUBSTITUTE MOTION TO APPROVE THE STAFF RECOMMENDATION, WITH THE EXCEPTION OF MOVING THE TIME FOR BRINGING A REGULATORY PROPOSAL TO THE BOARD FOR CONSIDERATION TO THE FIRST QUARTER OF 2015. THE MOTION WAS SECONDED BY DR. LYOU, AND FAILED BY THE FOLLOWING VOTE:

AYES: Cacciotti and J. Benoit.

NOES: Antonovich, B. Benoit, Burke, Buscaino, Gonzales, Lyou, Nelson, Parker, Pulido, and Yates.

ABSTAIN: None.

ABSENT: Mitchell.

Dr. Burke announced the original motion for consideration.

Mayor Yates requested that Mayor Pulido amend his motion to include to instruct staff to come back to the Stationary Source Committee with a plan for emergencies.

Mayor Pulido, maker of the motion, and Supervisor Benoit, seconder to the motion, agreed to add the amendment.

MOVED BY PULIDO, SECONDED BY J. BENOIT, AGENDA ITEM 29 APPROVED AS RECOMMENDED BY STAFF, WITH THE AMENDMENT TO INSTRUCT STAFF TO COME BACK TO THE STATIONARY SOURCE COMMITTEE WITH A PLAN FOR EMERGENCIES, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Buscaino, Cacciotti, Gonzales, Nelson, Parker, Pulido, and Yates.

NOES: Lyou.

ABSTAIN: None.

ABSENT: Mitchell.

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

There was no public comment on non-agenda items.

CLOSED SESSION - (*No Written Material*)

The Board recessed to closed session at 12:10 p.m., pursuant to:

1) Government Code section 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 District is a party. The actions are:

- Friends of the Fire Rings v. SCAQMD, Orange County Superior Court Case No. 30-2013-00690328-CU-WM-CXC (Nov. 26, 2013).

- Petition for Declaratory Order by U.S. Environmental Protection Agency, Surface Transportation Board Docket No. FD 35803 (Railroad Rules);

Following closed session, General Counsel Kurt Wiese announced that there were no reportable actions taken in closed session.

ADJOURNMENT

There being no further business, the meeting was adjourned by the General Counsel at 12:50 p.m.

The foregoing is a true statement of the proceedings held by the South Coast Air Quality Management District Board on February 7, 2014.

Respectfully Submitted,

Altheresa Rothschild
Acting Senior Deputy Clerk

Date Minutes Approved: _____

_____
Dr. William A. Burke, Chairman

ACRONYMS

CARB = California Air Resources Board
ERC = Emission Reduction Credit
FY = Fiscal Year
MSRC = Mobile Source (Air Pollution Reduction) Review Committee
NOx = Oxides of Nitrogen
PM = Particulate Matter

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 2

PROPOSAL: Set Public Hearings April 4, 2014 to:

(A) Amend Rule 1130 - Graphic Arts. The proposed amendment incorporates certain U.S. EPA Control Techniques Guidelines recommendations applicable to printing operations not included in the current rule that pertain to the overall add-on control device efficiency and VOC content requirements for fountain solutions. The proposed amendment further adds prohibition of storage of non-compliant VOC-containing materials at a worksite, removes obsolete rule language, updates definitions for consistency with other SCAQMD rules, adds a rule exemption for graphic arts materials that have a VOC content of no more than 10 g/L, as applied, and makes minor corrections and clarifications. (Reviewed: Stationary Source Committee, February 21, 2014)

(B) Receive Public Input on Executive Officer's Draft Goals & Priority Objectives for FY 2014-15. A set of draft goals for the FY 2014-15 Budget has been developed. The Executive Officer wishes to receive public and Board Member input on these goals and priority objectives as they serve as the foundation of SCAQMD's Work Program.

The complete text of the proposed amendment, staff report and other supporting documents will be available from the District's Public Information Center, (909) 396-2550 and on the Internet (www.aqmd.gov) on March 5, 2014.

RECOMMENDED ACTION:
Set Public Hearings April 4, 2013 to amend Rule 1130 and receive public input on the Executive Officer's Draft Goals & Priority Objectives for FY 2014-15.

Barry R. Wallerstein, D.Env.
Executive Officer

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Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 2B

PROPOSAL: Set Public Hearing April 4, 2014 to Receive Public Input on Executive Officer's Draft Goals and Priority Objectives for FY 2014-15

SYNOPSIS: A set of goals and priority objectives for the FY 2014-15 Budget has been developed. The Executive Officer wishes to receive public and Board Member input on these goals and priority objectives as they serve as the foundation of SCAQMD's Work Program.

COMMITTEE: Administrative, March 14, 2014; Recommended for Approval

RECOMMENDED ACTION:
Set a Public Hearing on April 4, 2014 to receive public input on the Executive Officer's Goals and Priority Objectives for FY 2014-15.

Barry R. Wallerstein, D.Env.
Executive Officer

MBO

Attachments
Executive Officer's Draft Goals & Priority Objectives for FY 2014-15

EXECUTIVE OFFICER'S

DRAFT GOALS AND PRIORITY OBJECTIVES

FY 2014-2015

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

DRAFT GOALS AND PRIORITY OBJECTIVES FOR FY 2014-2015

MISSION STATEMENT

"All residents have a right to live and work in an environment of clean air and we are committed to undertaking all necessary steps to protect public health from air pollution with sensitivity to the impacts of our actions on the community, public agencies and businesses."

VALUES

S Sound scientific, technical, and legal basis for actions

C Customer service

A Air that is healthful to breathe

Q Quality programs that are effective and efficient

M Multiple partnerships and collaboration with stakeholders

D Developing solutions for the future

GOALS AND PRIORITY OBJECTIVES

The following Goals and Priority Objectives have been identified as being critical to meeting SCAQMD's Mission in Fiscal Year 2014-15.

GOAL I. **Ensure expeditious progress toward meeting clean air standards and protecting public health.**

Priority Objective/Project	Outcome
1. Implement 2012 AQMP	Adopt/implement measures scheduled for 2014.
2. Initiate development of 2016 AQMP	Conduct technical and policy analyses and produce white papers in preparation for the 2016 AQMP, while enhancing the AQMP development process including early stakeholder input and conducting socioeconomic methodology review.
3. Ensure compliance through a program that includes using community-based and/or industry specific deployment of field personnel.	Inspect all Major or RECLAIM sources at least annually and inspect all chrome plating facilities quarterly. Conduct a total of 22,000 site visits for compliance evaluations and perform inspections of 3,500 portable equipment and 2,200 Asbestos demolition or renovation activities. Expand targeted evaluation program for select industries, including, but not limited to metal processing, oil production, and waste processing facilities.
4. Prioritize prosecution of high-impact enforcement cases to maximize deterrence for air pollution violations	Enhance prosecution of high-impact enforcement cases, such as prosecutions of major or serial violators, major toxic releases, significant public nuisance cases, or companies having violations at several locations. Achieve satisfactory resolution of these cases to reduce health impacts and provide for future deterrence.

GOAL I. **Ensure expeditious progress toward meeting clean air standards and protecting public health.** ***(Continued)***

Priority Objective/Project	Outcome
5. Ensure compliance through a program that includes timely processing of permit applications for stationary sources	Process all complete applications for permits, plans and ERCs in a timely manner and in compliance with all statutory requirements. Process a total of 8,800 applications, including 2,200 Permits to Construct (new construction, modification or relocations). Process all Title V Permit Renewals in timely manner and meet all statutory requirements. Through SCAQMD's Small Business Assistance program help more local businesses understand the permit process, prepare and submit permit applications, and expand efforts to educate new small business owners about the agency and compliance. Begin process of reviewing and updating standard permit conditions for specific equipment or industries.
6. Continue to implement SCAQMD's Environmental Justice (EJ) policies and programs, and other initiatives directed at equitable treatment for all communities and sensitive populations	Increase awareness of the SCAQMD in EJ communities and work with residents and community leaders to remedy their air quality concerns. Formalize internal response team to coordinate and streamline agency response to community concerns, increased partnerships with health, educational, and other organizations in impacted communities. Representation of SCAQMD on community task forces and other organizations as appropriate, including business organizations to help mitigate current and prevent future air quality impacts.
7. Enhance community response program	Assess current SCAQMD community response program and identify measurement techniques and protocols with consideration to recurring types of community concerns and update the program accordingly to be more informative and responsive to impacted communities in a more timely manner. Develop an enhanced communication plan to inform the community regarding complaints.
8. Continue to respond expeditiously and effectively to community issues that require the deployment of air monitoring resources	Enhance monitoring and response capabilities through technology improvements, a focus of resources, and efficiency improvements to address future community air quality concerns. Evaluate personal monitors for air quality accuracy.
9. Implementation of AB 8 (Carl Moyer AB 923 and AB 118 H2 funding.)	Develop approaches to maximize deployment of zero and near zero-emission vehicles in EJ areas. Continue Carl Moyer AB 923 Program with enhancements identified above. Assist hydrogen station rollout in the South Coast region.
10. Complete implementation of heavy-duty replacement trucks for small fleets under the Proposition 1B-Goods Movement Program.	The program will reduce emissions from older trucks with 2010 certified trucks, and will help small fleets be in compliance with CARB's truck and bus regulation requirements.
11. Develop and demonstrate advanced natural gas engines and zero-emission technologies for locomotives.	Issue RFP for the development of natural gas-powered passenger and freight locomotives and start demonstration program as appropriate. Issue RFP for the demonstration of zero-emission technologies applicable to locomotives including

	hybrid systems and battery-tender car concepts.

GOAL I. **Ensure expeditious progress toward meeting clean air standards and protecting public health. *(Continued)***

Priority Objective/Project	Outcome
12. Continue development and demonstration of Zero Emission Container Movement Technologies, and initiate deployment with strategies and policies to enable the market.	Initiate demonstration of zero emission technology projects and continue working with stakeholders to enable the market for these technologies through incentives, policies and regulations.
13. Multiple Air Toxics Exposure Study (MATES IV)	Complete exposure assessment and risk estimates based on regional modeling of air toxics emissions. Prepare report.
14. Continue implementation of Clean Communities Pilot Study for Boyle Heights and San Bernardino.	Complete remaining projects and programs for both communities to address cumulative air quality issues. Produce final program report. Implement Clean Vehicle Rebate Pilot for EJ areas.
15. Implement the fireplace/woodstove exchange voucher incentive program in and around Mira Loma.	Implement a targeted incentive program to improve PM2.5 air quality in and around Mira Loma and help the Basin reach attainment with federal PM2.5 standards.
16. Work proactively on drought related air quality impacts and needed response.	Drought response plan with action items to be implemented.

GOAL II. **Enhance public education and ensure equitable treatment for all communities.**

Priority Objective/Project	Outcome
1. Employ the latest communication technologies; engage in community based programs and outreach events; and foster relationships with traditional media outlets	Heighten public awareness of air quality issues that affect public health to motivate decision makers and other key stakeholders to give higher priority to air quality issues and concerns; encourage targeted public members and key stakeholders to take personal actions to reduce air pollution; Actively engage the public, through town hall and community meetings, as well as social media and the SCAQMD webpage, to increase their communication with the agency and advocacy for our clean air efforts.
2. Continue timely response to community complaints	Respond to all air quality complaints received by SCAQMD within 24 hours.

GOAL III. **Operate efficiently and in a manner sensitive to public agencies, businesses, the public and SCAQMD staff.**

Priority Objective/Project	Outcome
1. Maintain a knowledgeable, professional and well-trained staff	Provide training and educational opportunities to ensure up-to-date expertise and competency in core agency functions.

	Develop leadership development programs to ensure a smooth transition of key leadership positions within the agency.

<u>GOAL III.</u> Operate efficiently and in a manner sensitive to public agencies, businesses, the public and SCAQMD staff. *(Continued)*

Priority Objective/Project	Outcome
2. Continue to overhaul SCAQMD's information technology systems, including the use of state of the art software, hardware, and communications systems to improve overall agency effectiveness and efficiency.	Implement and integrate the Legal Division's case and document management software system with SCAQMD's current permitting, enforcement and imaging databases to efficiently track and manage assignments and case documents. Replace the phone switch with a hardware/software system that utilizes unified communication technology, integrating all forms of communication that are exchanged via a network. Expand mapping infrastructure into a GIS portal for many SCAQMD mapping functions

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 3

PROPOSAL: Amend Contracts to Provide Short- and Long-Term Systems Development, Maintenance and Support Services

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 the contracts approved by the Board to add additional funding of $391,560 for needed development and maintenance work.

COMMITTEE: Administrative, February 14, 2014, Recommended for Approval

RECOMMENDED ACTIONS:

1. Recognize $26,760 in the General Fund from Rule 2202 AQIP Special Revenue Fund (Fund 27) and appropriate that amount to Information Management's FY 2013-14 Budget, Capital Outlays Major Object, Capital Outlay account.

2. Transfer $65,000 from Information Management's FY 2013-14 Budget, Services and Supplies Major Object, Professional and Specialized Services account to Information Management's FY 2013-14, Capital Outlays Major Object, Computer Software Account.

3. Authorize the Executive Officer to execute amendments to the contracts for systems development services in the amount of $94,800 to Prelude Systems, $172,500 to Sierra Cybernetics, and $124,260 to Varsun eTechnologies for the specific task orders listed in Attachment 1.

Barry R. Wallerstein, D.Env.
Executive Officer

CJM:OM

Background
At the September 9, 2011 meeting, the Board authorized staff to initiate level-of-effort contracts with several vendors for systems development, maintenance and support services. At the time these contracts were executed, it was expected that they would be modified in the future to add funding from approved budgets as system development requirements were identified and sufficiently defined so that task orders could be prepared.

The contracts are Basic Ordering Agreements: Individual task orders are issued on both a competitive and sole-source basis (depending on the size and complexity of the systems), after review of prior successful experience of the company and associated administrative costs of the bid process relative to the costs associated with the work effort.

System development and maintenance efforts are currently needed (see Attachment 1) to enhance system functionality and to provide SCAQMD staff with additional automation for improving productivity. The estimated cost to complete the work on these additional tasks exceeds the amount of funding in the existing contracts.

The current contracts are for one year with the option to renew for two one-year periods. Renewal of these contracts is contingent upon performance, competitiveness, percent of tasks bid and overall customer satisfaction. This item is listed on the "Status Report on Major Projects for Information Management."

Proposal
Staff proposes the contracts be amended to add additional funding of $391,560 in the amount of $94,800 to Prelude Systems, $172,500 to Sierra Cybernetics, and $124,260 to Varsun eTechnologies for the specific task orders listed in Attachment 1.

In addition, staff proposes a transfer of $26,760 from Rule 2202 AQIP Special Revenue Fund (Fund 27) to Information Management's FY 2013-14 budget, Capital Outlays Major Object, Computer Software account, to be used for enhancing the Lawnmower Exchange system as specified on Attachment 1, Section B; and a transfer of $65,000 from Information Management's Services and Supplies Major Object, Professional & Special Services account for FY 2013-14 to Information Management's Capital Outlays Major Object for FY 2013-14, Computer Software account to facilitate software development work.

Resource Impacts
Sufficient funding is included in the FY 2013-14 Budget.

Attachment
Attachment 1: Task Order Summary

Attachment 1

Task Order Summary

Section A – Funding Totals by Contract

CONTRACTOR	PREVIOUS FUNDING	THIS ADDITION	TOTAL FUNDING
CMC Americas, Inc.	$249,700	$0	$249,700
Prelude Systems, Inc.	$162,500	$94,800	$257,300
Sierra Cybernetics	$1,026,100	$172,500	$1,198,600
Varsun eTechnologies	$787,300	$124,260	$911,560
TOTAL	$2,225,600	$391,560	$2,617,160

Section B – Task Orders Scheduled for Award

TASK	DESCRIPTION	ESTIMATE	AWARDED TO
CLASS Permitting and Compliance System Enhancements	Initiate CLASS System modifications to implement new R1403 Asbestos Notification and Notice of Violation processing workflows	$42,000	Prelude
R1113 System Enhancements	Modify the R1113 Architectural Coatings web application to implement the recently adopted rule changes	$50,000	To be Determined
CLASS Finance System Enhancements	CLASS Finance A/R and batch billing system enhancements	$31,000	Sierra
Lawnmower Registration System Enhancements	Enhance the Lawnmower Registration system to implement user requested enhancements	$26,760	Varsun
Customer Service IVR System Implementation	Modify the IVR system to support Finance Customer Service routing requests	$26,500	Sierra
PeopleSoft System Enhancements	PeopleSoft Paysheet additional earnings update module implementation	$17,500	Varsun
TPD/R2202 System Enhancements	Modifications to R2202 and Rideshare systems to implement user requested enhancements	$15,000	To be Determined
DPO Implementation Support	Analysis and data migration support for DPO system implementation	$11,800	Prelude
CLASS Systems Maintenance and Database Support	Ongoing maintenance and support for SCAQMD's CLASS systems, web applications and enterprise database support	$75,000	Sierra
Infrastructure and Architectural Development and Upgrades	Initiate core architecture/infrastructure implementation for Permitting, Compliance and Finance On Line operations	$96,000	Prelude Sierra Varsun
TOTAL		$391,560	

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 4

PROPOSAL: Execute Contracts to Upgrade Existing Hydrogen Fueling Infrastructure

SYNOPSIS: In June 2013, the Board recognized revenue in the amount of $6,690,828 from CEC into the Hydrogen Fueling Infrastructure Network Fund (63) to upgrade existing hydrogen fueling infrastructure. Subsequently, in November 2013, the Board released RFP #P2014-09 to solicit proposals to upgrade and refurbish existing, publicly accessible hydrogen fueling infrastructure. This action is to execute three contracts to upgrade existing hydrogen fueling infrastructure at a total cost not to exceed $6,445,000 from the Hydrogen Fueling Infrastructure Network Fund (63). The remaining funds are to reimburse administrative costs.

COMMITTEE: No Committee Review; the February 21, 2014 Technology Committee meeting was cancelled.

RECOMMENDED ACTIONS:

1. Authorize an additional temporary loan in an amount of $6,345,000 from the Clean Fuels Fund (31) to the Hydrogen Fueling Infrastructure Network Fund (63) for a total loan of $6,445,000 to be repaid upon reimbursement under the provisions of the CEC grant award;

2. Authorize the Chairman to execute contracts with the following entities from the Hydrogen Fueling Infrastructure Network Fund (63):
   a) Equilon Enterprises LLC dba Shell Oil Products to upgrade the existing hydrogen fueling infrastructure in Torrance in an amount not to exceed $2,476,000;
   b) Air Liquide Industrial U.S. LP to upgrade the existing hydrogen fueling infrastructure at LAX in an amount not to exceed $2,630,000; and
   c) H2 Frontier, Inc. to upgrade the existing hydrogen fueling infrastructure at the City of Burbank in an amount not to exceed $1,339,000.

3. Authorize the Executive Officer to reimburse the SCAQMD General Fund an additional amount not to exceed $100,000 for a total amount not to exceed $244,316 from the Hydrogen Fueling Infrastructure Network Fund (63) for administrative costs necessary to implement the CEC grant award.

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:LW

Background
In June 2013, the Board recognized revenue in the amount of $6,690,828 from CEC's AB 118 Program into the Hydrogen Fueling Infrastructure Network Fund (63) to upgrade existing hydrogen fueling infrastructure. The intent of the funding was to have the SCAQMD conduct a competitive bid and execute contracts with successful bidder to upgrade existing, publicly accessible hydrogen fueling stations. In November 2013, the Board released RFP #P2014-09 to solicit proposals to upgrade and refurbish existing, publicly accessible hydrogen fueling stations. The intent of the RFP was to upgrade as many stations as possible with the available funds.

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 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.

Additionally, potential bidders may have been notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the RFP 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). Information is also available on SCAQMD's bidder's 24-hour telephone message line (909) 396-2724.

Bid Evaluation
Nine proposals were received before the bidding closed at 5 p.m. on December 20, 2013. The bids were reviewed by a diverse panel in accordance with criteria contained in the RFP. The panel was composed of two SCAQMD Program Supervisors as well as two CARB and three CEC representatives. The panel breakdown was as follows: six Caucasian, one Hispanic; one female, six male.

The panel scored the proposals according to the criteria outlined in the RFP, without an oral interview. Those proposals receiving a score of at least 76 out of 95 were

considered technically qualified and eligible for contract awards. Based on the scores in the attachment, and the cost effectiveness of the proposed projects, staff is recommending awards to Air Liquide, Equilon Enterprises and H2 Frontier.

Proposal

Air Liquide Industrial U.S. LP

Air Liquide's proposal for the LAX facility would enhance the existing hydrogen fueling infrastructure. Air Liquide proposes upgrading the existing LAX East- Clean Energy site by installing a Steam Methane Reformer (SMR) and a C100 Market Development hydrogen fueling station at the public retail CNG station located at 10400 Aviation Blvd in Los Angeles. Air Liquide plans to both own and operate the station.

Air Liquide has extensive knowledge in the manufacturing, distribution and storage of hydrogen and is one of the largest worldwide industrial suppliers. It operates hydrogen pipeline networks in the U.S. and Canada and has several large production facilities in California for both hydrogen and industrial gas manufacturing. Air Liquide also recently invested in a new industrial gas manufacturing facility in Etiwanda within the County of San Bernardino. Founded in 1902, Air Liquide has revenues of approximately $18 billion and is one of the world leaders in industrial and medical gases. Its core business is to supply oxygen, nitrogen, hydrogen and many other gases, services and innovative solutions to most industries. In the hydrogen sector, Air Liquide produces around 22,000 tons of H2 per year for the refining, steel, glass, chemical and food industries. It operates a large distribution network, which includes gaseous tube trailers, liquid trailers, cylinders and bundles but also the largest European hydrogen pipeline network.

Equilon Enterprises LLC dba Shell Oil Products US

Shell companies have developed hydrogen fueling stations around the world, including eight stations in the U.S. There are three stations in Southern California located in Newport Beach, West Los Angeles and Torrance. Equilon Enterprises proposes to upgrade Shell's Torrance pipeline station, which currently receives hydrogen from a pipeline owned and operated by Air Products and Chemicals, Inc., but which produces insufficient quantities of hydrogen. Shell is proposing to upgrade the facility to produce 200 kg/day (4x the current amount available) and to install dual dispensers, a new cooling block and refrigeration systems and two additional compressors.

H2 Frontier, Inc.

H2 Frontier proposes to undertake a rebuild of ageing equipment including existing compression equipment, desulfurization equipment, pumps, motors and a new dispenser delivery system with accurate metering to meet requirements of the CDFA Division of Measurement Standards. The proposed dispenser will be capable of point-of-sale transactions and perform fill data collection. These new systems will dramatically reduce overall operational costs and improve performance.

H2 Frontier, a California company, has 15 years of experience in California with installation, technical support, operation, and maintenance of hydrogen fueling stations.

H2 Frontier has been involved in numerous hydrogen station projects and is currently under contract to the SCAQMD, CARB and NREL for the operation of the City of Burbank hydrogen fueling station. Under their operation and maintenance, H2 Frontier has established the Burbank station as having the best up-time operations for any public station in California. H2 Frontier also recently won a CEC grant award for the design, installation and operation of a hydrogen fueling station at the Hyundai facility in Chino.

Since the goal is to have fully commissioned and operational stations within 12 months of contract execution, although on a case-by-case basis the SCAQMD's Project Officer may allow longer timelines, there is insufficient time to refine and re-release the solicitation document due to the impending OEM rollout of fuel cell vehicles. Consequently, to best utilize the funds received from the CEC and to ensure a more robust network of fueling stations as well as a competitive bidding environment, staff is recommending awards to these three qualifying bidders, with the caveat that during contract negotiations staff will make every effort to ensure reasonable prices for services and equipment. And if contract negotiations result in cost savings, staff will return to the Board to consider award amendments and/or additional awards.

Benefits to SCAQMD
The SCAQMD supports hydrogen infrastructure and fuel cell technologies and recognizes that light-, medium- and heavy-duty vehicles must achieve zero or near-zero emissions if the region hopes to meet state and federal air quality attainment standards. This project would help ensure that sufficient hydrogen infrastructure is available to fuel the impending OEM roll out of fuel cell vehicles over the next few years. While the CEC funding was recognized into a special fund, it complements the Technology Advancement Office's Clean Fuels Program and is included in the *2013 Clean Fuels Program Plan Update* under "Develop and Demonstrate Distributed Hydrogen Production and Fueling Stations."

Resource Impacts
The CEC's $6,690,828 revenue was recognized into the Hydrogen Fueling Infrastructure Network Fund (63). Of this amount, $6,446,511 is dedicated for project funding and $244,317 is to reimburse administrative costs. The temporary loan from the Clean Fuels Fund (31) will be used to pay for the costs of the project before SCAQMD can seek reimbursement. The loan will be repaid upon reimbursement from the CEC grant through the Hydrogen Fueling Infrastructure Network Fund (63). Recommended contract awards from Fund 63 total $6,445,000 as follows: 1) award to Equilon Enterprises in the amount of $2,476,000; 2) award to Air Liquide in the amount of $2,630,000; and 3) award to H2 Frontier in the amount of $1,339,000. The small unallocated balance ($1,511) of the CEC revenue may be awarded in future, subject to Board approval.

Attachment
Proposals Received in Response to RFP #P2014-09

PROPOSALS RECEIVED IN RESPONSE TO RFP # P2014-09

Firm Name	Technical Approach Score	Contractor Qualifications /Previous Experience	Applicant and Team Member Roles, Capabilities and Facilities	Total Points	Total Cost ($Million)	Proposed Award ($Million)
H2 Frontier, Inc	33.83	33.17	24.17	91.17	$1.39	$1.339
Equilon Enterprises LLC dba Shell Oil Products	30.67	33.17	24.17	88.01	$2.85	$2.476
Air Products and Chemicals, Inc	28.83	33.17	23.33	85.33	$5.19	
Air Liquide Industrial U.S. LP	30	30.17	22.83	83.00	$2.93	$2.630
Mebtahi Station Services, Inc.	28	32.17	20.00	80.17	$2.44	
SunLine Transit Agency	29	29.5	21.67	80.17	$1.44	
SunLine Transit Agency	25.17	26	16.00	67.17	$1.59	
Cal State LA University Auxiliary Services, Inc.	21.67	21	15.67	58.34	$1.34	
GTM Technologies	14.83	16.5	10.33	41.66	$0.214	
				TOTAL	$19.38	$6.445

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 5

PROPOSAL: Execute Contract to Upgrade Natural Gas Fueling Station

SYNOPSIS: In September 2010, the Board recognized revenue from CEC into the Clean Fuels Fund (31) in the amount of $300,000 and awarded the funds to Earth Energy Fuels to construct a new CNG station in Ontario. Earth Energy, however, is unable to proceed with the project. SCAQMD and CEC have agreed to re-direct the funds to UPS to upgrade their existing natural gas fueling station in Ontario, which is a key location for local goods movement but lacks sufficient fueling capacity. This action is to execute a contract with UPS in the amount of $300,000 from the Clean Fuels Fund (31) to upgrade their existing natural gas fueling station in Ontario.

COMMITTEE: No Committee Review; the February 21, 2014 Technology Committee meeting was cancelled.

RECOMMENDED ACTION:
Authorize the Chairman to execute a contract with UPS to upgrade their existing natural gas fueling station in Ontario in an amount not to exceed $300,000 from the Clean Fuels Fund (31).

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:LW

Background
Alternative fuel vehicles play an important role in Southern California's efforts to meet the federal standards for fine particulate and ozone. The SCAQMD has a long history of supporting the development and commercialization of alternative fuel vehicles and recognizes the importance of establishing and maintaining a large network of alternative fuel refueling stations as more alternative fuel vehicles are deployed.

At the September 10, 2010 meeting, the Board recognized $2.9 million into the Clean Fuels Fund (31) from the CEC under the AB 118 Alternative and Renewable Fuel and

Vehicle Technology Program. Of this $2.9 million, $300,000 was awarded to Earth Energy Fuels for the construction of one CNG fueling station in Ontario. The proposed project was selected by CEC through a competitive solicitation process and the CNG station was to be constructed at an Ontario 76 site located at 1850 E. Holt Blvd., Ontario, CA 91761. However, Earth Energy is no longer able to proceed with the project and staff, in consultation with the CEC, has been working to identify a new project to utilize the funding.

Proposal

Staff recommends executing a contract with UPS for the upgrade and expansion of the existing natural gas fueling station located at their Ontario facility. The CEC has agreed to cost-share the purchase of equipment for the installation and upgrade of this natural gas fueling station. The existing station, which is at a key location for local goods movement, currently lacks sufficient fueling capacity to support anticipated growth in the number of LNG trucks operating through the I-10 corridor. UPS will be the anchor fleet for the upgraded station but there is a growing number of natural gas fleets including trucks, buses and refuse haulers that would like to utilize the station.

Benefits to SCAQMD

The proposed UPS project is included in the *Technology Advancement Office 2013 Plan Update*, under "Infrastructure and Deployment." The AQMP relies on the expedited implementation of low-emission technologies and the implementation of this natural gas infrastructure project will help the SCAQMD to achieve its clean air goals. The fueling station will support the deployment and use of natural gas vehicles, which will displace the use of petroleum and reduce greenhouse gas emissions and criteria pollutants.

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 is made under provision B.2.d.(1), "Project involving cost sharing by multiple sponsors." The UPS proposal includes greater than 50% cost-share by UPS. Furthermore, this station fills a critical gap in the region for natural gas fueling and promotes the utilization of the cleanest available fleet and passenger vehicles.

Resource Impacts

The contract with UPS shall not exceed $300,000 and will be funded fully by CEC with funds previously recognized into the Clean Fuels Fund (31). 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. UPS will provide match funds in the amount of $1,472,580 for a total project cost of $1,772,580.

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 6

PROPOSAL: Adopt Resolution Recognizing Funds and Accepting Terms and Conditions for FY 2013-14 Carl Moyer Program Award, Issue Program Announcements for Carl Moyer Program and SOON Provision, and Execute and Amend Contracts

SYNOPSIS: These actions are to adopt a resolution recognizing $24,465,399 in Carl Moyer Program grant awards from CARB under SB 1107 with its terms and conditions for FY 2013-14 and to approve the release of Program Announcements for the FY 2013-14 "Year 16" Carl Moyer Program and SOON Provision to provide incentive funding for low-emitting on- and off-road vehicles and equipment. Additionally, this action is to execute and amend Carl Moyer contracts or prior awards in the amount of $680,819 from the Carl Moyer Program SB 1107 Fund (32).

COMMITTEE: No Committee Review; the February 21, 2014 meeting was cancelled.

RECOMMENDED ACTIONS:

A. Adopt the attached resolution accepting the terms and conditions of the FY 2013-14 Carl Moyer Grant award and recognize upon receipt up to $24,465,399 from CARB into the Carl Moyer Program SB 1107 Fund (32).

B. Approve issuance of Program Announcement PA #2014-08 to solicit projects for the FY 2013-14 "Year 16" Carl Moyer Memorial Air Quality Standards Attainment Program.

C. Approve issuance of Program Announcement PA #2014-07 to solicit projects for the SOON Provision.

D. Authorize the Chairman to amend the following awards with additional funding not to exceed $680,819 from the Carl Moyer Program SB 1107 Fund (32):
   1. Sanitation Districts of Los Angeles County to replace two off-road vehicles with new vehicles with Final Tier 4 instead of Interim Tier 4 engines with a funding increase of $18,858 to the new total amount of $312,046;
   2. Rentrac for the replacement of six off-road vehicles instead of repowering them with a funding increase of $661,961 to the new total amount of $2,871,778; and
   3. Sukut Equipment to replace two off-road vehicles from the total of five vehicles, instead of repowering them all, with no change in the award amount.

E. Authorize the Chairman to execute a contract with Catalina Sea Ranch for the repower of two main and one auxiliary engines of a marine vessel in a not-to-exceed amount of $483,710 from the Carl Moyer Program SB 1107 Fund (32).

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:FM

Background

The Carl Moyer Memorial Air Quality Standards Attainment Program (CMP) and the Surplus Off-Road Opt-in for NO_x (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 the Carl Moyer Program SB 1107 and AB 923 funds. This is the 16th year of the CMP and the 10th year of the program with funding from SB 1107 and AB 923.

Additionally, the Board previously approved proposed awards from the Carl Moyer Program SB 1107 Fund (32) to the Sanitation Districts of Los Angeles County, Rentrac and Sukut Equipment and revisions to these awards are necessary. Finally, at its October 4, 2013 meeting, the Board also approved an award to Close Quarters Foundation from the Carl Moyer Program SB 1107 Fund (32) for the repower of three engines of a marine vessel, but the contract has not been executed and Close Quarters has gone through a change of ownership. The new owner, Catalina Sea Ranch, is willing to carry out the contract.

Proposal

Staff recommends that the Board adopt the attached resolution accepting the terms and conditions of the FY 2013-14 Carl Moyer Grant award and recognize upon receipt up to $24,465,399 from CARB into the Carl Moyer Program SB 1107 Fund (32) for implementation of the FY 2013-14 CMP. Of the $24,465,399 amount, $23,242,129 is designated for project funding and $1,223,270 for administrative and outreach efforts. In addition, $3,669,810 is required from the SCAQMD as the local match, which will be provided from AB 923 funds.

Staff also recommends the Board approve the issuance of Program Announcements (PAs) PA #2014-08, and PA #2014-07 for the Carl Moyer Program and the SOON Provision, respectively. The minimum amounts of available funding are approximately $22.2 million for the Carl Moyer Program and $5 million for the SOON Provision. Additional funds may become available by the time of award approval, upon which more projects will be awarded up to the total amount of funds available. A detailed account of available funds from the Carl Moyer Program Fund, including earned interest and the split between the SB 1107 and the AB 923 funds, will be outlined at the time of award recommendations.

The PAs are issued based on the current program guidelines approved by CARB on April 28, 2011. The Carl Moyer PA outlines the proposed minimum funding allocations and the maximum allowed cost-effectiveness limit for each project category and solicits projects for on-road vehicles, off-road vehicles of small and medium size 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. Approval of emergency vehicle applications will be on a case-by-case basis. Proposals for all categories will be due by 1:00 pm on Wednesday, June 4, 2014. Staff expects to finalize the review and evaluation of the proposals and recommend awards for Board approval at the September and October 2014 Board meetings. The Carl Moyer Program and the SOON Provision PAs are attached.

Additionally, staff recommends the Board revise previous Carl Moyer awards as follows: 1) Sanitation Districts of Los Angeles County to replace two off-road vehicles with new vehicles with Final Tier 4 instead of Interim Tier 4 engines, which will achieve additional NO_x emission reductions of 0.107 tons/year; 2) Rentrac to replace six off-road vehicles instead of repowering them, which will achieve additional NO_x emission reductions of 7.620 tons/year and PM emission reductions of 0.931 tons/year; and 3) Sukut Equipment to replace two off-road vehicles with cleaner engines than originally proposed instead of repowering all five vehicles (emission reductions will remain the same). Finally, staff recommends the Board execute a contract with Catalina Sea Ranch for the repower of two main and one auxiliary engines of a marine vessel from the Carl Moyer Program SB 1107 Fund (32). This award was previously made to Close Quarters Foundation but before the contract could be executed they went through a change of ownership. The new owner has indicated its willingness to move forward with the project.

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 is made in this Board letter 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
- School Buses

Funding Distribution
The CMP Guideline includes the requirement that at least 50% 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% 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.

Disproportionately Impacted Areas Point Ranking
The requirements of the CMP and the SOON Provision will be implemented according to the following criteria.

1) All projects must qualify by meeting the cost-effectiveness limits established in the Program Announcement.
2) All projects will be evaluated according to the following criteria to qualify for funding as a disproportionately impacted area:
   a) Poverty Level: All projects in areas where at least 10 percent of the population falls below the federal poverty level based on the year 2000 census data are eligible to be included in this category, and
   b) $PM_{2.5}$ Exposure: All projects in areas with the highest 15 percent of $PM_{2.5}$ concentration measured within a 2 km grid will be eligible to be ranked in this category. The highest 15 percent of $PM_{2.5}$ concentration is 19.01 micrograms per cubic meter and above, on an annual average, or
   c) Air Toxics Exposure: All projects in areas with a cancer risk of 865 in a million and above (based on Mates III estimates) will be eligible to be ranked in this category.

The maximum score will be comprised of 40 percent for poverty level and 30 percent each for PM and toxic exposures. Special circumstances exist in some areas, such as the Ports of Long Beach and Los Angeles. Since there are no residents within the ports, poverty ranking could not be established. In this case, the poverty ranking from the adjacent on-shore areas was extended to the ports since these populated areas are directly impacted by port activities.

Outreach
In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the RFP/RFQ and inviting bids will be 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.

Additionally, potential bidders may be notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the RFP/RFQ will be 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 where it can be viewed by making menu selections "Inside AQMD"/"Employment and Business Opportunities"/"Business Opportunities" or by going directly to http://www.aqmd.gov/rfp/index.html). Information is also available on SCAQMD's bidder's 24-hour telephone message line (909) 396-2724.

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 allocated $24,465,399 to the SCAQMD under SB 1107 for implementation of the FY 2013-14 CMP. Of this amount, $23,242,129 is designated for project funding and $1,223,270 for administrative and outreach efforts. These funds shall be recognized into the Carl Moyer Program SB 1107 Fund (32). In addition, $3,669,810 is required as the local match from the SCAQMD, which will be provided from AB 923 funds.

The total funding increase for the amendment of previous Board awards from the Carl Moyer Program SB 1107 Fund (32) shall not exceed $680,819, as follows: 1) additional funding in the amount of $18,858 for a new total of $312,046 will be awarded to the Sanitation Districts of Los Angeles County; and 2) additional funding in the amount of $661,961 for a new total of $2,871,778 will be awarded to Rentrac. There is no change in the funding award to Sukut Equipment. Additionally, there are no funding changes for the project originally awarded to Close Quarters Foundation; instead the $483,710 funded from the Carl Moyer Program SB 1107 Fund (32) will be awarded to and a contract executed with the new owner, Catalina Sea Ranch.

Attachments
1. A Resolution of the South Coast Air Quality Management District Board Recognizing Funds and Accepting the Terms and Conditions of the FY 2013-14 Carl Moyer Award
2. Carl Moyer Program Announcement PA #2014-08
3. SOON Provision Program Announcement PA #2014-07

RESOLUTION NO. 14-XXX

A Resolution of the South Coast Air Quality Management District Board Recognizing Funds and Accepting the Terms and Conditions of the FY 2013-14 Carl Moyer 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 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 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 Board of the SCAQMD, State of California, in regular session assembled on March 7, 2014, does hereby accept the terms and conditions of the FY 2013-14 (Year 16) Carl Moyer Program grant award and recognizes up to $24,465,399 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 Clerk of the Board

2014
CARL MOYER MEMORIAL
AIR QUALITY STANDARDS ATTAINMENT PROGRAM
PROGRAM ANNOUNCEMENT
"Year 16"

SCAQMD PROGRAM ANNOUNCEMENT
PA #2014-08

The South Coast Air Quality Management District (SCAQMD) is seeking project applications for the following purpose according to terms and conditions attached. In the preparation of this Program Announcement (PA) the words "Proposer," "Applicant," "Contractor," and "Consultant" are used interchangeably.

SECTION I – OVERVIEW

PURPOSE

The SCAQMD is seeking applications for the 2014 Carl Moyer Memorial Air Quality Standards Attainment Program (CMP), referred to as "Year 16".

Funding for this PA will be approximately $22.2 million, from the CMP Fund.

The purpose of the CMP is to achieve near-term emission reductions of nitrogen oxides (NOx), particulate matter (PM10) and Reactive Organic Gases (ROG) from heavy- and medium-duty vehicles and equipment operating in California as early and as cost-effectively as possible. The CMP provides financial incentives to assist in the purchase of low-emission heavy- and medium-duty engine technologies to achieve emission reductions that are real, surplus, and quantifiable.

This Program Announcement (PA) was prepared based on the Approved Revision of the Carl Moyer Program (CMP) Guidelines dated April 28, 2011 which is available on-line at: www.arb.ca.gov/msprog/moyer/guidelines/current.htm.

All applications will be evaluated based on criteria set forth in this PA, the CMP Guidelines, and all subsequent updates and modifications/advisories; up to date CMP information may be obtained at Carl Moyer Program web page at www.arb.ca.gov/msprog/moyer/moyer.htm.

INTRODUCTION

CMP funding is provided via two legislative bills, SB 1107 and AB 923. SB 1107 provides approximately $61 million a year in statewide funding, and AB 923 permits air districts in designated non-attainment areas to collect an additional two dollars in vehicle registration fees to expend on programs to reduce emissions from vehicular sources and off-road. A resolution approving such fees was adopted by the SCAQMD Board on December 3, 2004.

FUNDING CATEGORIES

The specific project categories identified for funding under the SCAQMD's 2014 CMP solicitation are:

- On-Road Heavy-Duty Vehicle projects must generate surplus emission reductions. Therefore, all vehicles subject to CARB's Fleet Rules, including but not limited to the Statewide Truck & Bus Regulation, Solid Waste Collection Vehicle Rule, Public Agencies & Utilities Fleet Rule, and Drayage Truck Regulation, significantly reduce if not eliminate, funding opportunities. **The remaining funding opportunities apply exclusively to emergency vehicles and to fleets of 10 or fewer vehicles**.

- Off-Road Heavy-Duty Equipment/Engines, including but not limited to, construction equipment, marine engines, shore power, locomotives, agricultural tractors, zero-emission rubber-tired gantry (RTG) crane and other cargo handling equipment.

Refer to Table 3 for links to ARB's fleet rule web sites that provide detailed information on compliance with these regulations.

GENERAL PROGRAM INFORMATION

All project awards shall not exceed the maximum cost-effectiveness limit of $17,460 per ton of weighted emissions reduced unless revised by CARB prior to SCAQMD awards. All projects must meet the criteria stated in this PA, its Appendices and the CMP Guidelines. Cost-effectiveness is based on NOx, ROG and PM reductions. Project cost-effectiveness is calculated according to the following formula:

$$\frac{\textbf{Annualized Cost (\$/year)}}{\textbf{[NOx reductions + 20(combustion PM10 reductions) + ROG reductions] (tons/year)}}$$

All projects must be operational within eighteen (18) months of contract execution or by May 20, 2016, whichever is earlier. Some projects may have earlier in-service operation 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 application. Applicants should check the CARB website for updates and advisories to the guidelines. (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 (http://www.aqmd.gov/tao/implementation/carl_moyer_program_2001.html).

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 fleet rule compliance status.

All emission reductions resulting from funded projects will be retired by the SCAQMD. To avoid double counting of emission reductions, project vehicles and/or equipment may not receive funding from any other government grant program that is designed to reduce mobile source emissions. These programs include, but are not limited to:

- Proposition 1B Bond program
- All Mobile Source Air Pollution Reduction Review Committee (MSRC) Programs
- All CARB Emission Reduction Credit Programs
- State of California School Bus Program
- SCAQMD Lower-Emissions School Bus Replacement Program
- SCAQMD Rule 2202 Air Quality Investment Program
- SCAQMD RECLAIM Air Quality Investment Program for NOx
- Emission credit programs encompassed in the SCAQMD Rule 1600-series and 1309.1
- AB118 funding program

ELIGIBILITY INFORMATION

Emission reductions obtained through Carl Moyer Program projects 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 ARB, an air district, or the United States Environmental Protection Agency (U.S. EPA) are not eligible for funding.

A grant recipient subject to an in-use regulation may be eligible to receive CMP funding if the applicant has met all compliance requirements of applicable regulations. Documentation of regulatory compliance must be provided by applicants to air districts at the time of pre-inspection.

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

All on-road projects must generate surplus emission reductions. Therefore, all vehicles subject to CARB's Fleet Rules, including but not limited to the Statewide Truck & Bus Regulation, Solid Waste Collection Vehicle Rule, Public Agencies & Utilities Fleet Rule, and Drayage Truck Regulation, significantly reduce if not eliminate funding opportunities. **The remaining funding opportunities discussed below apply exclusively to emergency vehicles and fleets of 10 or fewer vehicles.**

The proposed engine for each on-road project must be consistent with the "Intended Service Class" per the Executive Order (medium-heavy duty (MHD) Intended Service Class engines cannot be used for projects which have the heavy-heavy duty (HHD) vehicle classifications).

Emergency Vehicles
Eligible emergency vehicle projects are those in which a new or used replacement vehicle with an engine meeting the current model year California emission standard replaces an older, more polluting emergency vehicle. The older, replaced vehicle must be destroyed.

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. Additional requirements should be reviewed and understood at http://www.arb.ca.gov/msprog/moyer/guidelines/2011gl/2011cmp_chp6_4_28_11.pdf

New Purchase
Due to ARB's 2010 New Diesel Engine Emission Standards (0.20 g/bhp-hr NOx and 0.01 g/bhp-hr PM) that took effect on January 1, 2010, on-road new purchase projects are limited exclusively to zero-emission technologies, which would generate minimal surplus emission reductions, resulting in very nominal funding amounts.

Repowers
A replacement engine for a repower project must be an ARB-certified engine meeting emissions levels of 0.50 g/bhp-hr NOx and 0.01 g/bhp-hr PM or lower. Repowers with replacement family emission limit (FEL) engines that meet these emissions levels must be based on emission factors for model year 2007-2009 engines.

Due to technological constraints presented with the limited feasibility of newer engines with advanced emissions control equipment fitting into an older vehicle chassis, single vehicle repower projects are not eligible for Moyer funding. However, the economics of repower projects involving a large quantity of the same chassis and engine combination may allow compliance with the engine manufacturer quality assurance process that is equivalent to an OEM package. In these cases, a prototype vehicle 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. While the prototype evaluation (with documented OEM approval) is not eligible for CMP funding, projects to replicate the identical chassis and engine combination will be considered on a case-by-case basis.

Retrofit/Replacement
Please refer to the On-Road Voucher Incentive Program (VIP) to explore funding opportunities for replacement and retrofit funding at http://www.arb.ca.gov/msprog/moyer/voucher/voucher.htm

OFF-ROAD EQUIPMENT

Propulsion engines greater than 25 horsepower on mobile off-road equipment are eligible for CMP funding, with limitations. Off-road heavy-duty equipment/engines include, but are not limited to, construction equipment, agricultural tractors, marine engines, shore power and locomotive equipment.

Construction

Fleets must be in compliance with ARB's In-Use Off-Road Diesel Vehicle Regulation (Off-Road Regulation) in order to be eligible for funding. 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 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 with an emission-certified engine, 2) retrofit with a verified-diesel emission control strategy (VDECS), and 3) replacement by a vehicle with an engine certified as meeting the current off-road emission standards.

Engine Repower

Engine repowers are commonly diesel-to-diesel repowers and significant NOx and PM benefits are achieved due to the higher emission levels of the engine being replaced. Funding is not available for projects where a spark-ignition engine (i.e., natural gas, gasoline, etc.) is replaced with a diesel engine.

Retrofit Purchase

Retrofit is the installation of an ARB-verified diesel emission control device on an existing engine. Examples include, but are not limited to, particulate filters and diesel oxidation catalysts. Retrofit projects that control PM must use the highest level technically feasible technology available for the equipment being retrofitted, which is defined as a device that achieves the highest level of PM reductions (Level 3 - 85 percent) and the highest level of NOx reductions.

New Purchase/Replacement

Fleets may apply for replacement in lieu of repowering their vehicle, where new or used replacement equipment with an engine certified to the current emission standard or Tier is purchased to replace the existing equipment (which will be scrapped). New equipment purchase project eligibility requires case-by-case approval by ARB.

Cargo Handling Equipment (CHE) Electrification

Cargo handling equipment fleets must be fully compliant with ARB's Regulation for Cargo Handling Equipment at Ports and Intermodal Rail Yards in order to be eligible for CMP funding. Applicants must provide a copy of their most recent ARB Compliance Plan to document compliance with the regulation.

Existing diesel-powered rubber-tired gantry (RTG) cranes or diesel-powered CHE (i.e., yard trucks, etc.) operating at a seaport or intermodal railyard in a trade corridor are eligible for CMP funding to offset costs to electrify this equipment. Projects utilizing regulatory extensions are not eligible for funding.

CHE Electrification – RTG Cranes

The CMP allows funding to upgrade existing diesel-powered RTG cranes with a zero-emission power system. Eligible costs may include the purchase of a new crane or installation of a zero-emission engine, necessary parts for an existing RTG crane including directly related vehicle modifications, and infrastructure to supply electrical power, utility construction, and costs associated with increasing the capacity of electrical power to the crane. Ineligible costs include design, engineering, consulting, environmental review, legal fees, permits, licenses and associated fees, taxes, metered costs, insurance, operation, maintenance, and repair. Projects are evaluated on a case-by-case basis.

CHE Electrification – Other

The CMP allows partial funding of up to 50 percent of the eligible cost or $50,000/unit, whichever is less, to replace an existing CHE with a zero-emission propulsion system. Eligible costs may include the purchase of a zero-emission yard truck. Ineligible costs include license, registration, taxes (other than federal excise and sales tax), insurance, operation, maintenance, and repair. Projects are evaluated on a case-by-case basis.

Marine/Shore Power

Marine vessel project types include engine repower, engine retrofit, new purchase and shore power. Each category is summarized below.

Marine Engine Repower

Limited CMP funding opportunities remain for vessel engines subject to the in-use compliance requirements of ARB's Commercial Harbor Craft (CHC) regulation, since the repower must be completed at least three (3) years prior to the vessel's regulatory in-use compliance date. Based on the vessel's operation, the newer engine's emissions must be surplus to the currently required United States Environmental Protection Agency (U.S. EPA) marine engine emission standard (i.e., Tier 2 or cleaner). 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.

Marine Engine Retrofit Devices

The installation of an ARB verified diesel emission control strategy (VDECS) will be considered by CARB for CMP funding on a case-by-case basis.

Marine Vessel - New Purchase

New marine vessels with propulsion and auxiliary engines certified to be at least 30 percent cleaner than the applicable oxides of nitrogen (NOx) emission standard are eligible for CMP funding on a case-by-case basis.

Shore Power Projects

Shore power projects are eligible only if applicants submit their ARB-approved Initial Terminal Plan with their application to document[1] compliance with ARB's Shore Power regulation and that the proposed project provides emissions reductions that are surplus to regulatory requirements. Projects not subject to the Shore Power regulation are also eligible to apply.

All subsequent project reports to air districts must include any new or updated Terminal Plans in order to evaluate compliance with the project contract.

For shore power projects that demonstrate eligibility, up to 50 percent of the total cost of a shore-side transformer and other equipment between the vessel and shore-side transformer at the port or terminal is eligible for CMP funding. Any costs directly related and necessary to the installation of the eligible equipment may reasonably be included in the total cost, such as labor for installation, and costs of site preparation. Design and engineering costs associated with the transformer and other eligible equipment between the vessel and transformer are considered professional labor costs required to complete the installation and are eligible for funding.

Up to 100 percent of necessary vessel (non-transformer) retrofit costs, specifically required to allow the vessel to plug into shore-side power, are eligible for CMP funding. Up to 50 percent of any necessary transformer costs on board the vessel are eligible for CMP funding.

Ineligible costs include modifications or enhancements made to the shore-side electrical infrastructure needed to bring power to the terminal. Other ineligible shore power costs consist of barge or other acquisitions and modification for a portable system, design, construction or metered costs, insurance, operation, maintenance and repair.

Locomotives

In the SCAQMD, all new locomotives and replacement engines must be certified to Tier 4 standards to be eligible for CMP funding.

Class 3 freight railroads and passenger railroads are not subject to any ARB fleet regulations and are therefore eligible for CMP funding. There are five types of locomotive projects that are eligible for Carl Moyer Program funding:

1. Alternative technology switcher (or other cleaner-than-required new locomotive)
2. Idle limiting device (ILD)
3. U.S. EPA certified engine remanufacture kit or repower/refurbishment
4. ARB verified retrofit
5. Head end power unit (HEP) (apply as an off-road engine project)

Refer to the CMP guidelines for additional information regarding these project types.

Locomotive project activity must be based upon fuel consumption.

[1] Note that shore power project contracts will require that all subsequent project reports to AQMD must include any new or updated Terminal Plans in order to evaluate compliance with the project contract.

All locomotive projects receiving more than $50,000 per locomotive in Carl Moyer Program funds must include the purchase and installation of an ILD if the locomotive is not already equipped with such a device and installation is technically feasible.

DEFINITIONS

Alternative Fuel

Alternative fuels include compressed natural gas (CNG), liquefied natural gas (LNG), methanol, ethanol, propane (LPG), and electric technologies. Experimental technologies and fuels will be referred to CARB for evaluation and possible eligibility in the program.

Repower

Vehicle repower refers to replacing an existing engine in an existing vehicle with a newer engine certified to lower emission standards. The replacement engine must be certified for sale in California to a NOx emission standard that is at least 15 percent lower than the original NOx certification level for the engine being replaced. Diesel-to-alternative fuel repowers are eligible for all categories. Diesel-to-diesel repowers will only be considered in the off-road and on-road emergency vehicles categories.

Retrofit

Add-on after-treatment emissions reduction devices are considered retrofits. The retrofit kit must be CARB-verified to achieve specific emission reductions. 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 NOx 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 NOx and PM but the PM reduction from a retrofit is required by a regulation, only the NOx reduction may be eligible for funding.

IMPORTANT PROGRAM INFORMATION

- Applicants **must** provide vendor quotes with their application to document the cost of the low-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 and/or retrofit). Eligible costs include installation labor and sales tax; however, the total award may not exceed the maximum cost-effectiveness for the equipment/vehicle category. **All quotes must have been obtained within 90 days of application submittal.**

- A number of the CARB fleet rules and air quality regulations have reduced or eliminated CMP eligibility. Compliance with existing air quality regulations is a pre-requisite for CMP funding. Only emissions 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 20, 2016, whichever is earlier.

- All project invoices must be submitted for payment no later than May 20, 2016. Projects which have not invoiced by this date may forfeit their funding.

- The highest level verified diesel emissions control system (VDECS) available is required as part of any retrofit project and may be required for some repower projects. The cost of the VDECS equipment and installation may be included in the CMP grant request. It is the responsibility of the applicant to determine the applicability of this requirement, and if required, to include quotes for this equipment in their application. Projects that require the additional VDECS that do not have cost and system specification information may not be evaluated by SCAQMD staff.

- 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 **locally** available for inspections unless specified during contract preparation. Documentation of compliance with existing regulatory requirements is required at the time of pre-inspection.

- Destruction of the engine and/or equipment being replaced is required for repower or replacement projects.

- Emissions reduction calculations must use hour-based (off-road) or mileage-based (on-road) equipment activity. Fuel-based activity may be used if documentation of previous fuel usage and mileage records demonstrates at least 30% better cost-effectiveness.

- If using the fuel based formula, usage must be based on two years of historical fuel usage documentation submitted with the application and specific to the equipment for which funding is requested. Documentation may include fuel logs, purchase receipts, business logs, ledger entries, etc.

PROGRAM ADMINISTRATION

The CMP will be administered locally by the SCAQMD through the Science and Technology Advancement office.

Funding category allocations are provided below in Table 1. The SCAQMD reserves the right to reallocate the funds to another category or subcategory. Additionally, the SCAQMD reserves the right to partially fund a project.

All qualified applications submitted for each category/subcategory will be evaluated for disproportional impacts (discussed in Section IV) and ranked by emission reduction cost-effectiveness.

Table 1: Proposed Funding and Cost-Effectiveness Limits

Category	Minimum Amount[1] ($ millions)	Cost-Effectiveness $/ton
ON-ROAD		
(A) Vehicles[2] (Including Emergency Vehicle)	4.0	17,460
OFF-ROAD		
(A) Marine/Shore Power	6.0	17,460
(B) Construction (Small and medium fleets only)[3]	3.2	17,460
(C) Locomotives	7.0	17,460
(D) Cargo Handling Equipment (Electrification only)	2.0	17,460
	22.2	

[1] *In case of oversubscription in these categories, greater funding may be recommended.*

[2] *Due to the California Air Resources Board's 2010 New Diesel Engine Emission Standards (0.20 g/bhp-hr NOx and 0.01 g/bhp-hr PM) that took effect on January 1, 2010, on-road new purchase projects are limited exclusively to zero-emission technologies that still result in generating surplus emission reductions*

[3] Large off-road fleets should apply to the SOON Program. http://aqmd.gov/tao/implementation/soonprogram.htm

It is noteworthy that proposals for fuel and engine technologies not yet certified by CARB, or falling outside the categories specifically discussed in this PA, will be referred to CARB for determination of CMP eligibility. Please discuss these projects with SCAQMD staff prior to submittal.

SCHEDULE OF EVENTS

Issue PA #2014-08	March 7, 2014
Workshops	April – May 2014
All Applications Due by 1:00 pm	**Wednesday, June 4, 2014**
Awards Consideration by the Board	September - October 2014

ALL PROPOSALS MUST BE RECEIVED AT THE SCAQMD HEADQUARTERS NO LATER THAN 1:00 P.M. ON WEDNESDAY, JUNE 4, 2014

Postmarks will not be accepted. Fax or e-mail proposals will not be accepted. Proposers may hand-deliver proposals to the SCAQMD by submitting the proposal to the SCAQMD reception desk. The proposal will be date and time-stamped and the person delivering the proposal will be given a receipt.

SCHEDULE OF CMP GENERAL WORKSHOPS:

- **Wednesday April 16, 2014 - 10 a.m. to Noon**
  SCAQMD Headquarters, Room CC-2
  21865 Copley Drive
  Diamond Bar, CA 91765
- **Wednesday, April 30, 2014 - 10 a.m. to Noon**
  SCAQMD Headquarters, Room CC-2
  21865 Copley Drive
  Diamond Bar, CA 91765

MARINE VESSEL/SHORE POWER /CHE ELECTRIFICATION WORKSHOP

- **Thursday May 8, 2014 – 10 a.m. to Noon**
  Port of Los Angeles Board Room
  425 South Palos Verdes Street
  San Pedro, CA 90731

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:

Lani Montojo
Science and Technology Advancement
South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765
(909) 396-2231/3252 FAX

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 20, 2016, whichever is earlier. **Unsigned applications will 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 responsibility for developing detailed project plans that address the program criteria is the project applicant's. 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, quantifiable, enforceable and surplus in accordance with CARB and SCAQMD guidelines.
- Meet the cost-effectiveness limits, as described in Table 1 of this PA.
- Provide at least 30 percent NOx emission reduction for new engine/vehicle purchases and 15 percent for repowers and retrofits, compared to baseline NOx emissions, if NO_x emission reductions are to be considered in the cost-effectiveness calculations.
- 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 20, 2016 whichever is earlier.
- Provide for appropriate record-keeping during the project life (i.e., annual mileage, fuel consumption and/or hours of operation).
- 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, 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 reports:

1. Quarterly status reports until the vehicle or equipment purchase, repower or retrofit has been accomplished and in operation. These reports shall include a discussion of any problems encountered and how they were resolved, any changes in the schedule, and recommendations for completion of the project. These progress reports are required before payment for the purchase, repower or retrofit will be made.

2. 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 (75 percent required in-Basin), 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:
http://aqmd.gov/tao/implementation/carl_moyer_program.html

SECTION III - PROPOSAL SUBMITTAL REQUIREMENTS

Proposers **must** complete the appropriate application forms, which are included in the Appendices. 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 applicant to ensure that all information submitted is accurate and complete. Please note, that if recommended for an award you will be required to submit an updated Conflict of Interest form at a later date.

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 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 form entitled "Contracting Statements".

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 time frame of the award process so that they can project costs to the projected order/purchase date. **Note that purchase orders may not be placed for projects awarded under this PA until after the date of award approval by the SCAQMD Governing Board. However, it is important to understand that any orders placed in advance of a fully executed contract are done so at the applicant's risk.** The CMP funds only a percentage of the cost of the low-emission technology based on the type of project**.** The proposed low-emission technology must be CARB-certified in most cases[2]. No fueling infrastructure, administrative or operational costs will be funded.

[2] Note that an experimental permit from CARB may be considered, but the project will require special CARB approval.

All project costs must be clearly indicated in the application. In addition, applicants should be sure to include any sources of co-funding and the amount of each co-funding source in the application. **Proposers are cautioned that the project life period used in calculating emissions reductions will be used to determine the length of their data 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.**

Proposers 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 www.arb.ca.gov/msprog/moyer/moyer.htm

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 proposal without evaluation.

Staff Contact Information: SCAQMD staff contacts for each program category are listed in Table 2 below. Applicants are strongly encouraged to contact SCAQMD staff experts to discuss their project prior to submitting an application to ensure program eligibility.

Application Forms: Program application forms are provided in the Appendix. These must be completed and submitted with other required documents (i.e. Certifications and Representations, activity documentation, project quotes, etc.) discussed in the application and below.

Certifications and Representations: Consists of five forms which **must** be completed and submitted with the Application.

Due Date - The proposer shall submit four (4) 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 proposer and the words "**Program Announcement PA #2014-08**. All proposals/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 proposals must be received no later than **1:00 p.m., on Wednesday, June 4, 2014**. Postmarks are not accepted as proof of deadline compliance. **Faxed or e-mailed proposals will not be accepted**. Proposals must be directed to:

Procurement Unit
South Coast Air Quality Management District
21865 East 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:

- 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 five (5) business days of the proposal due date, SCAQMD will send letters to applicants regarding missing information. Applicants will have seven (7) days to provide any missing information requested in this letter. Any additional information requests will also have a seven (7) day response deadline.

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 proposals not selected for funding shall be retained for one year. Additional copies and materials will be returned only if requested and at the proposer's expense.

SECTION IV - PROPOSAL EVALUATION/CONTRACTOR SELECTION CRITERIA

SCAQMD staff will evaluate all submitted proposals and make recommendations to the Governing Board for final selection of project(s) to be funded. Proposals will be evaluated on the cost-effectiveness of NOx, PM10 and ROG reduced, as well as a project's disproportional impact evaluation (discussed below). 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 cost-effectiveness criteria may be funded.

At least 50 percent of the SCAQMD's CMP funds must be spent in areas that are most significantly impacted by air pollution and are low income or communities of color, or both (i.e., receive a disproportionate impact from air pollution). CARB issued broad goals and left the details of how to implement this requirement to each air agency. SCAQMD uses the following method to meet these requirements.

1. All projects must qualify for the CMP by meeting the cost-effectiveness limits established in the PA, Table 1.

2. All projects will be evaluated according to the following criteria to qualify for disproportionate impact funding:
   a) Poverty Level: All projects in areas where at least 10 percent of the population falls below the Federal poverty level based on the year 2010 census data are eligible to be included in this category, and
   b) PM 2.5 Exposure: All projects in areas with the highest 15 percent of PM 2.5 concentration measured within a 2 km grid will be eligible to be ranked in this category. The highest 15 percent of PM2.5 concentration is 19.01 micrograms per cubic meter and above, on an annual average, or
   c) Air Toxics Exposure: All projects in areas with a cancer risk of 865 in a million and above (based on Mates III estimates) will be eligible to be ranked in this category.

The maximum score will be comprised of 40 percent for poverty level and 30 percent each for PM and toxic exposures. Special circumstances exist in some areas, such as the Ports of Long Beach and Los Angeles. Since there are no residents within the ports, poverty ranking could not be established. In this case, the poverty ranking from the adjacent on-shore areas were extended to the port since these populated areas are directly impacted by port activities.

3. Fifty percent of the available funding from this PA will be allocated to proposals located in disproportionately impacted areas. If available funding is not exhausted with the outlined methodology, then staff will return to the Governing Board for direction. If on the other hand, funding requests exceed the available funding levels, then all qualified projects will be ranked for poverty level, PM and toxic exposures. The maximum score will be comprised of 40 percent for poverty level, and 30 percent each for PM and toxic exposures.

4. All the proposals not awarded under the fifty percent disproportional impact funding 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, 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 will be established that allows payment upon completion of key milestones, as delineated in the contract.

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: http://www.aqmd.gov/tao/implementation/carl_moyer_program_2001.html

Table 2: CMP Staff Contacts

Appendix Name	Staff Contact	Phone Number	E-mail
Heavy-Duty On-Road Vehicles	Ashkaan Nikravan	(909) 396-3260	anikravan@aqmd.gov
Off-Road Equipment	Vasken Yardemian	(909) 396-3296	vyardemian@aqmd.gov
Locomotives	Connie Day	(909) 396-3055	cday@aqmd.gov
Marine Vessels	Mark Coleman Von Loveland	(909) 396-3074 (909) 396-3063	mcoleman@aqmd.gov vloveland@aqmd.gov
Cargo Handling Equipment Electrification	Greg Ushijima	(909) 396-3301	gushijima@aqmd.gov
Shore Power	Greg Ushijima	(909) 396-3301	gushijima@aqmd.gov

TABLE 3 - WEBSITE LINKS TO CARB RULES THAT AFFECT CMP ELIGIBILITY

On-Road Private (truck and bus) @ **http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm**

Public/Utility Fleets @**http://www.arb.ca.gov/msprog/publicfleets/publicfleets.htm**

In-Use Off-Road (CI) @ **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

Table of Contents

Form A-1: Application Checklist and Required Disclosure Forms

Form B-1: Off-Road Heavy-Duty Equipment, Equipment Replacement and Cargo Handling Equipment (CHE) Electrification

Form B-2: Off-Road Heavy Duty Equipment, Repower Only, Repower/Retrofit and Locomotive HEP

Form B-3: Off-Road Heavy Duty Equipment, Retrofit Only

Form C-1: On-Road Heavy-Duty Vehicles, New Purchase

Form C-2: On-Road Heavy-Duty Vehicles, Repower

Form C-3: On-Road Heavy-Duty Diesel Emergency (Fire Apparatus) Equipment

Form D-1: Marine Vessels, Repower and/or Retrofit

Form D-2: Marine Vessels, Shore Power

Form E-1: Locomotive Project Application, New Purchase and Idle Limit Device

Form E-2: Locomotive Project Application, Repower or Remanufacture

Application Check List

In order to have a completed application the following information is required to be submitted:

- ☐ A cover letter stating your request, how many pieces of equipment and/or engines you are requesting, and the funding amount being requested
- ☐ Checklist with all disclosure forms completed and signed.
- ☐ Application form specific to your equipment, along with the following data:
  - ☐ Vendor quotes dated within 90 days of application submittal
  - ☐ ARB Executive Orders for each engine
  - ☐ Previous two years of historical data documenting usage

Once completed please submit four copies of the assembled package.

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

Application Statement – Please Read and Sign

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.

- I certify to the best of my knowledge that the information contained in this application is true and accurate.

- 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 will be prohibited from applying for any other form of emission reduction credits for Moyer-funded vehicles/engines, including: Emission Reduction Credit (ERC); Mobile Source Emission Reduction Credit (MSERC) and/or Certificate of Advanced Placement (CAP), for all time, from the SCAQMD, CARB or any other Air Quality Management or Air Pollution Control District.

- The proposed project has not been funded and is not being considered for Carl Moyer Program funds by another air district, CARB, or any other public agency.

- 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 an award payment. I may self-certify that the reflash has been performed by submitting receipt of reflash completed or a picture of the "Low NOx Reflash Label from the reflashed engine to the district.

- I have the legal authority to apply for grant funding for the entity described in this application.

- Disclosure of the value of any current financial incentive that directly reduces the project price, including tax credits or deductions, grants, or other public financial assistance for the same engine is required. To avoid double counting of incentives, all tax credits or deductions, grants, or other public financial assistance must be deducted from the CMP request.

Application Statement, con't.

- 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 CMP funds are being used for this compensation.

- I understand that additional project information must be submitted to finalize a contract.

- I understand that all vehicles, engines or equipment funded by this program must be operational within eighteen (18) months of contract execution, or by May 20, 2016, whichever is earlier.

- I have initialed this bullet to indicate that there are no potential conflicts of interest with other clients affected by actions performed by the firm on behalf of the SCAQMD. If this bullet is not initialed, 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. There is no potential conflict of interest: _____(Please Initial if applicable, otherwise attach separate sheet describing the potential conflict)

_____	_____
Applicant's Signature	Date
_____	_____
Applicant's Name (please print)	Title

Application Statement, con't.

Please initial each section.

(See PA #2014- 08 for additional information and requirements):

_____	The purchase of this low-emission technology is NOT currently required by any local, state, and/or federal rule or regulation (with the exception of Agricultural Assistance Program projects).
_____	The definitions of qualifying projects are described in PA #2014-08. These definitions have been reviewed and this application is consistent with those definitions.
_____	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.
_____	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 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 funded projects will be retired. To avoid double counting of emission reductions, project vehicles and/or equipment may not receive funding from any other government grant program that is designed to reduce mobile source emissions.
_____	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: $_____

South Coast
Air Quality Management District

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

Business Information Request

Dear SCAQMD Contractor/Supplier:

The 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, complete the enclosed W-9 form, remember to sign both 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,

Michael B. O'Kelly
Chief Financial Officer

DH:tm

Enclosures: Business Information Request
Disadvantaged Business Certification
W-9
Federal Contract Debarment Certification
Campaign Contribution Disclosure

REV 1/13

South Coast
Air Quality Management District

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

BUSINESS INFORMATION REQUEST

Business Name	
Division of	
Subsidiary of	
Website Address	
Type of Business *Check One:*	☐ Individual ☐ DBA, Name _____, County Filed in _____ ☐ Corporation, ID No. _____ ☐ LLC/LLP, ID No. _____ ☐ 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

DISADVANTAGED BUSINESS CERTIFICATION

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 the 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:

☐ Small Business Enterprise/Small Business Joint Venture ☐ Women-owned Business Enterprise
☐ *Local business* ☐ *Disabled Veteran-owned Business Enterprise/DVBE Joint Venture*
☐ Minority-owned Business Enterprise

Percent of ownership: _____ *%*

Name of Qualifying Owner(s): _____ _____

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 the 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.

Form **W-9**
(Rev. January 2005)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

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

Print or type
See Specific Instructions on page 2.

Name (as shown on your income tax return)

Business name, if different from above

Check appropriate box: ☐ Individual/ Sole proprietor ☐ Corporation ☐ Partnership ☐ Other ▶ ☐ Exempt from backup withholding

Address (number, street, and apt. or suite no.) | Requester's name and address (optional)

City, state, and ZIP code

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 your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. *If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.*

Social security number
| | | – | | – | | | | |

or

Employer identification number
| | – | | | | | | |

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. person (including a U.S. resident alien).

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 on page 4.)

Sign Here Signature of U.S. person ▶ Date ▶

Purpose of Form

A person who is required to file an information return with the IRS, must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

U.S. person. Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

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.

Note. *If 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.*

For federal tax purposes you are considered a person if you are:

- An individual who is a citizen or resident of the United States,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States, or
- Any estate (other than a foreign estate) or trust. See Regulations sections 301.7701-6(a) and 7(a) for additional information.

Foreign person. If you are a foreign person, do not use Form W-9. Instead, use the appropriate Form W-8 (see Publication 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 recipient 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 not subject to backup withholding, give the requester the appropriate completed Form W-8.

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments (after December 31, 2002). This is called "backup withholding." Payments that may be subject to backup withholding include interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, 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, or

2. You do not certify your TIN when required (see the Part II instructions on page 4 for details), or

3. The IRS tells the requester that you furnished an incorrect TIN, or

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 the instructions below and the separate Instructions for the Requester of Form W-9.

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

Name

If you are an individual, you must generally enter the name shown on your social security card. However, if you have changed your last name, for instance, due to marriage without informing the Social Security Administration of the name change, enter your first name, the last name shown on your social security card, and your new last name.

If the account is in joint names, list first, and then circle, the name of the person or entity whose number you entered in Part I of the form.

Sole proprietor. Enter your individual name as shown on your social security card on the "Name" line. You may enter your business, trade, or "doing business as (DBA)" name on the "Business name" line.

Limited liability company (LLC). If you are a single-member LLC (including a foreign LLC with a domestic owner) that is disregarded as an entity separate from its owner under Treasury regulations section 301.7701-3, enter the owner's name on the "Name" line. Enter the LLC's name on the "Business name" line. Check the appropriate box for your filing status (sole proprietor, corporation, etc.), then check the box for "Other" and enter "LLC" in the space provided.

Other entities. Enter your business name as shown on required Federal tax documents on the "Name" line. 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 the "Business name" line.

Note. You are requested to check the appropriate box for your status (individual/sole proprietor, corporation, etc.).

Exempt From Backup Withholding

If you are exempt, enter your name as described above and check the appropriate box for your status, then check the "Exempt from backup withholding" box in the line following the business name, sign and date the form.

Generally, individuals (including sole proprietors) are not exempt from backup withholding. Corporations are exempt from backup withholding for certain payments, such as interest and dividends.

Note. If you are exempt from backup withholding, you should still complete this form to avoid possible erroneous backup withholding.

Exempt payees. Backup withholding is not required on any payments made to the following payees:

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 possession of the United States, or any of their political subdivisions or instrumentalities,

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

5. An international organization or any of its agencies or instrumentalities.

Other payees that may be exempt from backup withholding include:

6. A corporation,

7. A foreign central bank of issue,

8. A dealer in securities or commodities required to register in the United States, the District of Columbia, or a possession of the United States,

9. A futures commission merchant registered with the Commodity Futures Trading Commission,

10. A real estate investment trust,

11. An entity registered at all times during the tax year under the Investment Company Act of 1940,

12. A common trust fund operated by a bank under section 584(a),

13. A financial institution,

14. A middleman known in the investment community as a nominee or custodian, or

15. A trust exempt from tax under section 664 or described in section 4947.

The chart below shows types of payments that may be exempt from backup withholding. The chart applies to the exempt recipients listed above, 1 through 15.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt recipients except for 9
Broker transactions	Exempt recipients 1 through 13. Also, a person registered under the Investment Advisers Act of 1940 who regularly acts as a broker
Barter exchange transactions and patronage dividends	Exempt recipients 1 through 5
Payments over $600 required to be reported and direct sales over $5,000 [1]	Generally, exempt recipients 1 through 7 [2]

[1]See Form 1099-MISC, Miscellaneous Income, and its instructions.

[2]However, the following payments made to a corporation (including gross proceeds paid to an attorney under section 6045(f), even if the attorney is a corporation) and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees; and payments for services paid by a Federal executive agency.

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. However, the IRS prefers that you use your SSN.

If you are a single-owner LLC that is disregarded as an entity separate from its owner (see *Limited liability company (LLC)* on page 2), enter your SSN (or EIN, if you have one). If the LLC is a corporation, partnership, etc., enter the entity's EIN.

Note. See the chart on page 4 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 Social Security Administration office or get this form online at *www.socialsecurity.gov/online/ss-5.pdf*. 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/* and clicking on Employer ID Numbers under Related Topics. You can get Forms W-7 and SS-4 from the IRS by visiting *www.irs.gov* or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, 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. Writing "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: *A disregarded domestic 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 items 1, 4, and 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). Exempt recipients, see *Exempt From Backup Withholding* on page 2.

Signature requirements. Complete the certification as indicated in 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 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), 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)	The actual owner of the account or, if combined funds, the first individual on the account [1]
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor [2]
4. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee [1]
b. So-called trust account that is not a legal or valid trust under state law	The actual owner [1]
5. Sole proprietorship or single-owner LLC	The owner [3]
For this type of account:	**Give name and EIN of:**
6. Sole proprietorship or single-owner LLC	The owner [3]
7. A valid trust, estate, or pension trust	Legal entity [4]
8. Corporate or LLC electing corporate status on Form 8832	The corporation
9. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
10. Partnership or multi-member LLC	The partnership
11. A broker or registered nominee	The broker or nominee
12. 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

[1] 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.

[2] Circle the minor's name and furnish the minor's SSN.

[3] You must show your individual name and you may also enter your business or "DBA" name on the second name line. You may use either your SSN or EIN (if you have one). If you are a sole proprietor, IRS encourages you to use your SSN.

[4] List first and circle the name of the legal 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.)

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.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons who must file information returns with the IRS to report interest, dividends, and certain other income paid to you, mortgage interest you paid, the acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA, or Archer MSA or HSA. The IRS uses the numbers for identification purposes and to help verify the accuracy of your tax return. The IRS may also provide this information to the Department of Justice for civil and criminal litigation, and to cities, states, and the District of Columbia to carry out their tax laws. We may also disclose this information to other countries under a tax treaty, to federal and state agencies to enforce federal nontax 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. Payers must generally withhold 28% of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to a payer. Certain penalties may also apply.

United State Environmental Protection Agency
Washington, DC 20460

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.

EPA Form 5700-49 (11-88)

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 the 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 the SCAQMD website (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.

Carl Moyer Memorial Air Quality Standards Attainment Program
Off-Road Heavy-Duty Equipment Replacement and Cargo Handling Equipment (CHE) Electrification Application

The South Coast Air Quality Management District (SCAQMD) is accepting applications for the Carl Moyer Memorial Air Quality Standards Attainment Program ("CMP"). In general, the purpose of the program is to provide funding to replace, repower and retrofit heavy-duty diesel engines with lower-polluting engines and retrofit control devices.

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 PA #2014-08.

For additional information about SCAQMD's policies and applications information see: http://aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

In general, this program will follow the guidelines of the California Air Resources Board (CARB) Carl Moyer Memorial Air Quality Standards Attainment Program. For more information on this CARB program see: http://www.arb.ca.gov/msprog/moyer/moyer.htm.

The submittal of the following application information does not guarantee approval for funding, but will be used to determine the potential emission reductions and funding contribution associated with the proposed project. Any equipment purchased prior to project approval at a duly noticed SCAQMD Governing Board Hearing 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 work shall proceed** until a fully executed contract, i.e. signed by the applicant and SCAQMD Board Chairman and a Pre-inspection, is completed.

If you have any questions regarding this program or the application process, please contact **Vasken Yardemian** by phone at **(909) 396-3296** or by e-mail at: **vyardemian@aqmd.gov**.

Off-Road Heavy-Duty Equipment Replacement Application

Part 1: Applicant Information	
Legal Name of Applicant Vehicle	
Mailing Address:	
Street Address/P.O. Box	
State	
County	
City	
Zip	

Contact Information:				
	Name	**E-Mail**	**Phone Number**	**Fax Number**
Primary Project Contact				
Person Authorized to Sign Application and Execute Grant Agreement				
Person who Completed 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?
Sign:
Date:
Name:

I. EXISTING EQUIPMENT INFORMATION

Unit Number/Equipment ID:
Has this equipment received Carl Moyer Program funds in the past? (Yes / No):
What is the primary function of this equipment?
Street Address:
City:
County:
State:
Zip Code:
Equipment Type (e.g. tractor, scraper, roller, loader, etc.):
Equipment Serial Number:
Equipment Make:
Equipment Model:
Equipment Model Year:
Can this equipment be repowered with the cleanest available engine?
Is 2 to 1 Replacement Applied?
Is this vehicle currently subject to a state Fleet Regulation?
If yes, state which fleet regulation (Cargo Handling Regulation, Off-Road Regulation or Large Spark Ignition):
How many off-road vehicles are owned by the applicant?
Project Details: ☐ Off-Road Replacement ☐ CHE Electrification ☐ RTG Crane Electrification

II. EXISTING /MAIN ENGINE INFORMATION

Engine Fuel Type:
Engine Make:
Engine Model:
Engine Model Year:
Engine Serial Number:
Engine Family Name: *
Engine Horsepower:
Engine Emissions Tier (if applicable):
* The Engine Family Name (EFN) is a string of approximately 12 letters and numbers found on most engine block tags and on the engine's Executive Order issued by ARB. Your engine dealer can provide an Executive Order, or see http://www.arb.ca.gov/msprog/onroad/cert/cert.php

III. NEW EQUIPMENT INFORMATION

Equipment Type (e.g. tractor, scraper, roller, loader, etc.):
Equipment Make:
Equipment Model: Equipment
Model Year:

# of Main Engines
# of Auxiliary Engines Replacement
Equipment Cost: $

What is the fleet's first compliance date? (Month/Day/Year).
What is the total horsepower of all vehicles in the fleet?
*If subject to Off-Road Regulation please submit the Compliance Summary Page and fleet list from DOORS.

IV. OPERATION INFORMATION

If funded, how many years will you operate the replacement equipment?
Percent Operation in California:
Percent Operation in District (%):
Is existing equipment in operable condition?
How long has applicant owned the existing piece of equipment?
Does the existing equipment have a functioning, non- resettable hour meter?

V. EQUIPMENT VENDOR INFORMATION

Name and location of dealership assisting with this equipment:
Equipment Vendor Contact:
Equipment Vendor Phone:

VI. EXISTING ENGINE ACTIVITY INFORMATION

Annual Operation Hours:
Annual Fuel Usage (gallons per year):
Estimated Fuel Consumption (hr/gal):

VII. NEW ENGINE INFORMATION

Engine Fuel Type:
Engine Make:
Engine Model:
Engine Model Year:
Engine Serial Number:
Engine Horsepower:
Engine Emissions Tier (if applicable):
Is the Engine a Family Emissions Limit (FEL) engine? * * See Executive Order. For FEL engines, only those that are cleaner-than-required for the engine year are eligible for repower projects.

VIII. NEW ENGINE ACTIVITY INFORMATION

Estimated Future Annual Hours of Operation:
Estimated Future Annual Fuel Usage:
Estimated Fuel Consumption (hr/gal):

IX. FOR CHE ELECTRIFICATION PROJECT

Please provide a full description of the proposed project:

☐ A quote for equipment cost is attached

Carl Moyer Memorial Air Quality Standards Attainment Program
Off-Road Heavy-Duty Equipment Repower Only or Repower/Retrofit
Locomotive HEP Application

The South Coast Air Quality Management District (SCAQMD) is accepting applications for the Carl Moyer Memorial Air Quality Standards Attainment Program ("CMP"). The purpose of this program is to provide funding to replace, repower and retrofit heavy-duty diesel engines with lower-polluting engines and retrofit control devices.

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 PA# 2014-08

For additional information about SCAQMD's policies and applications information see: http://aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

In general, this program will follow the guidelines of the California Air Resources Board (CARB) Carl Moyer Memorial Air Quality Standards Attainment Program. For more information on this CARB program see: http://www.arb.ca.gov/msprog/moyer/moyer.htm.

The submittal of the following application information does not guarantee approval for funding, but will be used to determine the potential emission reductions and funding contribution associated with the proposed project. Any equipment purchased prior to project approval at a duly noticed SCAQMD Governing Board Hearing 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 work shall proceed** until a fully executed contract, i.e. signed by the applicant and SCAQMD Board Chairman and a Pre-inspection, is completed.

If you have any questions regarding this program or the application process, please contact **Vasken Yardemian** by phone at **(909) 396-3296** or by e-mail at: **vyardemian@aqmd.gov**.

Off-Road Heavy-Duty Equipment Repower Only or Repower/Retrofit Application

Part 1: Applicant Information
Legal Name of Applicant Vehicle Owner:
Mailing Address:
Street Address/P.O. Box
State
County
City
Zip

Contact Information:				
	Name	**E-Mail**	**Phone Number**	**Fax Number**
Primary Project Contact				
Person Authorized to Sign Application and Execute Grant Agreement				
Person who Completed Application				

Third Party Information:
If a **Third Party** (e.g., engine dealer, distributor or consultant, etc.) assisted the Application to complete this application, such Third Party must complete this Section:
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?
Sign:
Date:
Name:

Please complete one form for each piece of equipment. For multiple unit requests, you may submit a spreadsheet that provides all requested information below, in the order presented below.

Company name/ Organization name/ Individual name:
Equipment Identifier (Unit # or Company ID):
Is the vehicle location address the same as the applicant address? ☐ Yes ☐ No, (please provide vehicle address below)
Street Address:
City:
Zip Code:

I. BASELINE (EXISTING) EQUIPMENT INFORMATION

Equipment Type/Function (Diesel) :_____ (Backhoe, baler, cargo container handling unit, combine, crane, crawler tractor, crushing/processing, excavator, forklift, grader, ground support equipment, hydro-power unit, loader, mower, off-highway tractor, off-highway truck, paver, paving equipment, roller, rubber-tired dozer, rubber-tired loader, scraper, signal board, skid steer loader, sprayer, surfacing equipment, swather, tractor, tiller, trencher, or other.)

Equipment Make:	Equipment Model:
Equipment Model Year:	Equipment Serial Number or VIN:
Number of Engines on this Equipment: _____ Main (Front) _____ Auxiliary (Rear	

II. USAGE/ACTIVITY INFORMATION

Note: Please provide projected annual usage for the repowered pr retrofit equipment over the proposed life of the project. This projection should be based on actual usage data for the existing equipment or equipment. You **MUST** attach documentation supporting the projected annual usage and operation within the District and within California. Supporting documentation may be in the form of maintenance records, fuel receipts, hour-meter reports, logs, or other paperwork for each piece of baseline equipment covering at least the past 24 months.	
Total Annual Hours of Operation: _____	
If Hours, Does the Equipment Have a Functioning Hour Meter? ☐Yes ☐No	
Percent Operation within CA: _____%	Percent Operation within District: _____%
Project Life: _____ years. Equipment must operate for this full life; this life is equivalent to the contract and the reporting term.	
Note: If subject to Off-Road Regulation, submit Compliance Summary Page and fleet list from DOORS.	

III. BASELINE (EXISTING) ENGINE INFORMATION (for each engine)

☐ Main (Front) Engine _____	☐ Auxiliary (Rear) Engine _____
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
☐ Main (Front) Engine _____	☐ Auxiliary (Rear) Engine _____
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Method proposed for rendering the baseline engine(s) inoperable:	

IV. NEW ENGINE INFORMATION (for each engine)

☐ Main (Front) Engine _____	☐ Auxiliary (Rear) Engine _____
Fuel Type:	New Engine Make:
New Engine Model:	New Engine Year:
New Engine Tier:	New Engine Horsepower:
New Engine CARB Executive Order Number (Attach a copy):	New Engine Family:
☐ Main (Front) Engine _____	☐ Auxiliary (Rear) Engine _____
Fuel Type:	New Engine Make:
New Engine Model:	New Engine Year:
New Engine Tier:	New Engine Horsepower:
New Engine CARB Executive Order Number (Attach a copy):	New Engine Family:

V. RETROFIT INFORMATION: Attach documentation to justify a repower-only project.

NOTE: You **MUST** attach a copy of the CARB Executive Order for the retrofit device and indicate (circle) on the Executive Order Attachment the engine family name for the engine on which the device will be installed.

NOTE: All off-road repower projects must include installation of the highest level CARB-verified retrofit device if one is available. Repower projects are not disqualified from participation in the Carl Moyer Program if retrofit devices are not available, technically infeasible or unsafe. If installation of a retrofit device is infeasible or unsafe you **MUST** provide documentation from the retrofit device manufacturer stating the reason(s) that the device is infeasible or unsafe. Attach documentation justifying that a retrofit is not available (if applicable).

☐ Main (Front) Engine _____ ☐ Auxiliary (Rear) Engine _____	
Retrofit Device Make:	Verified NOx Reduction: %
Retrofit Device Model:	Verified PM Reduction: %
Retrofit Family Name:	Verified ROG Reduction: %
Verification Level:	
☐ Main (Front) Engine _____ ☐ Auxiliary (Rear) Engine _____	
Retrofit Device Make:	Verified NOx Reduction: %
Retrofit Device Model:	Verified PM Reduction: %
Retrofit Family Name:	Verified ROG Reduction: %
Verification Level:	

VI. FUNDING INFORMATION (ENGINE REPOWER)

☐ Main (Front) Engine _____ ☐ Auxiliary (Rear) Engine _____
New Engine Cost (incl. tax): $ **Installation Cost:** $ **NOTE**: You **MUST** attach a written estimate or quotation from the equipment vendor documenting the cost of the new engine. This quote must be obtained within 90 days of prior to the closing date of the Program Announcement.
Applicant Co-Funding Amount (if any): $
Applicant Grant Request Amount: $
New Equipment Vendor:

VII. FUNDING INFORMATION (RETROFIT)

☐ Main (Front) Engine _____ ☐ Auxiliary (Rear) Engine _____
Retrofit Device Cost (including tax): $ **NOTE**: 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.
Retrofit Device Installation Cost:
Retrofit Device Maintenance Cost:
Applicant Grant Request: $
Retrofit Device Vendor and Installer:
☐ Main (Front) Engine ☐ Auxiliary (Rear) Engine
Retrofit Device Cost (including tax): $ **NOTE**: 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.
Retrofit Device Installation Cost:
Retrofit Device Maintenance Cost:
Applicant Grant Request: $
Retrofit Device Vendor and Installer:

Carl Moyer Memorial Air Quality Standards Attainment Program
Off-Road Heavy-Duty Equipment Retrofit Only Application

The South Coast Air Quality Management District (SCAQMD) is accepting applications for the Carl Moyer Memorial Air Quality Standards Attainment Program ("CMP"). The purpose of this program is to provide funding to replace, repower and retrofit heavy-duty diesel engines with lower-polluting engines and retrofit control devices.

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 PA# 2014-08.

For additional information about SCAQMD's policies and applications information see: http://aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

In general, this program will follow the guidelines of the California Air Resources Board (CARB) Carl Moyer Memorial Air Quality Standards Attainment Program. For more information on this CARB program see: http://www.arb.ca.gov/msprog/moyer/moyer.htm.

The submittal of the following application information does not guarantee approval for funding, but will be used to determine the potential emission reductions and funding contribution associated with the proposed project. Any equipment purchased prior to project approval at a duly noticed SCAQMD Governing Board Hearing 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 work shall proceed** until a fully executed contract, i.e. signed by the applicant and SCAQMD Board Chairman and a Pre-inspection, is completed.

If you have any questions regarding this program or the application process, please contact **Vasken Yardemian** by phone at **(909) 396-3296** or by e-mail at: **vyardemian@aqmd.gov**.

Off-Road Heavy-Duty Equipment Replacement Application

Part 1: Applicant Information	
Legal Name of Applicant Vehicle	
Mailing Address:	
Street Address/P.O. Box	
State	
County	
City	
Zip	

Contact Information:				
	Name	**E-Mail**	**Phone Number**	**Fax Number**
Primary Project Contact				
Person Authorized to Sign Application and Execute Grant Agreement				
Person who Completed 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?
Sign:
Date:
Name:

Please complete one form for each piece of equipment. For multiple unit requests, you may submit a spreadsheet that provides all requested information below, in the order presented below.

Company name/ Organization name/ Individual name:
Equipment Identifier (Unit # or Company ID):
Is the vehicle location address the same as the applicant address? ☐ Yes ☐ No, (please provide vehicle address below)
Street Address:
City:
Zip Code:

I. BASELINE (EXISTING) EQUIPMENT INFORMATION

Equipment Type/Function (Diesel) :_____ (Backhoe, baler, cargo container handling unit, combine, crane, crawler tractor, crushing/processing, excavator, forklift, grader, ground support equipment, hydro-power unit, loader, mower, off-highway tractor, off-highway truck, paver, paving equipment, roller, rubber-tired dozer, rubber-tired loader, scraper, signal board, skid steer loader, sprayer, surfacing equipment, swather, tractor, tiller, trencher, or other.)

Equipment Make:	Equipment Model:
Equipment Model Year:	Equipment Serial Number or VIN:
Number of Engines on this Equipment: _____ Main (Front) _____ Auxiliary (Rear	

II. USAGE/ACTIVITY INFORMATION

Note: Please provide projected annual usage for the retrofit equipment over the proposed life of the project. This projection should be based on actual usage data for the existing equipment. You **MUST** attach documentation supporting the projected annual usage and operation within the District and within California. Supporting documentation may be in the form of maintenance records, fuel receipts, hour-meter reports, logs, or other paperwork for each piece of baseline equipment covering at least the past 24 months.	
Total Annual Hours of Operation: _____	
If Hours, Does the Equipment Have a Functioning Hour Meter? ☐Yes ☐No	
Percent Operation within CA: _____%	Percent Operation within District: _____%
Project Life: _____ years. Equipment must operate for this full life; this life is equivalent to the contract and the reporting term.	
Note: If subject of Off-Road Regulations submit Compliance Summary Page and fleet list from DOORS.	

III. BASELINE (EXISTING) ENGINE INFORMATION (for each engine)

☐ Main (Front) Engine _____	☐ Auxiliary (Rear) Engine _____
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
☐ Main (Front) Engine _____	☐ Auxiliary (Rear) Engine _____
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Method proposed for rendering the baseline engine(s) inoperable:	

IV. RETROFIT INFORMATION (for each engine)

NOTE: You **MUST** attach a copy of the CARB Executive Order for the retrofit device and indicate (circle) on the Executive Order Attachment the engine family name for the engine on which the device will be installed.

NOTE: All off-road retrofit projects must include installation of the highest level CARB-verified retrofit device.

☐ Main (Front) Engine _____	☐ Auxiliary (Rear) Engine _____
Retrofit Device Make:	Verified NOx Reduction: %
Retrofit Device Model:	Verified PM Reduction: %
Retrofit Family Name:	Verified ROG Reduction: %
Verification Level:	
Retrofit Device Serial #:	
☐ Main (Front) Engine _____	☐ Auxiliary (Rear) Engine _____
Retrofit Device Make:	Verified NOx Reduction: %
Retrofit Device Model:	Verified PM Reduction: %
Retrofit Family Name:	Verified ROG Reduction: %
Verification Level:	
Retrofit Device Serial #:	

V. FUNDING INFORMATION

☐ Main (Front) Engine _____ ☐ Auxiliary (Rear) Engine _____
Retrofit Device Cost (including tax): $ **NOTE**: 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.
Retrofit Device Installation Cost:
Retrofit Device Maintenance Cost:
Applicant Grant Request: $
Retrofit Device Vendor and Installer:
☐ Main (Front) Engine ☐ Auxiliary (Rear) Engine
Retrofit Device Cost (including tax): $ **NOTE**: 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.
Retrofit Device Installation Cost:
Retrofit Device Maintenance Cost:
Applicant Grant Request: $
Retrofit Device Vendor and Installer:

Carl Moyer Memorial Air Quality Standards Attainment Program
On-Road Heavy-Duty Vehicles New Purchase Application

The South Coast Air Quality Management District (SCAQMD) is accepting applications for the Carl Moyer Memorial Air Quality Standards Attainment Program ("CMP"). The purpose of this program is to provide funding to replace, repower and retrofit heavy-duty diesel engines with lower-polluting engines and retrofit control devices.

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 PA# 2014-08.

For additional information about SCAQMD's policies and applications information see: http://aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

In general, this program will follow the guidelines of the California Air Resources Board (CARB) Carl Moyer Memorial Air Quality Standards Attainment Program. For more information on this CARB program see: http://www.arb.ca.gov/msprog/moyer/moyer.htm.

The submittal of the following application information does not guarantee approval for funding, but will be used to determine the potential emission reductions and funding contribution associated with the proposed project. Any equipment purchased prior to project approval at a duly noticed SCAQMD Governing Board Hearing 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 work shall proceed** until a fully executed contract, i.e. signed by the applicant and SCAQMD Board Chairman, and a Pre-inspection is completed.

If you have any questions regarding this program or the application process, please contact **Ashkaan Nikravan** by phone at **(909) 396-3260** or by e-mail at: **anikravan@aqmd.gov**.

On-Road Heavy-Duty Vehicles New Purchase Application

Part 1: Applicant Information	
Legal Name of Applicant Vehicle	
Mailing Address:	
Street Address/P.O. Box	
State	
County	
City	
Zip	

Contact Information:				
	Name	**E-Mail**	**Phone Number**	**Fax Number**
Primary Project Contact				
Person Authorized to Sign Application and Execute Grant Agreement				
Person who Completed Application				

Third Party Information:
If a **Third Party** (e.g., engine dealer, distributor or consultant, etc.) assisted the Application to complete this application, such Third Party must complete this Section:
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?
Sign:
Date:
Name:

For On-Road heavy-duty vehicle new purchase project, only vehicles with technologies that are certified below the 0.20 NOx standard, such as electric vehicles, are eligible for funding.

Please complete one form for each piece of equipment. For multiple unit requests, you may submit a spreadsheet that provides all requested information below, in the order presented below.

Company name/ Organization name/ Individual name:
Equipment Identifier (Company ID or Unit #):
Is the vehicle location address the same as the applicant address? ☐ Yes ☐ No, (please provide vehicle address below)
Street Address:
City:
Zip Code:

I. NEW VEHICLE INFORMATION

Vehicle type (Solid Waste Collection Vehicle, Stop-and-Go Street Sweeper, Urban Transit Bus, School Bus, Other Medium-Heavy Duty Vehicle (GVWR 14,001-33,000 lbs), Other Heavy-Heavy Duty Vehicle (GVWR >33,000 lbs), Other Transit Vehicle): _____	
Project Life (in years): _____ NOTE: Equipment must operate for this full life; this life is equivalent to the contract and the reporting term.	
Vehicle Make:	Vehicle GVWR:
Vehicle Model:	Is this a public fleet vehicle? ☐ Yes ☐ No
Vehicle Model Year:	Registered Owner:
Department of Transportation Number (if interstate):	
California Highway Patrol CA Number (if applicable):	
Projected Year of New Vehicle Purchase:	

II. FLEET RULE STATUS

ARB Rule Applicability (Check One):
NOTE: The CARB rules listed below severely limit, and in some cases eliminate, funding opportunities for certain vehicle types. In order to ensure eligibility, Please confirm your project provides emission reductions that are *surplus* to CARB regulatory requirements by contacting SCAQMD staff as indicated in PA #2014-08.

- ☐ Fleet Rule for Transit Agencies (Urban Buses & Transit Fleet Vehicles)
- ☐ SWCV Rule (Solid Waste Collection Vehicles, Excluding Transfer Trucks)
- ☐ Fleet Rule for Public Agencies & Utilities (Municipal & Utility Vehicles)
- ☐ Port Truck Regulation (Port & Drayage Trucks)
- ☐ On-Road Private Truck and Bus Regulation (All diesel or alternative diesel – fueled vehicles with a GVWR > 14,000 lbs operating in CA) **IF CHECKED PLEASE COMPLETE SECTION III**
- ☐ None, project is exempt from CARB Rules (supporting documentation validating exemption from any CARB rule is attached)

Is supporting documentation demonstrating compliance with the applicable CARB rule included in this application? ☐ Yes ☐ No

(Applications submitted without supporting documentation that demonstrates an applicant's current fleet compliance status will be deemed incomplete).

III. EXSISTING VEHICLE COMPLIANCE APPLICABILITY

What is the GVWR for this vehicle?

- ☐ 8,501 to 14,000*
- ☐ 14,001 to 26,000
- ☐ 26,001 or greater

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, 2014.

☐ Yes, please provide a copy of the Compliance Certificate from the TRUCRS Database. ☐ No

*Note: On-road heavy-duty diesel vehicles with this GVWR range will be considered for CMP funding on a case-by-case basis.

IV. 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.

Total Annual Miles Traveled: _____ **or** Gallons of Fuel Used: _____	
Percent Operation within CA: _____%	Percent Operation within District: _____%

V. NEW VEHICLE'S ENGINE INFORMATION

ARB Certification Executive Order (EO) Number: _____

NOTE: 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.

Propulsion System Engine Make: _____	Propulsion System Engine Model Year: _____
Propulsion System Engine Model: _____	Fuel Type (Fuel Cell, Battery, etc.) : _____
Engine Family: _____	

VI. FUNDING INFORMATION

New Vehicle Cost (including tax): $_____

Note: You **MUST** attach a written estimate from the equipment vendor documenting the cost of the new vehicle; this quote must be obtained within 90 days prior to the closing date of the Program Announcement. .

Applicant Grant Request: $

New Equipment Vendor:

Carl Moyer Memorial Air Quality Standards Attainment Program
On-Road Heavy-Duty Vehicles Repower Application

The South Coast Air Quality Management District (SCAQMD) is accepting applications for the Carl Moyer Memorial Air Quality Standards Attainment Program ("CMP"). The purpose of this program is to provide funding to replace, repower and retrofit heavy-duty diesel engines with lower-polluting engines and retrofit control devices.

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 PA# 2014-08.

For additional information about SCAQMD's policies and applications information see: http://aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

In general, this program will follow the guidelines of the California Air Resources Board (CARB) Carl Moyer Memorial Air Quality Standards Attainment Program. For more information on this CARB program see: http://www.arb.ca.gov/msprog/moyer/moyer.htm.

The submittal of the following application information does not guarantee approval for funding, but will be used to determine the potential emission reductions and funding contribution associated with the proposed project. Any equipment purchased prior to project approval at a duly noticed SCAQMD Governing Board Hearing 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 work shall proceed** until a fully executed contract, i.e. signed by the applicant and SCAQMD Board Chairman, and a Pre-inspection is completed.

If you have any questions regarding this program or the application process, please contact **Ashkaan Nikravan** by phone at **(909) 396-3260** or by e-mail at: **anikravan@aqmd.gov**.

On-Road Heavy-Duty Vehicles Repower Application

Part 1: Applicant Information	
Legal Name of Applicant Vehicle	
Mailing Address:	
Street Address/P.O. Box	
State	
County	
City	
Zip	

Contact Information:				
	Name	**E-Mail**	**Phone Number**	**Fax Number**
Primary Project Contact				
Person Authorized to Sign Application and Execute Grant Agreement				
Person who Completed Application				

Third Party Information:
If a **Third Party** (e.g., engine dealer, distributor or consultant, etc.) assisted the Application to complete this application, such Third Party must complete this Section:
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?
Sign:
Date:
Name:

For On-Road vehicle projects, only alternative fuel vehicles and engines are eligible for funding, with the single exception of emergency vehicles and equipment.

Please complete one form for each piece of equipment. For multiple unit requests, you may submit a spreadsheet that provides all requested information below, in the order presented below.

Company name/ Organization name/ Individual name:
Equipment Identifier (Company ID or Unit #):
Is the vehicle location address the same as the applicant address? ☐ Yes ☐ No, (please provide vehicle address below)
Street Address:
City:
Zip Code:

I. EXISTING VEHICLE INFORMATION

Vehicle type (Solid Waste Collection Vehicle, Stop-and-Go Street Sweeper, School Bus, Other Medium-Heavy Duty Vehicle (GVWR 14,001-25,999 lbs), Other Heavy-Heavy Duty Vehicle):	
Project Life: _____ years. Equipment must operate for this full life; this life is equivalent to the contract and the reporting term.	
Vehicle Identification Number (VIN):	
Vehicle License Plate:	
Vehicle Make:	Vehicle GVWR:
Vehicle Model:	Is this a public fleet vehicle? ☐ Yes ☐ No
Vehicle Model Year:	Registered Owner:
Department of Transportation Number (if interstate):	
California Highway Patrol CA Number (if applicable):	
Projected Year of Repower Completion:	

II.

FLEET RULE STATUS

ARB Rule Applicability (Check One): NOTE: The CARB rules listed below severely limit, and in some cases eliminate, funding opportunities for certain vehicle types. Please confirm your project provides emission reductions that are *surplus* to CARB regulatory requirements in order to ensure eligibility.

- ☐ Fleet Rule for Transit Agencies (Urban Buses & Transit Fleet Vehicles)
- ☐ SWCV Rule (Solid Waste Collection Vehicles, Excluding Transfer Trucks)
- ☐ Fleet Rule for Public Agencies & Utilities (Municipal & Utility Vehicles)
- ☐ Port Truck Regulation (Port & Drayage Trucks)
- ☐ On-Road Private Truck and Bus Regulation (All diesel or alternative diesel - fueled vehicles with a GVWR > 14,000 lbs operating in CA) **IF CHECKED PLEASE COMPLETE SECTION III**
- ☐ None, project is exempt from CARB Rules (supporting documentation validating exemption from any CARB rule is attached)

Is supporting documentation demonstrating compliance with the applicable CARB rule included in this application? ☐ Yes ☐ No

(Applications submitted without supporting documentation that demonstrates an applicant's current fleet compliance status will be deemed incomplete).

III. EXSISTING VEHICLE COMPLIANCE APPLICABILITY

What is the GVWR for this vehicle?

- ☐ 8,501 to 14,000*
- ☐ 14,001 to 26,000
- ☐ 26,001 or greater

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, 2014?

☐ Yes, please provide a copy of the Compliance Certificate from the TRUCRS Database.

☐ No

*Note: On-road heavy-duty diesel vehicles with this GVWR range will be considered for CMP funding on a case-by-case basis.

IV. 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 last 24 months.

No such documentation is required for project evaluations based solely on mileage.

Total Annual Miles Traveled: _____ **or** Gallons of Fuel Used: _____	
Percent Operation within CA: _____%	Percent Operation within District: _____%

V. BASELINE ENGINE INFORMATION

Baseline Main Engine	
Fuel Type:	Engine Year:
Engine Make:	Engine Serial No.:
Engine Model:	Engine Family:

VI. NEW REDUCED-EMISSION ENGINE INFORMATION

New Reduced-Emission Main Engine	
Fuel Type:	Engine Year: _____
Engine Make: _____	Engine Family:
Engine Model: _____	Engine Horse Power:
Will a retrofit be added to the new main engine? ☐ Yes ☐ No (if yes, fill out Section V)	
ARB Certification Executive Order (EO) Number: _____ NOTE: 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.	

VI. RETROFIT INFORMATION (for each new engine for which device funding is requested)

NOTE: You **MUST** attach a copy of the CARB Executive Order for the retrofit device and indicate (circle) on the Executive Order Attachment the engine family name for the engine on which the device will be installed.

NOTE: All on-road repower projects must include installation of the highest level CARB-verified retrofit device if one is available. Repower projects are not disqualified from participation in the Carl Moyer Program if retrofit devices are not available, technically infeasible or unsafe. If installation of a retrofit device is infeasible or unsafe you **MUST** provide documentation from the retrofit device manufacturer stating the reason(s) that the device is infeasible or unsafe.

Retrofit Make:	Verified NOx Reduction: %
Retrofit Device Model:	Verified PM Reduction: %
Retrofit Family Name:	Verified ROG Reduction: %
Verification Level:	

VII. FUNDING INFORMATION

Note: You **MUST** attach a written estimate 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. .
New Engine Cost:
New Engine Installation Cost:
Engine Core Charge (optional):
Applicant Grant Request: $
New Engine Vendor:
New Engine Installer:
RETROFIT SYSTEM COST (include if a retrofit device is proposed for this project)
Retrofit Device Cost (including tax): $ Note: 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.
Retrofit Device Installation Cost:
Retrofit Device Maintenance Cost:
Applicant Grant Request: $
Retrofit Device Vendor and Installer:

Carl Moyer Memorial Air Quality Standards Attainment Program
Marine Vessels Repower and/or Retrofit Application

The South Coast Air Quality Management District (SCAQMD) is accepting applications for the Carl Moyer Memorial Air Quality Standards Attainment Program ("CMP"). The purpose of this program is to provide funding to replace, repower and retrofit heavy-duty diesel engines with lower-polluting engines and retrofit control devices.

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 PA# 2014-08.

For additional information about SCAQMD's policies and applications information see: http://aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

In general, this program will follow the guidelines of the California Air Resources Board (CARB) Carl Moyer Memorial Air Quality Standards Attainment Program. For more information on this CARB program see: http://www.arb.ca.gov/msprog/moyer/moyer.htm.

The submittal of the following application information does not guarantee approval for funding, but will be used to determine the potential emission reductions and funding contribution associated with the proposed project. Any equipment purchased prior to project approval at a duly noticed SCAQMD Governing Board Hearing 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 work shall proceed** until a fully executed contract, i.e. signed by the applicant and SCAQMD Board Chairman, and a Pre-inspection is completed.

If you have any questions regarding this program or the application process, please contact **Mark Coleman** by phone at **(909) 396-3074** or by e-mail at: **mcoleman@aqmd.gov** or **Von Loveland** by phone at **(909) 396-3063** or by e-mail at: **vloveland@aqmd**.gov.

Marine Vessels Repower and/or Retrofit Application

Carl Moyer Program Marine Engine Replacement Application	
Applicant Information	
Legal Name of Vessel Owner:	
Mailing Address:	
Street Address/P.O. Box	
State	
County	
City	
Zip	

Contact Information:				
	Name	**E-Mail**	**Phone Number**	**Fax Number**
Primary Project Contact				
Person Authorized to Sign Application and Execute Grant Agreement				
Person who Completed Application				

Third Party Information:	
If a ***Third Party*** (e.g., engine dealer, distributor or consultant, etc.) assisted the Applicant to complete this application, such Third Party must complete this Section:	
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?	
Signed:	
Date:	
Name:	

EQUIPMENT INFORMATION

Vessel Name:
Has this equipment received Carl Moyer Program funds in the past? (Yes / No):
Port/ harbor
Terminal: Pier:
Vessel berth / slip number:
Primary Vessel Use: (Commercial Fishing, Charter Fishing, Crew & Supply, Pilot, Work, Ferry/ Excursion, Tow, Tug, Barge, Other)
Secondary Vessel Use (If Applicable):
Vessel Make:
Vessel Model:
Vessel Year:
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)
Total number of main engines on vessel:
Total number of auxiliary engines on vessel:

I. USAGE/ACTIVITY INFORMATION

(Attach a copy of the Commercial Harbor raft Initial Report required by CARB)
Note: Please provide projected annual usage for the vessel/engines over the proposed life of the project. This projection should be based on actual usage data for the marine vessel. You **MUST** attach documentation supporting the projected annual usage and operation within District and California waters. Supporting hours of operation documentation may be in the form of maintenance records, hour-meter reports, logs, or other paperwork for each piece of baseline equipment covering at least the past 24 months.
Total Project Cost (amount should equal vendor's quotes): $
The vessel is required to have a functioning non-resettable hour meter for the full project life. Will you comply with this requirement? ☐ Yes ☐ No
Project Life _____ years. Project Life is equivalent to the contract reporting term. (Project life may be adjusted by SCAQMD)
Number of Propulsion Engines to be replaced: _____
Number of Auxiliary Engines to be replaced:_____
For each Propulsion engine: Hours of Operation (per year):_____
For each Auxiliary engine: Total Hours of Operation (per year):_____
Percent of Operation within California waters:_____%
Percent of Operation within District waters: _____%
Justification for purchasing new transmission (if applicable):
Electronic Monitoring Unit I understand that a new Electronic Monitoring Unity (EMU) will be installed as part of this Project? (This is a program requirement)

I. ENGINE INFORMATION

☐**Main Engine____ of ____**	☐**Auxiliary Engine ____ of ____**
Baseline (Existing) Engine Information	
Fuel Type:	Engine Make:
Engine Model:	Engine Year:
Engine Serial No.:	Horsepower:
Engine Displacement: Ltr:_____ cyl:_____	Engine Family:
Method proposed for rendering the replaced engine inoperable:	
New Reduced-Emission Engine Information	
Fuel Type:	Engine Make:
Engine Model:	Engine Year:
	Horsepower:
Engine Displacement: (ltr/cyl):	Engine Family:
New Engine Cost (incl. tax) $	New Engine Installation/Labor Cost: $

☐**Main Engine____ of ____**	☐**Auxiliary Engine ____ of ____**
Baseline (Existing) Engine Information	
Fuel Type:	Engine Make:
Engine Model:	Engine Year:
Engine Serial No.:	Horsepower:
Engine Displacement: Ltr:_____ cyl:_____	Engine Family:
Method proposed for rendering the replaced engine inoperable:	
New Reduced-Emission Engine Information	
Fuel Type:	Engine Make:
Engine Model:	Engine Year:
	Horsepower:
Engine Displacement: (ltr/cyl):	Engine Family:
New Engine Cost (incl. tax) $	New Engine Installation/Labor Cost: $

☐**Main Engine____ of ____**	☐**Auxiliary Engine ____ of ____**
Baseline (Existing) Engine Information	
Fuel Type:	Engine Make:
Engine Model:	Engine Year:
Engine Serial No.:	Horsepower:
Engine Displacement: Ltr:_____ cyl:_____	Engine Family:
Method proposed for rendering the replaced engine inoperable:	
New Reduced-Emission Engine Information	
Fuel Type:	Engine Make:
Engine Model:	Engine Year:
	Horsepower:
Engine Displacement: (ltr/cyl):	Engine Family:
New Engine Cost (incl. tax) $	New Engine Installation/Labor Cost: $

☐**Main Engine____ of ____**	☐**Auxiliary Engine ____ of ____**
Baseline (Existing) Engine Information	
Fuel Type:	Engine Make:
Engine Model:	Engine Year:
Engine Serial No.:	Horsepower:
Engine Displacement: Ltr:_____ cyl:_____	Engine Family:
Method proposed for rendering the replaced engine inoperable:	
New Reduced-Emission Engine Information	
Fuel Type:	Engine Make:
Engine Model:	Engine Year:
	Horsepower:
Engine Displacement: (ltr/cyl):	Engine Family:
New Engine Cost (incl. tax) $	New Engine Installation/Labor Cost: $

II. FUNDING INFORMATION:

☐**Main Engine____ of ____**	☐**Auxiliary Engine ____ of ____**
Baseline (Existing) Engine Information	
Fuel Type:	Engine Make:
Engine Model:	Engine Year:
Engine Serial No.:	Horsepower:
Engine Displacement: Ltr:_____ cyl:_____	Engine Family:
Method proposed for rendering the replaced engine inoperable:	
New Reduced-Emission Engine Information	
Fuel Type:	Engine Make:
Engine Model:	Engine Year:
	Horsepower:
Engine Displacement: (ltr/cyl):	Engine Family:
New Engine Cost (incl. tax) $	New Engine Installation/Labor Cost: $
Total Cost of All New Engines (incl. tax and labor): $ **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.	
Applicant Co-Funding Amount (if any): $	
Total Funding Requested (all engines): $	
New Engine Vendor:	New Engine Installer:

III. ENGINE INFORMATION

Total Cost of All New Engines (incl. tax and labor): $ **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.	
Applicant Co-Funding Amount (if any): $	
Total Funding Requested (all engines): $	
New Engine Vendor:	New Engine Installer:

Carl Moyer Memorial Air Quality Standards Attainment Program
Marine Shore Power Application

The South Coast Air Quality Management District (SCAQMD) is accepting applications for the Carl Moyer Memorial Air Quality Standards Attainment Program ("CMP"). In general, the purpose of the program is to provide funding to replace, repower and retrofit heavy-duty diesel engines with lower-polluting engines/technologies and retrofit control devices.

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 PA# 2014-08.

For additional information about SCAQMD's policies and applications information see: http://aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

In general, this program will follow the guidelines of the California Air Resources Board (CARB) Carl Moyer Memorial Air Quality Standards Attainment Program. For more information on this CARB program see: http://www.arb.ca.gov/msprog/moyer/moyer.htm.

The submittal of the following application information does not guarantee approval for funding, but will be used to determine the potential emission reductions and funding contribution associated with the proposed project. Any equipment purchased prior to project approval at a duly noticed SCAQMD Governing Board Hearing 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 work shall proceed** until a fully executed contract, i.e. signed by the applicant and SCAQMD Board Chairman and a Pre-inspection, is completed.

If you have any questions regarding this program or the application process, please contact **Greg Ushijima** by phone at **(909) 396-3301** or by e-mail at: **gushijima@aqmd.gov**.

Applicant Information	
Legal Name of Equipment Owner:	
Mailing Address:	
Street Address/P.O.	
State	
County	
City	
Zip	

Contact Information:				
	Name	**E-Mail**	**Phone Number**	**Fax Number**
Primary Project Contact				
Person Authorized to Sign Application and Execute Grant Agreement				
Person who Completed Application				

A third-Party (i.e., engine dealer, consultant, etc.) that assisted the Applicant with the application must complete the information below:
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?
Sign:
Date:
Print Name:

I. PROJECT INFORMATION

Company name/ Organization name/ Individual name:
Type of project (check all that apply): ☐ Vessel retrofit to accept electrical power *("ship-side")* ☐ Purchase of transformer and associated infrastructure *("shore-side")*
Type of applicant: ☐ Terminal Operator ☐ Vessel Owner ☐ Port Authority ☐ Other
Other potential project partners (if applicable):
Power supplier:
Where does the electrical power infrastructure begin and end?
Project Location: (Please include port, terminal, pier and berthing slip) If you are leasing the terminal, identify time left on the current lease:
Total number of vessels expected to use shore power at this location (per year):
Total number of annual vessel visits expected to use shore power:
Total number of annual hours of usage for vessels expecting to use shore power:

II. VESSEL INFORMATION

Complete Section II for each vessel to be retrofitted. For transformer only projects please provide a detailed description of the vessels that typically use this terminal.

Vessel Type[1]:	
Vessel Name:	Vessel Make:
Vessel Model:	Vessel Year:
US Coast Guard Documentation Number:	
Lloyds Register/IMO Ship ID Number:	
Vehicle Registration (CF) Number:	
Total Number of main and auxiliary engines on vessel: Main engine(s) Auxiliary engine(s)	
Total number of annual visits to the terminal:	
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: Maximum Power Requirement:	

[1] **Note:** 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

III. CURRENT BERTH ACTIVITY (CUMULATIVE)

Number of annual ship visits to the berth (attach the log of vessel visits for each of the specified years)

☐ 2011_____

☐ 2012_____

☐ 2013_____

IV. PREDICTED BERTH ACTIVITY

Estimated annual ship visits using electrical power:

2014-2016_____

2017-2019_____

2020 and beyond_____

Estimated monthly hours of operation:

2014-2016_____

2017-2019_____

2020 and beyond_____

Estimated monthly megawatt (MW) usage:

2014-2016_____

2017-2019_____

2020 and beyond_____

V. VESSEL ACTIVITY INFORMATION

Attach a detailed description of the vessels that will be using the shore power equipment. Title this attachment "Part 4 – Vessel Activity Information". 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)
- ☐ This 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.
- ☐ Vessel power (kW) requirements while at berth
    - o Average power requirement
    - o Maximum power requirement

VI. FUNDING INFORMATION

Transformer Project Cost: $	Associated Infrastructure: $
Retrofit Equip. Cost (incl. tax): $	Retrofit Equip. Installation Cost: $
Total Project Cost:	
Total Amount Requested for this Project[6]:	
☐ Maximum allowable	Shore Power Transformer ("shore-side"): **50% of transformer & other equipment between the vessel and transformer** Shore Power Vessel Retrofit ("ship-side"): **100% of retrofit cost** **50% of transformer cost**
☐ Other: $	You may request less than the maximum allowable funding amount to improve the cost-effectiveness of your project
Anticipated Project Completion Date: **Please attach a proposed project schedule.**	

[6] **Note**: You **MUST** attach a written estimate/quote from the equipment vendor for the cost of the equipment and labor.

Carl Moyer Memorial Air Quality Standards Attainment Program
Off-Road Heavy-Duty Equipment Repower Only or Repower/Retrofit
Locomotive HEP Application

The South Coast Air Quality Management District (SCAQMD) is accepting applications for the Carl Moyer Memorial Air Quality Standards Attainment Program ("CMP"). The purpose of this program is to provide funding to replace, repower and retrofit heavy-duty diesel engines with lower-polluting engines and retrofit control devices.

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 PA# 2014-08

For additional information about SCAQMD's policies and applications information see: http://aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

In general, this program will follow the guidelines of the California Air Resources Board (CARB) Carl Moyer Memorial Air Quality Standards Attainment Program. For more information on this CARB program see: http://www.arb.ca.gov/msprog/moyer/moyer.htm.

The submittal of the following application information does not guarantee approval for funding, but will be used to determine the potential emission reductions and funding contribution associated with the proposed project. Any equipment purchased prior to project approval at a duly noticed SCAQMD Governing Board Hearing 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 work shall proceed** until a fully executed contract, i.e. signed by the applicant and SCAQMD Board Chairman and a Pre-inspection, is completed.

If you have any questions regarding this program or the application process, please contact **Vasken Yardemian** by phone at **(909) 396-3296** or by e-mail at: **vyardemian@aqmd.gov**.

Carl Moyer Locomotive Application

Part 1: Applicant Information	
Legal Name of Applicant:	
Mailing Address:	
Street Address / P.O. Box:	
State:	
County:	
City:	
Zip:	

Contact Information:				
	Name	**Email**	**Phone Number**	**Fax Number**
Primary Project Contact				
Person Authorized to Sign Application and Execute Grant Agreement				
Person Who Completed Application				

Third Party Information:
If a **Third Party** (e.g., engine dealer, distributor or consultant, etc.) assisted the Application to complete this application, such Third Party must complete this Section:
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?
Sign:
Date:
Name:

I. LOCOMOTIVE INFORMATION

I am requesting $_____ (total award request) for _____ (total number) of Locomotive or ILDS
Note: All cost estimates must have been obtained within 90 days of application submittal
How long do you expect the equipment to operate?
Percent Operation in California (%):
Percent Operation in District (%):*

II. EXISTING LOCOMOTIVE INFORMATION

Unit Number or Other Identifier:	
Has this equipment received Carl Moyer Program funds in the past? (Yes / No):	
Equipment Location Address:	
Equipment Location City:	
Equipment Location County:	
Equipment Location State:	
Equipment Location Zip Code:	
Locomotive Type (Line Haul, Traditional Switcher, Alternative Technology Switcher, Passenger):	
Does the locomotive already have a functioning automatic start-stop (AESS) ILD installed?	
Locomotive Serial Number:	
Locomotive Make:	
Locomotive Model:	
Locomotive Model Year:	

III. EXISTING / MAIN ENGINE INFORMATION **Engine # ___of ___**

Engine Type (Main or Auxiliary):	
Engine Fuel Type:	
Engine Make:	
Engine Model:	
Engine Model Year:	
Engine Serial Number:	
Locomotive Horsepower:	
Engine Emissions Tier:	

IV. PROJECT DETAILS

Total Amount requested from the SCAQMD for this locomotive: $	
Total Project Cost: $	
Name the Railroad Class:	

V. NEW LOCOMOTIVE INFORMATION

Locomotive Make:	
Locomotive Model:	
Locomotive Model Year:	
Locomotive Type (Line Haul, Traditional Switcher Alternative Technology Switcher, Passenger):	
Number of Main Engines:	
Number of Auxiliary Engines:	
What type of engine(s) does the new equipment use (on-road or off-road)?	
New Locomotive cost:	
Locomotive Vendor:	

VI. ENGINE ACTIVITY INFORMATION

	2010	2011	2012
Annual Fuel Usage (gallons per year):			

VII. NEW / REDUCED EMISSION REPLACEMENT ENGINE INFORMATION

Engine Fuel Type:	
Engine Make:	
Engine Model:	
Engine Model Year:	
Engine Serial Number:	
Locomotive Horsepower:	
Engine Emissions Tier:	
EPA Family Name:	

Engine Cost: $	
Engine Installation Cost: $	
Has this engine been certified by U.S. EPA? (Yes / No) **If yes, Certificate #**	
U.S. EPA certified locomotive NOx emission rate (g/bhp-hr):	
U.S. EPA certified locomotive HC emission rate (g/bhp-hr):	
U.S. EPA certified locomotive PM emission rate (g/bhp-hr):	

VIII. ENGINE ACTIVITY INFORMATION

Estimated Future Annual Fuel Usage:

IX. AUTOMATIC ENGINE STOP/START DETAILS

AESS:
Make:
AESS Model:
AESS Year:
AESS ID Number:
AESS Capital Cost: $
AESS Installation Cost: $

Carl Moyer Memorial Air Quality Standards Attainment Program
Off-Road Heavy-Duty Equipment Repower or Remanufacture Application

The South Coast Air Quality Management District (SCAQMD) is accepting applications for the Carl Moyer Memorial Air Quality Standards Attainment Program ("CMP"). The purpose of this program is to provide funding to replace, repower and retrofit heavy-duty diesel engines with lower-polluting engines and retrofit control devices.
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 PA #2014-08.

For additional information about SCAQMD's policies and applications information see: http://aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

In general, this program will follow the guidelines of the California Air Resources Board (CARB) Carl Moyer Memorial Air Quality Standards Attainment Program. For more information on this CARB program see: http://www.arb.ca.gov/msprog/moyer/moyer.htm.
The submittal of the following application information does not guarantee approval for funding, but will be used to determine the potential emission reductions and funding contribution associated with the proposed project. Any equipment purchased prior to project approval at a duly noticed SCAQMD Governing Board Hearing 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 work shall proceed** until a fully executed contract, i.e. signed by the applicant and SCAQMD Board Chairman, and a Pre-inspection is completed.
If you have any questions regarding this program or the application process, please contact **Connie Day** by phone at **(909) 396-3055** or by e-mail at: **cday@aqmd.gov**.

Carl Moyer Locomotive Application

Part 1: Applicant Information	
Legal Name of Applicant Vehicle	
Mailing Address:	
Street Address/P.O. Box	
State	
County	
City	
Zip	

Contact Information:				
	Name	**E-Mail**	**Phone Number**	**Fax Number**
Primary Project Contact				
Person Authorized to Sign Application and Execute Grant Agreement				
Person who Completed Application				

Third Party Information:
If a **Third Party** (e.g., engine dealer, distributor or consultant, etc.) assisted the Application to complete this application, such Third Party must complete this Section:
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?
Sign:
Date:
Name:

I. LOCOMOTIVE INFORMATION

I am requesting $_____ (total award request) for _____ (total number) units
Note: All cost estimates must have been obtained within 90 days of application submittal
How long do you expect the equipment to operate?
Percent Operation in California (%):
Percent Operation in District (%):*
Note: 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, the smoggiest region in the U.S. See http://www.aqmd.gov/map/mapaqmd2.pdf for a jurisdiction map.

II. EXISTING LOCOMOTIVE INFORMATION

Unit Number or Other Identifier:	
Has this equipment received Carl Moyer Program funds in the past? (Yes / No):	
Equipment Location Address:	
Equipment Location City:	
Equipment Location County:	
Equipment Location State:	
Equipment Location Zip Code:	
Locomotive Type (Line Haul, Traditional Switcher, Alternative Technology Switcher, Passenger):	
Does the locomotive already have a functioning automatic start-stop (AESS) ILD installed?	
Locomotive Serial Number:	
Locomotive Make:	
Locomotive Model:	
Locomotive Model Year:	

III. NEW LOCOMOTIVE INFORMATION

Total Amount requested from the SCAQMD for this Locomotive repower or remanufacture:	
Total Project Cost:	
Name the Railroad Class:	

IV. EXISTING / MAIN ENGINE INFORMATION Engine # ___of ___

Engine Type (Main or Auxiliary):	
Engine Fuel Type:	
Engine Make:	
Engine Model:	
Engine Model Year:	
Engine Serial Number:	
Locomotive Horsepower:	
Engine Emissions Tier:	

V. ENGINE ACTIVITY INFORMATION

	2010	2011	2012
Annual Fuel Usage (gallons per year):			

VI. NEW / REDUCED EMISSION REPLACEMENT ENGINE INFORMATION

Engine Fuel Type:	
Engine Make:	
Engine Model:	
Engine Model Year:	
Engine Serial Number:	
Locomotive Horsepower:	
Engine Emissions Tier:	
EPA family name	
Engine Cost: $	
Engine Installation Cost: $	
Has this engine been certified by U.S. EPA? (Yes / No):	

U.S. EPA certified locomotive NOx emission rate (g/bhp-hr):	
U.S. EPA certified locomotive HC emission rate (g/bhp-hr):	
U.S. EPA certified locomotive PM emission rate (g/bhp-hr):	

VII. ENGINE ACTIVITY INFORMATION

Estimated Future Annual Fuel Usage:

Surplus Off-Road Opt-In for NOx (SOON)

SCAQMD PROGRAM ANNOUNCEMENT
PA #2014-07

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 NOx (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 (NOx) 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 NOx reductions above those that would be obtained from the State In-Use Off-Road Vehicle Regulation. These reductions are critical to meeting the $PM_{2.5}$ and ozone ambient air quality standards in the South Coast Air Basin.

Funding for PA #2014-07 is from state SB 1107 and AB 923 funds. The initial funding for PA #2017-07 is $5,000,000. Project awards are contingent upon receiving these funds from CARB. Additional sources of funding may become available and added to this program.

Desirable projects must strive to meet a maximum cost-effectiveness limit of $17,460 per ton of NOx 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). Projects exceeding the cost-effectiveness limit may receive partial funding. Except where otherwise stated, projects must meet the requirements of the CMP program guidelines.

The current Program Announcement was prepared using the Approved Revision of the Carl Moyer Program Guidelines released on June 6, 2011. 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).

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 http://www.aqmd.gov/tao/implementation/soonprogram.htm. It is the responsibility of the applicant to ensure that the most current information and requirements are reflected in a submitted application.

GENERAL PROGRAM INFORMATION

The primary focus of the SOON Program is to achieve emission reductions from heavy-duty 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 $PM_{2.5}$ 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. To avoid double counting of emission reductions, project vehicles and/or equipment may not receive funding from any other government grant program that is designed to reduce mobile source emissions. Specifically, these programs include, but are not limited to:

- All Mobile Source Air Pollution Reduction Review Committee (MSRC) Programs
- All CARB Emission Reduction Credit Programs
- SCAQMD Rule 2202 Air Quality Investment Program
- SCAQMD RECLAIM Air Quality Investment Program for NOx
- Emission Credit Programs encompassed in the SCAQMD Rule 1600-series and 1309.1
- 1B Bond Program
- AB 118 Funding Program

Both alternative fuel and diesel to diesel projects are eligible. **All projects must meet the program's cost-effectiveness limits and be operational no later than May 31, 2016.** 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's 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 to the 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.

DEFINITIONS

Alternative Fuel

Alternative fuels include compressed natural gas (CNG), liquefied natural gas (LNG), methanol, ethanol, propane (LPG), and electric technologies. Dual-fuel technologies such as CNG/diesel, LNG/diesel and electric hybrids are also eligible, as long as they are CARB-certified to the optional standards. Experimental technologies and fuels will be referred to CARB for evaluation and possible eligibility in the program.

Base Rule
Base rule is defined as CARB's In-Use Off-Road Diesel regulation without the SOON provisions.

Repower
Vehicle repower refers to replacing an existing engine in an existing vehicle with a newer engine certified to lower emission standards. The replacement engine must be certified for sale in California to the current NOx emission standard or to at least 15 percent lower than the original NOx certification level for the engine being replaced.

For vehicle repower projects, the portion of the cost for a vehicle repower project eligible to be funded through the SOON is up to 85% of the total cost of purchasing and installing the new emission-certified Tier 4 or Interim Tier 4 engine. If a Tier 4 or Interim Tier 4 engine is not available or cannot be installed in the equipment, a new Tier 3 Replacement Engine rated at 175 hp or higher and certified by CARB may be used. A Tier 3 Replacement Engine rated at less than 175 hp cannot be used for a repower project unless it complies with US EPA requirements in 40 CFR 1068.240. Fleets may also apply for funding for replacement of a vehicle in lieu of repowering the vehicle. In some cases, funding for vehicle replacement may be less than for vehicle repower.

Retrofit
Retrofit devices may be eligible for SOON provided they obtain NOx reductions. All retrofit devices will be evaluated on a case by case basis. Add-on after-treatment devices reducing NOx or NOx plus PM emissions are considered retrofit devices. The retrofit device must be CARB-verified to achieve specific emission reductions. CARB guidance requires the applicant to select the highest level technology that provides the most emission reductions. In order to be eligible for SOON 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. In case a combined NOx plus PM retrofit system is installed, PA #2014-07 will pay for only the NOx portion of the retrofit device.

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. Fleets not meeting both of the above criteria on January 1, 2008 may voluntarily participate in this program.
- For this program cycle, all projects will be subject to a 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 if repower funds are instead used for replacement projects. 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.
- 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. Retrofits which can achieve NOx reductions may be funded on a case-by-case basis. Repowers or NOx retrofits funded under SOON are ineligible for compliance with the base rule until the end of the contract period.

- 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 the new projects under this PA that meet SOON NOx targets in 2017 and 2020.**
- 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.
- The project life is seven (7) years. Shorter project life will be considered on a case-by-case basis for repower projects and may be required for replacement projects. However, a shorter project life may affect the project's ranking relative to other project applicants and result in lower funding.
- No third party contracts will be executed.
- Pre- and post-inspection of all vehicles/engines/equipment approved for funding will be conducted by SCAQMD.
- Destruction of the engine/equipment being 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.

Off-road projects fall into three distinct categories: 1) repower with an emission certified engine, 2) retrofit with a verified diesel emission control strategy (VDECS), and 3) replacement by a vehicle with an engine certified as meeting the current off-road emission standards.

Repower

A repower is the replacement of the in-use engine with an emission certified engine meeting current emission standards instead of rebuilding the existing engine to its original specifications. If an engine meeting a current emission standard (Tier 4 or Interim Tier 4) is not available or cannot be installed, a Tier 3 Replacement Engine can be used if it is rated at 175 hp or higher. A Tier 3 Replacement Engine which is rated at less than 175 horsepower cannot be used for repower projects unless it complies with the US EPA requirements related to replacing in-use engines contained in the Code of Federal Regulations, Title 40, Section 1068.240. Although a repower is commonly diesel-to-diesel engine replacement, significant NOx and PM benefits are achieved due to the high emission levels of the older in-use engine being replaced. 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 off-road emission standard or a newer emission certified alternative fuel engine.

Funding is not available for projects where a spark-ignition engine (i.e., natural gas, gasoline, etc.) is replaced with a diesel engine.

Retrofit

Retrofit refers to modifications made to an engine and/or fuel system such that the specifications of the retrofitted engine are different from the original engine. The most straightforward retrofit projects are add-on after treatments. To qualify for SOON Program funding, the retrofit technology must be verified for sale in California, must comply with established durability and warranty requirements and cost effectiveness criteria and must be designed to reduce NOx only or NOx and PM. Retrofit technology options for off-road diesel engines are increasing and 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

Fleets may voluntarily apply for replacement funding in lieu of repowering their vehicle. The amount of funding will be equivalent to that of repowering the vehicle and will be calculated using a Tier 4 repower quote, or if no Tier 4 repower solution is available, the replacement funding will be calculated at $420/hp (this value may change as more information becomes available and is contingent on CARB approval). This means that a 100 hp vehicle would receive funding up to 85% of $42,000 (or $35,700) toward purchase of a new or used Interim Tier 4 or Tier 4 vehicle. If equipment with a Tier 4 engine will not be available within 6 months of the application submittal, equipment with an Interim Tier 4 engine may be purchased. All applicable Moyer Guidelines for Off-Road Equipment Replacement must be met, including project life, maximum funding cap not to exceed 80% of purchase price, and the cost effectiveness limit. Funding under this SOON option may only be 10-15% of the vehicle replacement cost. Applicants interested in equipment replacement are encouraged to apply for traditional Carl Moyer Program funding.

Maximum project life for all off-road diesel powered replacement vehicle projects is five years with the following exceptions:

- Three year life for excavators, skid steer loaders, and rough terrain forklifts.
- Seven years for crawler tractors, off-highway tractors, rubber tired dozers and workover rigs.

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. The incremental cost is the cost of the project minus the baseline cost. 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.

- 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.
- 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, CARB certified after-market part engine/control devices, and verified diesel emission control strategies.
- New vehicles equipped with FEL engines participating in the ABT program are ineligible for participation in the SOON Program. *However, FEL engines may be eligible for a repower project if the FEL is below the applicable emission standard for the engine model year.*
- Equipment manufactured under the "Flexibility Provisions for Equipment Manufacturers", as detailed in Title 13, CCR, section 2423(d), are not eligible for SOON Program funding.
- 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 the 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 off-road emission standard or a newer emission-certified alternative-fuel engine may be eligible for funding in off-road equipment with similar modes of operation to 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 their DOORS EIN and proof of ownership for each vehicle for which funding is requested.
- 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 the most recent 2 years of usage information, preferably hour-meter readings.

COST-EFFECTIVENESS EVALUATION DISCUSSION

Cost-effectiveness calculations are based on oxides of nitrogen (NOx) only. SCAQMD staff will calculate the NOx emissions reductions from the difference between the average annual emissions from the old and new engine. The methodology for determining cost-effectiveness is developed by (CARB) and can be found in Appendix E of The Carl Moyer Program Guidelines (see http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm). Typically the formula for determining the tons per year emission reduction is:

$$\text{Annual NOx Emission Reduction} = (ER_{NOx\text{-}old} - ER_{NOx\text{-}new})*LF*AAHours*HP*CF$$

where

$ER_{NOx\text{-}old}$ = NOx emission rate of old engine (g/bhp-hr)
$ER_{NOx\text{-}new}$ = NOx emission rate of new engine (g/bhp-hr)
LF = Load factor (unit less)
AAHours = Annual average vehicle operational hours
HP = Maximum horsepower rating of engine
CF = Conversion factor from grams to tons

Only SOON funds are to be used in determining cost-effectiveness[1]. The one-time incentive grant amount is to be amortized over the project life (which is also the contract term) at a discount rate of 1 percent. The amortization formula (given below) yields a capital recovery factor (CRF), which, when multiplied by the initial capital cost, gives the annual cost of a project over its project term.

$$CRF = [(1 + i)^n (i)] / [(1 + i)^n - 1]$$

where

i = discount rate (1 percent)
n = project life

Table 1 lists the CRF for different project lives using a discount rate of 1 percent. Cost-effectiveness is determined by dividing the annualized costs of a project by the annual NOx emission reductions offered by the project.

Table 1 – Capital Recovery Factors (CRF) for Various Project Lives at 1 Percent Discount Rate

Project Life	CRF
1	1.010
2	0.508
3	0.340
4	0.256
5	0.206
6	0.173
7	0.149

[1] Unless the SCAQMD "buys down" the cost of the project by adding additional funding, in which case the total grant funding amount should be used for the cost-effectiveness calculation.

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 life. 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 Fuel Consumed (if cost-effectiveness was determined on fuel basis)
- 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 Governing Board for final selection of project(s) to be funded. Proposals will be evaluated on the cost-effectiveness of NOx reduced on a vehicle/equipment-by-vehicle/equipment basis, as well as a project's disproportional impact evaluation (This is discussed further in Section IV).

SCHEDULE OF EVENTS

Release of PA #2014-07	March 7, 2014
All Applications due by 1:00 p.m.	Wednesday, June 4, 2014
Anticipated Award Consideration by the Board	October 3, 2014

ALL PROPOSALS MUST BE RECEIVED AT THE SCAQMD HEADQUARTERS NO LATER THAN 1:00 P.M. ON WEDNESDAY, JUNE 4, 2014

Postmarks 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 31, 2016.

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 contract for funding the proposed project must meet the following criteria:

- Provide emission reductions that are 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.
- Commit project engines or equipment to operate in-service for the full project life. Project life is the number of years used to determine the cost-effectiveness.
- Commit all vehicles/engines/equipment to be in operation no later than May 31, 2016.
- Provide for appropriate record-keeping during the project life (i.e., annual hours of operation).
- Provide a compliance plan that demonstrates compliance with the off-road regulation throughout the contract period.
- 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 reports:

1. Quarterly status reports until the vehicle(s) or equipment purchase(s), repower(s), or retrofit(s) has been completed and the vehicle(s) is operational. These reports shall include a discussion of any problems encountered and how they were resolved, any changes in the schedule, and recommendations for completion of the project. These progress reports are required before payment for the purchase, repower or retrofit will be made.
2. 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 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 form entitled "Contracting Statements".

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 time frame of the award process so that they can project costs to the projected 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.[2] Proposals will be ranked by cost-effectiveness on a vehicle/equipment-by-vehicle/equipment basis. The cost-effectiveness limit has been established at $17,460/ton of NOx emissions reduced. 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-0funding 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. 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 PA #2014-07.

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 Form A-1 of this PA are five 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 2022 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 DOORS calculator (if it projects future years) or the Excel SOON fleet calculator may be used.

[2] Note that non-CARB certified engines/devices requiring an experimental permit from CARB may be considered, but the project will require special CARB approval.

- 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 http://www.aqmd.gov/tao/Implementation/SOONProgram.htm.

Due Date

The proposer shall submit **four (4) complete copies of the application and one electronic copy of the compliance plan** 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 #2014-07"**. All proposals/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. Applicants must also submit a CD of the application in Microsoft Word format and compliance plan. All proposals must be received no later than **1:00 p.m., on Wednesday, June 4, 2014**. Postmarks are not accepted as proof of deadline compliance. **Faxed or emailed proposals will not be accepted**. 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. 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 IV: PROPOSAL EVALUATION/CONTRACTOR SELECTION CRITERIA

SCAQMD staff will evaluate all submitted proposals and make recommendations to the Governing Board for final selection of project(s) to be funded. Proposals will be evaluated based on the cost-effectiveness of NOx 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. . Distribution will be as follows:

1. 75% of total project funding will be awarded to the most cost-effective projects. No individual company shall receive more than 10% of this portion of the funding.
2. The remaining 25% of funding will be distributed so that at least one piece of equipment per applicant is funded, until funding is expended. If funds are still remaining after this distribution, they will be distributed according to cost-effectiveness.

In addition, at least 50 percent of the CMP funds must be spent in areas that are most significantly impacted by air pollution and are low income or communities of color, or both (i.e., receive a disproportionate impact from these factors). CARB issued broad goals and left the details of how to implement this requirement to each air agency. SCAQMD uses the following method to meet these requirements.

1. All projects must qualify for the CMP by meeting the cost-effectiveness limit of $17,460 per ton of NOx controlled.
2. All projects will be evaluated according to the following criteria to qualify for disproportionate impact funding:
   a. Poverty Level: All projects in areas where at least 10 percent of the population falls below the Federal poverty level, based on the year 2000 census data, will be eligible to be included in this category
   b. PM Exposure: All projects in areas with the highest 15 percent of PM concentration will be eligible to be ranked in this category. The highest 15 percent of PM concentration is 46 micrograms per cubic meter and above, on an annual average
   c. Toxic Exposure: All projects in areas with a cancer risk of 1,000 in a million and above (based on Mates II estimates) will be eligible to be ranked in this category.
3. 50 percent of the available funding from this PA will be allocated among proposals located in disproportionately impacted areas. If available funding is not exhausted with the outlined methodology, then staff will return to the Governing Board for direction. If on the other hand, funding requests exceed the available funding levels, then all qualified projects will be ranked for poverty level, PM and toxic exposures. The maximum score will be comprised of 40 percent for poverty level, and 30 percent each for PM and toxic exposures
4. All the proposals not awarded under the 50 percent disproportional impact funding 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 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, or locations of workshops can be found at the SOON website (http://www.aqmd.gov/tao/Implementation/SOONProgram.htm), or can be addressed to:

Adewale Oshinuga
Science and Technology Advancement
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Phone: (909) 396-2599 Fax: (909) 396-3324

The remainder of this page is left intentionally blank.

Application Forms

FORM A-1 - GENERAL PROJECT INFORMATION APPLICATION

All Sections of Form A-1 must be submitted for an application to be deemed complete.
If information does not pertain to your project, please write “NA” on the form and sign it.
In addition, supplemental forms are required for each piece of requested equipment.

I. APPLICANT INFORMATION

Company name/ Organization name/ Individual name:		
Business address (Mailing address): Street:		
City:	State:	Zip code:
Contact name and title:		
E-mail:		
Phone: ( )	Fax: ( )	
Person with contract signing authority (if different from above):		

I hereby certify that all information provided in this application and any attachments are true and correct.

Printed Name of Responsible Party:	Title:
Signature of Responsible Party:	Date:

Complete this section if application was prepared by another person

I have completed the application, in whole or in part, on behalf of the applicant.

Printed Name:	Title:
Signature:	Date:
Amount Being Paid for Application Completion in Whole or Part:	Source of funding to 3rd party:

II. FUNDING INFORMATION

Total Number of Equipment Included in Project:	
Total Number of Engines Included in Project:	
Total Amount of Funding Requested: $	**Total** Applicant Co-Funding Amount (if any): $

III. GENERAL PROJECT INFORMATION

There are three types of emission reduction projects:

New Purchase - Purchasing a new vehicle or piece of equipment with an engine that is cleaner than the current year standard.
Repower - Replacing an existing engine with a new reduced-emission engine.
Retrofit – Installing an ARB-verified emission control system on an in-use engine.

IMPORTANT REMINDER: Only projects that are demonstrated to be surplus to California Air Resources Board (ARB) regulations are eligible for Carl Moyer Program (CMP) funding. Please ensure your proposed project is eligible prior to submitting an application.

Check the appropriate box(es) below for each type of project and indicate the total number of equipment/engines included in your project.

B. Off-Road Diesel - SOON

(Please Circle Fleet Size)

Diesel Fleet Size (Total hp): **Small** ≤ 2,500 **Medium** 2,501-5,000 **Large** > 5,000

Equipment Replacement – Total pieces of equipment: _____
A supplemental application (Form B-1) must be completed for each piece of new equipment

Repower Only– Total engines to be repowered: _____
A supplemental application (Form B-2) must be completed for each engine repower

Repower with NOx Retrofit – Total engines to be repowered/retrofit: _____
A supplemental application (Form B-2) must be completed for each engine repower

NOx Retrofit Only – Total engines to be retrofit: _____
A supplemental application (Form B-3) must be completed for each retrofit

IV. FUNDING DISCLOSURE

Have any engines or vehicles listed in this application been awarded funding from the Air Resources Board or another public agency or are any being considered for funding?

☐ Yes
☐ No

If "yes", complete the following for each engine or vehicle:

Agency applied to:
Date/Number of Agency Solicitation:
Total Funding Amount Requested or Awarded: $
Amount per Unit Requested or Awarded: $
Status:
Do you plan to claim a tax credit or deduction for the project vehicle? ☐ Yes ☐ No If "yes", please indicate the estimated tax credit amount to be claimed per vehicle: _____.

Application Statement – Please Read and Sign

All information provided in this application will be used by AQMD staff to evaluate the eligibility of this application to receive program funds. AQMD 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.

- I certify to the best of my knowledge that the information contained in this application is true and accurate.
- I understand that, if awarded funding under the CMP, development and submittal of a detailed work statement, with deliverables and schedule is a requirement of the contracting process.
- 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 it is my responsibility to 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.
- I understand that for SOON repower projects, I am **not** required to install the highest level available verified diesel emission control device (VDECS).
- 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 AQMD in accordance with the contract agreement.
- I understand that, for this equipment, I will be prohibited from applying for any other form of emission reduction credits for Moyer-funded vehicles/engines, including: Emission Reduction Credit (ERC); Mobile Source Emission Reduction Credit (MSERC) and/or Certificate of Advanced Placement (CAP), for all time, from the AQMD, CARB or any other Air Quality Management or Air Pollution Control District.
- The proposed project has not been funded and is not being considered for Carl Moyer Program funds by another air district, CARB, or any other public agency.
- 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 AQMD as required by the contract.
- I have the legal authority to apply for grant funding for the entity described in this application.
- Disclosure of that value of any current financial incentive that directly reduces the project price, including tax credits or deductions, grants, or other public financial assistance for the same engine is required. To avoid double counting of incentives, all tax credits or deductions,

grants, or other public financial assistance must be deducted from the CMP request. 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 CMP funds are being used for this compensation. (see below)

- I understand that additional project information must be submitted to finalize a contract. This information may be found under Section II: Work Statements/Schedule of Deliverables in the PA.

- I understand that all vehicles, engines or equipment funded by this program must be operational within eighteen (18) months of contract execution, or by May 31, 2016, whichever is earlier.

- I have initialed this bullet to indicate that there are no potential conflicts of interest with other clients affected by actions performed by the firm on behalf of the AQMD. If this bullet is not initialed, 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 AQMD District Counsel's Office. There is no potential conflict of interest: _____(Please Initial if applicable, otherwise attach separate sheet describing the potential conflict)

_____	_____
Applicant's Signature	Date
_____	_____
Applicant's Name (please print)	Title

Please initial each section.

(See PA #2014-07 for additional information and requirements.):

_____	The purchase of this low-emission technology is NOT required by any other local, state, and/or federal rule or regulation.
_____	The definitions of qualifying projects are described in PA #2014-07. These definitions have been reviewed and this application is consistent with those definitions.
_____	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.
_____	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 responsibility to determine the tax liability associated with participating in the Moyer Program.
_____	I understand that a SCAQMD-funded Global Positioning System (GPS) unit may 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 funded projects will be retired. To avoid double counting of emission reductions, project vehicles and/or equipment may not receive funding from any other government grant program that is designed to reduce mobile source emissions.
_____	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: $_____

South Coast
Air Quality Management District

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

Business Information Request

Dear SCAQMD Contractor/Supplier:

The 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, complete the enclosed W-9 form, remember to sign both 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,

Michael B. O'Kelly
Chief Financial Officer

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

REV 3/13

South Coast Air Quality Management District

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

BUSINESS INFORMATION REQUEST

Business Name	
Division of	
Subsidiary of	
Website Address	
Type of Business *Check One:*	☐ Individual ☐ DBA, Name _____, County Filed in _____ ☐ Corporation, ID No. _____ ☐ LLC/LLP, ID No. _____ ☐ 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

DISADVANTAGED BUSINESS CERTIFICATION

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 the 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:

☐ Small Business Enterprise/Small Business Joint Venture ☐ Women-owned Business Enterprise
☐ *Local business* ☐ *Disabled Veteran-owned Business Enterprise/DVBE Joint Venture*
☐ Minority-owned Business Enterprise

Percent of ownership: _____ %

Name of Qualifying Owner(s): _____ _____

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 the 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.

Form **W-9**
(Rev. December 2011)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

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

Print or type
See **Specific Instructions** on page 2.

Name (as shown on your income tax return)

Business name/disregarded entity name, if different from above

Check appropriate box for federal tax classification:
☐ Individual/sole proprietor ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶

☐ Other (see instructions) ▶

☐ Exempt payee

Address (number, street, and apt. or suite no.)

Requester's name and address (optional)

City, state, and ZIP code

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 the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number
☐☐☐ – ☐☐ – ☐☐☐☐

Employer identification number
☐☐ – ☐☐☐☐☐☐☐

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).

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 on page 4.

Sign Here **Signature of U.S. person ▶** **Date ▶**

General Instructions

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

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

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.

Note. If 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 on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the 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 withholding on your share of partnership income.

The person who gives 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 is in the following cases:

- The U.S. owner of a disregarded entity and not the entity,
- The U.S. grantor or other owner of a grantor trust and not the trust, and
- The U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person, do not use Form W-9. Instead, use the appropriate Form W-8 (see Publication 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 not subject to backup withholding, give the requester the appropriate completed Form W-8.

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS a percentage 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, 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 Part II instructions on page 3 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 the instructions below and the separate Instructions for the Requester of Form W-9.

Also see *Special rules for partnerships* on page 1.

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

Name

If you are an individual, you must generally enter the name shown on your income tax return. However, if you have changed your last name, for instance, due to marriage without informing the Social Security Administration of the name change, enter your first name, the last name shown on your social security card, and your new last name.

If the account is in joint names, list first, and then circle, the name of the person or entity whose number you entered in Part I of the form.

Sole proprietor. Enter your individual name as shown on your income tax return on the "Name" line. You may enter your business, trade, or "doing business as (DBA)" name on the "Business name/disregarded entity name" line.

Partnership, C Corporation, or S Corporation. Enter the entity's name on the "Name" line and any business, trade, or "doing business as (DBA) name" on the "Business name/disregarded entity name" line.

Disregarded entity. Enter the owner's name on the "Name" line. The name of the entity entered on the "Name" line should never be a disregarded entity. The name on the "Name" line must be the name shown on the income tax return on which the income will be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a domestic owner, the domestic owner's name is required to be provided on the "Name" line. 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 the "Business name/disregarded entity name" line. If the owner of the disregarded entity is a foreign person, you must complete an appropriate Form W-8.

Note. Check the appropriate box for the federal tax classification of the person whose name is entered on the "Name" line (Individual/sole proprietor, Partnership, C Corporation, S Corporation, Trust/estate).

Limited Liability Company (LLC). If the person identified on the "Name" line is an LLC, check the "Limited liability company" box only and enter the appropriate code for the tax classification in the space provided. If you are an LLC that is treated as a partnership for federal tax purposes, enter "P" for partnership. If you are an LLC that has filed a Form 8832 or a Form 2553 to be taxed as a corporation, enter "C" for C corporation or "S" for S corporation. If you are an LLC that is disregarded as an entity separate from its owner under Regulation section 301.7701-3 (except for employment and excise tax), do not check the LLC box unless the owner of the LLC (required to be identified on the "Name" line) is another LLC that is not disregarded for federal tax purposes. If the LLC is disregarded as an entity separate from its owner, enter the appropriate tax classification of the owner identified on the "Name" line.

Other entities. Enter your business name as shown on required federal tax documents on the "Name" line. 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 the "Business name/ disregarded entity name" line.

Exempt Payee

If you are exempt from backup withholding, enter your name as described above and check the appropriate box for your status, then check the "Exempt payee" box in the line following the "Business name/ disregarded entity name," sign and date the form.

Generally, individuals (including sole proprietors) are not exempt from backup withholding. Corporations are exempt from backup withholding for certain payments, such as interest and dividends.

Note. If you are exempt from backup withholding, you should still complete this form to avoid possible erroneous backup withholding.

The following payees are exempt from backup withholding:

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 possession of the United States, or any of their political subdivisions or instrumentalities,

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

5. An international organization or any of its agencies or instrumentalities.

Other payees that may be exempt from backup withholding include:

6. A corporation,

7. A foreign central bank of issue,

8. A dealer in securities or commodities required to register in the United States, the District of Columbia, or a possession of the United States,

9. A futures commission merchant registered with the Commodity Futures Trading Commission,

10. A real estate investment trust,

11. An entity registered at all times during the tax year under the Investment Company Act of 1940,

12. A common trust fund operated by a bank under section 584(a),

13. A financial institution,

14. A middleman known in the investment community as a nominee or custodian, or

15. 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 15.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 9
Broker transactions	Exempt payees 1 through 5 and 7 through 13. Also, C corporations.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 5
Payments over $600 required to be reported and direct sales over $5,000 [1]	Generally, exempt payees 1 through 7 [2]

[1] See Form 1099-MISC, Miscellaneous Income, and its instructions.

[2] 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, and payments for services paid by a federal executive agency.

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. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on page 2), 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 the chart on page 4 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 Social Security Administration office or get this form online at *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* and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, 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 domestic 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, below, and items 4 and 5 on page 4 indicate 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 the "Name" line must sign. Exempt payees, see *Exempt Payee* on page 3.

Signature requirements. Complete the certification as indicated in items 1 through 3, below, and items 4 and 5 on page 4.

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 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), 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)	The actual owner of the account or, if combined funds, the first individual on the account [1]
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor [2]
4. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee [1]
b. So-called trust account that is not a legal or valid trust under state law	The actual owner [1]
5. Sole proprietorship or disregarded entity owned by an individual	The owner [3]
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulation section 1.671-4(b)(2)(i)(A))	The grantor*
For this type of account:	**Give name and EIN of:**
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity [4]
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. 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
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulation section 1.671-4(b)(2)(i)(B))	The trust

[1] 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.

[2] Circle the minor's name and furnish the minor's SSN.

[3] 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.

[4] 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* on page 1.

***Note.** 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, social security number (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 Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system 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.* You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: *spam@uce.gov* or contact them at *www.ftc.gov/idtheft* or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov 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. 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.

YEAR

CALIFORNIA FORM

2013 Withholding Exemption Certificate 590

This form can only be used to certify exemption from nonresident withholding under California Revenue and Taxation Code (R&TC) Section 18662. Do not use this form for exemption from wage withholding.

File this form with your withholding agent. (Please type or print)

Withholding agent's name

Payee's name

Payee's ☐ SSN or ITIN ☐ FEIN ☐ CA corp. no. ☐ CA SOS file no

Address (number and street, PO Box, or PMB no.)

Apt. no./ Ste. no.

City

State

ZIP Code

Read the following carefully and check the box that applies to the payee.

I certify that for the reasons checked below, the payee named on this form is exempt from the California income tax withholding requirement 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, Who is a Resident, for the definition of a resident.

☐ **Corporations:**
The above-named 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 and withhold on payments of California source income to nonresidents when required. 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 F, What is a Permanent Place of Business, for the definition of permanent place of business.

☐ **Partnerships or limited liability companies (LLC):**
The above-named 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 and will withhold on foreign and domestic nonresident partners or members when required. 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 above-named entity is exempt from tax under California Revenue and Taxation Code (R&TC) Section 23701 _____ (insert letter) or Internal Revenue Code Section 501(c) _____ (insert number). The tax-exempt entity will withhold on payments of California source income to nonresidents when required. 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 above-named 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 and will withhold on foreign and domestic nonresident beneficiaries when required. If the trustee 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. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return and will withhold on foreign and domestic nonresident beneficiaries when required.

☐ **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: Please complete and sign below.

Under penalties of perjury, I hereby certify that the information provided in this document is, to the best of my knowledge, true and correct. If conditions change, I will promptly notify the withholding agent.

Payee's name and title (type or print) _____ Daytime telephone no._____

Payee's signature ☐ _____ Date _____

For Privacy Notice, get form FTB 1131.

7061133

Form 590 C2 2012

Instructions for Form 590

Withholding Exemption Certificate

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

General Information

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.

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 – Enter the information in the following order: City, Country, Province/Region, and Postal Code. Follow the country's practice for entering the postal code. **Do not** abbreviate the country's name.

A Purpose

Use Form 590, Withholding Exemption Certificate, to certify an exemption from nonresident withholding. California residents or entities should complete and present Form 590 to the withholding agent. 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 told by the Franchise Tax Board (FTB) that the form should not be relied upon.

Important – This form cannot be used for exemption from wage and real estate withholding.

- If you are an employee, any wage withholding questions should be directed to the FTB General Information number, 800.852.5711. Employers should call 888.745.3886 or go to **edd.ca.gov**.
- Sellers of California real estate use Form 593-C, Real Estate Withholding Certificate, to claim an exemption from real estate withholding.

B Requirement

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 S corporation shareholders, partners and members 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 with activities in California.
- Distributions of California source income to nonresident beneficiaries from an estate or trust.
- 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 General Information H, Publications, Forms, and Additional Information.

Backup Withholding – Beginning on or after January 1, 2010, with certain limited exceptions, payers that are required to withhold and remit backup withholding to the Internal Revenue Service (IRS) are also required to withhold and remit to the FTB. The California backup withholding rate is 7% of the payment. For California purposes, dividends, interests, and any financial institutions release of loan funds made in the normal course of business are exempt from backup withholding. For additional information on California backup withholding, go to **ftb.ca.gov** and search for **backup withholding**.

If a payee has backup withholding, the payee must contact the FTB to provide a valid Taxpayer Identification Number (TIN) before filing a tax return. 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 California Secretary of State (SOS) file number. Failure to provide a valid TIN will result in the denial of the backup withholding credit. For more information go to **ftb.ca.gov** and search for **backup withholding**.

Who is Excluded from Withholding – 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

C Who Certifies this Form

Form 590 is certified by the payee. 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 certificate on the preprinted form, the withholding agent may accept as a substitute certificate a letter from the payee explaining why the payee is 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. The withholding agent must retain a copy of the certificate or substitute for at least four years after the last payment to which the certificate applies, and provide it upon request to the FTB.

For example, 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 Who is a Resident

A California resident is any individual who is in California for other than a temporary or transitory purpose or any individual domiciled in California who is absent for a temporary or transitory purpose.

An individual domiciled in California who is absent from California for an uninterrupted period of at least 546 consecutive days under an employment-related contract is considered outside California for other than a temporary or transitory purpose.

An individual is still considered outside California for other than a temporary or transitory purpose if return visits to California do not total more than 45 days during any taxable year covered by an employment contract.

This provision does not apply if an individual has income from stocks, bonds, notes, or other intangible personal property in excess of $200,000 in any taxable year in which the employment-related contract is in effect.

A spouse/RDP absent from California for an uninterrupted period of at least 546 days to accompany a spouse/RDP under an employment-related contract is considered outside of California for other than a temporary or transitory purpose.

Generally, an individual who comes to California for a purpose which will extend over a long or indefinite period will be considered a resident. However, an individual who comes to perform a particular contract of short duration will be considered a nonresident.

For assistance in determining resident status, get FTB Pub. 1031, Guidelines for Determining Resident Status, and FTB Pub. 1032, Tax Information for Military Personnel, or call the FTB at 800.852.5711 or 916.845.6500.

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. Note: 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.

F What is a 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 if it is a foreign corporation qualified to transact intrastate business by the California SOS. 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.

G Withholding Agent

Keep Form 590 for your records. **Do not** send this form to the FTB unless it has been specifically requested.

For more information, contact Withholding Services and Compliance, see General Information H.

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.

The withholding agent must then withhold and report the withholding using Form 592, Resident and Nonresident Withholding Statement, and remit the withholding using Form 592-V, Payment Voucher for Resident and Nonresident Withholding. Form 592-B, Resident and Nonresident Withholding Tax Statement, is retained by the withholding agent and a copy is given to the payee.

H Additional Information

To get additional nonresident withholding information, contact the Withholding Services and Compliance.

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

Telephone: **888**.792.4900
916.845.4900
Fax: 916.845.9512

You can download, view, and print California tax forms and publications at **ftb.ca.gov**.

OR to get forms by mail write to:

TAX FORMS REQUEST UNIT MS F284
FRANCHISE TAX BOARD
PO BOX 307
RANCHO CORDOVA CA 95741-0307

For all other questions unrelated to withholding or to access the TTY/TDD numbers, see the information below.

Internet and Telephone Assistance

Website: **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**
Teléfono: 800.852.5711 dentro de los Estados Unidos
916.845.6500 fuera de los Estados Unidos
TTY/TDD: 800.822.6268 personas con discapacidades auditivas y del habla

United State Environmental Protection Agency
Washington, DC 20460

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.

EPA Form 5700-49 (11-88)

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 the 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 the SCAQMD website (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 Dr., Diamond Bar, CA 91765
www.aqmd.gov

Direct Deposit Authorization

STEP 1: Please check all the appropriate boxes

- ☐ Individual (Employee, Governing Board Member)
- ☐ Vendor/Contractor
- ☐ Changed Information
- ☐ New Request
- ☐ Cancel Direct Deposit

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)		
☐ Saving ☐ 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
21865 Copley Drive, Diamond Bar, CA 91765
Off-Road Mobile Source (909) 396-2903
http://www.aqmd.gov/tao/implementation/soonprogram.htm

FORM 2449-CP
Revised 02/06/09

RULE 2449 FLEET COMPLIANCE PLAN

1. COMPANY NAME:

2. MAILING ADDRESS:

3. CONTACT PERSON, TITLE, TELEPHONE, EMAIL:

4. ALTERNATE CONTACT, TITLE, TELEPHONE, EMAIL:

5. FLEET SUMMARY

PLEASE PROVIDE DESCRIPTION OF YOUR FLEET AND TYPE OF BUSINESS IT IS IN.

FLEET DESCRIPTION: _____

OF VEHICLES: _____ # OF ENGINES: _____ DOORS FLEET # _____

TOTAL HORSEPOWER OF FLEET: _____

6. SIGNATURE OF PERSON RESPONSIBLE FOR RULE 2449 COMPLIANCE

I HEREBY CERTIFY, UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA, THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS COMPLIANCE PLAN IS TRUE AND CORRECT. I ALSO ACKNOWLEDGE THAT THIS PLAN IS BEING PROVIDED TO THE AQMD EXECUTIVE OFFICER IN COMPLIANCE WITH THE AQMD RULE 2449. APPROVAL OF THIS COMPLIANCE PLAN IS SUBJECT TO VERIFICATION OF INFORMATION SUBMITTED. I UNDERSTAND THAT AQMD STAFF MAY REQUIRE ADDITIONAL INFORMATION TO PROCESS THIS COMPLIANCE PLAN, AND AGREE TO PROVIDE SUCH INFORMATION.

SIGNATURE: _____

NAME: _____

TITLE: _____

SIGNED THIS _____ DAY OF _____

IN _____, CALIFORNIA

If you need assistance in preparing the compliance plan,
please call the Off-Road Mobile Source Section at (909) 396-2903.

AQMD Use Only: App. #_____ Project Type:_____

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
SOON PROGRAM (FY 10/11)

FORM B-1 - OFF-ROAD HEAVY-DUTY EQUIPMENT REPLACEMENT

Please complete one form for each piece of equipment. For multiple unit requests, you may submit a spreadsheet that provides all requested information below, in the order presented below.

Company name/ Organization name/ Individual name:
Equipment Identifier (Unit # or Company ID): EIN
Is the vehicle location address the same as the applicant address? ☐ Yes ☐ No, (please provide vehicle address below)
Street Address:
City:
Zip Code:

I. BASELINE (EXISTING) EQUIPMENT INFORMATION

Equipment Type/Function (Diesel): _____
(Backhoe, baler, cargo container handling unit, combine, crane, crawler tractor, crushing/processing, excavator, forklift, grader, ground support equipment, hydro-power unit, loader, mower, off-highway tractor, off-highway truck, paver, paving equipment, roller, rubber-tired dozer, rubber-tired loader, scraper, signal board, skid steer loader, sprayer, surfacing equipment, swather, tractor, tiller, trencher, or other.)

Equipment Make:	Equipment Model:
Equipment Model Year:	Equipment Serial Number or VIN:
Number of Engines on this Equipment: _____ Main (Front) _____ Auxiliary	

II. USAGE/ACTIVITY INFORMATION

Note: 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 equipment. You **MUST** attach documentation supporting the projected annual usage and operation within the District and within California. Supporting documentation may be in the form of maintenance records, fuel receipts, hour-meter reports, logs, or other paperwork for each piece of baseline equipment covering at least the past 24 months.

Total Annual Hours of Operation: _____ **or** Gallons of Fuel Used: _____	
If Hours, Does the Equipment Have a Functioning Hour Meter? ☐Yes ☐No	
Percent Operation within CA: _____%	Percent Operation within District: _____%
Project Life: _____ years. Equipment must operate for this full life; this life is equivalent to the contract and the reporting term.	

III. BASELINE (EXISTING) ENGINE INFORMATION (for each engine)

☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Method proposed for rendering the baseline engine(s) inoperable:	

IV. NEW REPLACEMENT EQUIPMENT INFORMATION

Equipment Type/Function:	Equipment Make:
Equipment Model:	Equipment Model Year:
Equipment Serial Number or VIN (If available):	Number of Engines on this Equipment: _____ Main (Front) _____ Auxiliary (Rear)

V. NEW REPLACEMENT EQUIPMENT ENGINE INFORMATION (for each engine)

☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Fuel Type:	New Engine Make:
New Engine Model:	New Engine Year:
Engine Serial No:	New Engine Horsepower:
New Engine Tier:	New Engine Family:
New Engine ARB Executive Order Number (Attach a copy):	
☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Fuel Type:	New Engine Make:
New Engine Model:	New Engine Year:
Engine Serial No:	New Engine Horsepower:
New Engine Tier:	New Engine Family:
New Engine ARB Executive Order Number (Attach a copy):	

VI. FUNDING INFORMATION

New Equipment Cost (incl. tax): $_____ **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 of prior to the closing date of the Program Announcement.
Applicant Co-Funding Amount (if any): $
Funds Requested*:* $
New Equipment Vendor:

AQMD Use Only: App. #_____ Project Type:_____

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
SOON PROGRAM (FY 10/11)

FORM B-2 - OFF-ROAD HEAVY-DUTY EQUIPMENT Repower Only or Repower/Retrofit

Please complete one form for each piece of equipment. For multiple unit requests, you may submit a spreadsheet that provides all requested information below, in the order presented below.

Company name/ Organization name/ Individual name:	
Equipment Identifier (Unit # or Company ID):	EIN
Is the vehicle location address the same as the applicant address? ☐ Yes ☐ No, (please provide vehicle address below)	
Street Address:	
City:	
Zip Code:	

I. BASELINE (EXISTING) EQUIPMENT INFORMATION

Equipment Type/Function (Diesel): _____
(Backhoe, baler, cargo container handling unit, combine, crane, crawler tractor, crushing/processing, excavator, forklift, grader, ground support equipment, hydro-power unit, loader, mower, off-highway tractor, off-highway truck, paver, paving equipment, roller, rubber-tired dozer, rubber-tired loader, scraper, signal board, skid steer loader, sprayer, surfacing equipment, swather, tractor, tiller, trencher, or other.)

Equipment Make:	Equipment Model:
Equipment Model Year:	Equipment Serial Number or VIN:
Number of Engines on this Equipment: _____ Main (Front) _____ Auxiliary	

II. USAGE/ACTIVITY INFORMATION

Note: 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 equipment. You **MUST** attach documentation supporting the projected annual usage and operation within the District and within California. Supporting documentation may be in the form of maintenance records, fuel receipts, hour-meter reports, logs, or other paperwork for each piece of baseline equipment covering at least the past 24 months.

Total Annual Hours of Operation: _____ **or** Gallons of Fuel Used: _____	
If Hours, Does the Equipment Have a Functioning Hour Meter? ☐Yes ☐No	
Percent Operation within CA: _____%	Percent Operation within District: _____%
Project Life: _____ years. Equipment must operate for this full life; this life is equivalent to the contract and the reporting term.	

III. BASELINE (EXISTING) ENGINE INFORMATION (for each engine)

☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Method proposed for rendering the baseline engine(s) inoperable:	

IV. NEW ENGINE INFORMATION (for each engine)

☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Fuel Type:	New Engine Make:
New Engine Model:	New Engine Year:
New Engine Tier:	New Engine Horsepower:
New Engine ARB Executive Order Number (Attach a copy):	New Engine Family:
☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Fuel Type:	New Engine Make:
New Engine Model:	New Engine Year:
New Engine Tier:	New Engine Horsepower:
New Engine ARB Executive Order Number (Attach a copy):	New Engine Family:

V. RETROFIT INFORMATION (If Applicable)

NOTE: You **MUST** attach a copy of the ARB Executive Order for the retrofit device and indicate (circle) on the Executive Order Attachment the engine family name for the engine on which the device will be installed.

☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Retrofit Device Make:	Verified NOx Reduction: %
Retrofit Device Model:	Verified PM Reduction: %
Retrofit Family Name:	Verified ROG Reduction: %
Verification Level:	
☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Retrofit Device Make:	Verified NOx Reduction: %
Retrofit Device Model:	Verified PM Reduction: %
Retrofit Family Name:	Verified ROG Reduction: %
Verification Level:	

VI. FUNDING INFORMATION (ENGINE REPOWER)

☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
New Engine Cost (incl. tax): $	**Installation Cost:** $
NOTE: You **MUST** attach a written estimate or quotation from the equipment vendor documenting the cost of the new engine. This quote must be obtained within 90 days of prior to the closing date of the Program Announcement.	
Applicant Co-Funding Amount (if any): $	
Applicant Grant Request Amount: $	
New Equipment Vendor:	
☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
New Engine Cost (incl. tax): $	**Installation Cost:** $
NOTE: You **MUST** attach a written estimate or quotation from the equipment vendor documenting the cost of the new engine. This quote must be obtained within 90 days of prior to the closing date of the Program Announcement.	
Applicant Co-Funding Amount (if any): $	
Applicant Grant Request Amount: $	
New Equipment Vendor:	

VII. FUNDING INFORMATION (RETROFIT)

☐ Main (Front) Engine _____	☐ Auxiliary (Rear) Engine _____
Retrofit Device Cost (including tax): $ **NOTE**: 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.	
Retrofit Device Installation Cost:	
Retrofit Device Maintenance Cost:	
Applicant Grant Request: $	
Retrofit Device Vendor and Installer:	
☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Retrofit Device Cost (including tax): $ **NOTE**: 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.	
Retrofit Device Installation Cost:	
Retrofit Device Maintenance Cost:	
Applicant Grant Request: $	
Retrofit Device Vendor and Installer:	

AQMD Use Only: App. #_____ Project Type:_____

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
SOON PROGRAM (FY 10/11)

FORM B-3 - OFF-ROAD HEAVY-DUTY EQUIPMENT NOx Retrofit Only

Please complete one form for each piece of equipment. For multiple unit requests, you may submit a spreadsheet that provides all requested information below, in the order presented below.

Company name/ Organization name/ Individual name:
Equipment Identifier (Unit # or Company ID): EIN
Is the vehicle location address the same as the applicant address? ☐ Yes ☐ No, (please provide vehicle address below)
Street Address:
City:
Zip Code:

I. BASELINE (EXISTING) EQUIPMENT INFORMATION

Equipment Type/Function (Diesel): _____

(Backhoe, baler, cargo container handling unit, combine, crane, crawler tractor, crushing/processing, excavator, forklift, grader, ground support equipment, hydro-power unit, loader, mower, off-highway tractor, off-highway truck, paver, paving equipment, roller, rubber-tired dozer, rubber-tired loader, scraper, signal board, skid steer loader, sprayer, surfacing equipment, swather, tractor, tiller, trencher, or other.)

Equipment Make:	Equipment Model:
Equipment Model Year:	Equipment Serial Number or VIN:
Number of Engines on this Equipment: _____ Main (Front) _____ Auxiliary	

II. USAGE/ACTIVITY INFORMATION

Note: 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 equipment. You **MUST** attach documentation supporting the projected annual usage and operation within the District and within California. Supporting documentation may be in the form of maintenance records, fuel receipts, hour-meter reports, logs, or other paperwork for each piece of baseline equipment covering at least the past 24 months.

Total Annual Hours of Operation: _____ **or** Gallons of Fuel Used: _____	
If Hours, Does the Equipment Have a Functioning Hour Meter? ☐Yes ☐No	
Percent Operation within CA: _____%	Percent Operation within District: _____%
Project Life: _____ years. Equipment must operate for this full life; this life is equivalent to the contract and the reporting term.	

III. BASELINE (EXISTING) ENGINE INFORMATION (for each engine)

☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Method proposed for rendering the baseline engine(s) inoperable:	

IV. RETROFIT INFORMATION (for each engine)

NOTE: You **MUST** attach a copy of the ARB Executive Order for the retrofit device and indicate (circle) on the Executive Order Attachment the engine family name for the engine on which the device will be installed.

☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Retrofit Device Make:	Verified NOx Reduction: %
Retrofit Device Model:	
Retrofit Family Name:	
Verification Level:	
Retrofit Device Serial #:	
☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Retrofit Device Make:	
Retrofit Device Model:	
Retrofit Family Name:	
Verification Level:	
Retrofit Device Serial #:	

V. FUNDING INFORMATION

☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Retrofit Device Cost (including tax): $ **NOTE**: 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.	
Retrofit Device Installation Cost:	
Retrofit Device Maintenance Cost:	
Applicant Grant Request: $	
Retrofit Device Vendor and Installer:	
☐ Main (Front) Engine	☐ Auxiliary (Rear) Engine
Retrofit Device Cost (including tax): $ **NOTE**: 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.	
Retrofit Device Installation Cost:	
Retrofit Device Maintenance Cost:	
Applicant Grant Request: $	
Retrofit Device Vendor and Installer:	

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 7

PROPOSAL: Execute Contracts for Technical Assistance for Advanced, Low- and Zero-Emission Mobile and Stationary Source Control Technologies and Implementation of Incentive Programs

SYNOPSIS: On December 6, 2013, the Board approved the release of RFP #P2014-10 to solicit proposals to provide technical assistance, implementation and outreach support for advanced, low- and zero-emission control technologies for the Clean Fuels Program and various incentive programs. Eight proposals were received in response to the solicitation. These actions are to execute contracts with five technical experts to provide technical assistance and outreach support at a total cost not to exceed $1,150,000, comprised of $180,000 from the Clean Fuels Fund (31); $320,000 from the Carl Moyer Program AB 923 Fund (80); $550,000 from the Proposition 1B-Goods Movement Program Fund (81); and $100,000 from the Proposition 1B-School Bus Program Fund (82). Funding from the Carl Moyer and Proposition 1B funds will be from the administrative portion of those funds.

COMMITTEE: No Committee Review; the February 21, 2014 Committee meeting was cancelled.

RECOMMENDED ACTIONS:

1. Authorize the Chairman to execute the following contracts for a total of $180,000 from the Clean Fuels Program Fund (31):
   a) Breakthrough Technologies Institute for technical assistance with low- and zero-emission vehicles, fuel cells, stationary applications and emissions analyses in an amount not to exceed $30,000;
   b) Clean Fuel Connection, Inc. (CFCI) for technical assistance with alternative fuels, electric vehicles, charging and fueling infrastructure and renewable energy in an amount not to exceed $60,000;
   c) Gladstein, Neandross & Associates (GNA) for technical assistance with alternative fuels and fueling infrastructure, emissions analysis and on-road sources in an amount not to exceed $60,000; and
   d) ICF International for technical assistance with goods movement technologies, alternative fuels and zero-emission transportation technologies in an amount not to exceed $30,000.

2. Authorize the Chairman to execute the following contracts for technical assistance, implementation and outreach support for a total of $320,000 from the administrative portion of the Carl Moyer Program AB 923 Fund (80):
   a) CFCI in an amount not to exceed $200,000 under the Carl Moyer Program; and
   b) GNA in an amount not to exceed $120,000 under the Voucher Incentive Program.

3. Authorize the Chairman to execute the following contracts for technical assistance, implementation and outreach support of the Proposition 1B-Goods Movement Program for a total of $550,000 from the administrative portion of the Proposition 1B-Goods Movement Program Fund (81):
   a) CFCI in an amount not to exceed $150,000;
   b) GNA in an amount not to exceed $150,000; and
   c) Tetra Tech, Inc. in an amount not to exceed $250,000.

4. Authorize the Chairman to execute a contract with CFCI for technical assistance, implementation and outreach support of the Proposition 1B-School Bus Program in an amount not to exceed $100,000 from the administrative portion of the Proposition 1B-School Bus Program Fund (82).

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:FM

Background

The AQMP is the comprehensive regional plan for attaining federal air quality standards in the South Coast Air Basin. In addition to full implementation of current technologies and control methods, there is a need to further develop and promote technological breakthroughs. Air quality projections indicate that the federal standards for $PM_{2.5}$ and ozone are not expected to be met without aggressive implementation of commercial technologies and accelerated development of new technologies.

The Technology Advancement Office (TAO) administers two programs to accomplish these goals. The Clean Fuels Program supports projects to research, develop, demonstrate and deploy technologies to accelerate commercialization of clean, new technologies. The Carl Moyer Program, the Proposition 1B-Goods Movement Program, and other similar programs provide incentive funding to end-users to implement the cleanest available technologies for various heavy-duty on- and off-road applications. Due to constant and rapid changes in technologies and the sheer breadth of the potential projects, staff occasionally requires input from experts and in-the-field practitioners to aid in selecting and establishing projects for the Clean Fuels Program and to implement various incentive programs.

At its December 6, 2013 meeting, the Board approved RFP #P2014-10 to solicit proposals for technical assistance for the Clean Fuels Program and implementation of various incentive funding programs. The RFP solicited statements of qualifications from individuals and organizations potentially capable of providing technical assistance in a variety of areas to support staff activities. The RFP sought companies or individuals to provide assistance in preparation of AQMP control measures; assessment of zero-emission and goods movement technologies; technical assistance for feasibility studies of stationary and mobile emission control technologies; emissions assessment of new alternative fuel technologies; evaluation of innovative emissions control systems; assessment of economic, regulatory and technical barriers to the commercialization of clean fuels and advanced technologies; and to implement various incentive programs.

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, 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.

Additionally, potential bidders may have been notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the RFP/RFQ 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.aqmd.gov. Information is also available on SCAQMD's bidder's 24-hour telephone message line (909) 396-2724.

Proposal Evaluation

Eight proposals were received in response to RFP #P2014-10. The proposals were evaluated and scored by a four-member panel in accordance with established SCAQMD guidelines using the technical criteria outlined in the RFP. The panel consisted of one Deputy Executive Officer, one Assistant Deputy Executive Officer, one Director of Technology Implementation and one On-Road Mobile Source Manager. The panel breakdown was as follows: four males; one Caucasian and three Asians. The panel scores are shown in Table 1 of the attachment. The technical scores are based on the proponent's expertise and experience. Per the requirements of the RFP, proposals are required to receive a minimum of 56 points out of 70 technical points to qualify.

For all of the proposals that qualified, staff added the cost effectiveness and additional points (a maximum of 15 points for small business or small business joint venture, disadvantaged veterans' business or DVBE joint venture, use of DVBE or small business subcontractors, use of low-emission vehicles, local business and use of off-peak hours for delivery business). Based on these scores and current needs, staff is recommending funding levels for each of the proposers as shown in Table 2 of the attachment.

Proposal
Staff is recommending that level-of-effort contracts be executed as follows:

Breakthrough Technologies Institute will provide technical assistance with low- and zero-emission vehicles, fuel cells, stationary applications and emissions analyses in an amount not to exceed $30,000 from the Clean Fuels Fund (31). The team at Breakthrough Technologies Institute has a combined professional experience and proven expertise of over 80 years in the areas of alternative fuels, low- and zero-emission technologies, emission controls and federal policies and state regulations.

CFCI will provide technical assistance with alternative fuels, electric vehicles, charging and fueling infrastructure and renewable energy as well as technical assistance on continued implementation and reporting for the Carl Moyer Program, the Proposition 1B-Goods Movement Program and the Proposition 1B-School Bus Program in an amount not to exceed $510,000, comprised of $60,000 from the Clean Fuels Fund (31), $200,000 from the Carl Moyer Program/AB 923 Fund (80), $150,000 from the Proposition 1B-Goods Movement Program Fund (81) and $100,000 from the Proposition 1B-School Bus Program Fund (82). Ms. Enid Joffe (principal) has more than 15 years experience with low- and zero-emission technologies, electric vehicles and charging infrastructure and renewable energy.

GNA will provide technical expertise with alternative fuels and fueling infrastructure, emission analysis and on-road sources in an amount not to exceed $330,000, comprised of $60,000 from the Clean Fuels Fund (31), $120,000 from the Voucher Incentive Program/AB 923 Fund (80), and $150,000 from the Proposition 1B-Goods Movement Program Fund (81). GNA has partnered with energy, transit, waste management and goods movement companies to develop projects such as the use of LNG in cargo handling equipment at the Ports of Los Angeles and Long Beach, evaluation of the feasibility of utilizing LNG in the Ports' yard equipment and the development of strategies to reduce emissions from construction and operations of the proposed LNG import terminal.

ICF International will provide technical assistance with goods movement technologies, alternative fuels and zero-emission transportation technologies in an amount not to exceed $30,000 from the Clean Fuels Fund (31). ICF is a leading technology firm with over 40 years of experience. ICF has worked as a prime contractor for local, state and federal agencies and has extensive expertise in the areas of fuels and transportation related issues.

Tetra Tech, Inc. will provide technical assistance on continued implementation and reporting for the Proposition 1B-Goods Movement Program in an amount not to exceed $250,000 from the Proposition 1B-Goods Movement Program Fund (81). Tetra Tech has extensive working experience at the Ports and can provide invaluable assistance on the

monitoring and operation of goods movement trucks as well as evaluation of similar projects.

Tech Compass and University of California, Riverside, CE-CERT
Both these entities are technically qualified and have provided technical assistance throughout the years, but due to adequate funding balances in their respective contracts they have not been recommended for awards this time around.

Benefits to SCAQMD
The proposed awards will support the implementation of TAO's Clean Fuels, Carl Moyer and Proposition 1B Programs. In addition, outside expertise will provide an effective means of evaluating new technologies and assessing emission reductions. These technical assistance, implementation and outreach support contracts are included in the *2013 Clean Fuels Program Plan Update* under "Assessment and Technical Support of Advanced Technologies and Information Dissemination" and "Support for Implementation of Various Clean Fuels Vehicle Incentive Programs".

Resource Impacts
Total amount of awards shall not exceed $1,150,000, comprised of $180,000 from the Clean Fuels Fund (31); $320,000 from the Carl Moyer Program/AB 923 Fund (80); $550,000 from the Proposition 1B-Goods Movement Program Fund (81); and $100,000 from the Proposition 1B-School Bus Program Fund (82). Funding from the Carl Moyer and the Proposition 1B funds will be from the administrative portion of those funds.

Sufficient funds are available from the Clean Fuels Program Fund, established as a special revenue fund resulting from the state-mandated Clean Fuels Program to cover the proposed $540,000 for outside technical assistance. 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.

Sufficient funds are also available in the administrative portion of the Carl Moyer and the Proposition 1B Program funds.

Attachments
Table 1 – Average Scores for Proposers
Table 2 – Areas of Expertise and Awards

Table 1. Average Scores for Proposers

Proposer	Technical Points*	Additional Points	Cost Points	Total Points
Breakthrough Technologies Institute	64	0	22	86
CFCI	63	15	22	100
GNA	63	15	19	97
ICF International	62	5	18	85
Tech Compass	61	15	19	95
Tetra Tech, Inc.	63	5	20	88
Top Shelf Consulting, LLC	not rated**			
University of California, Riverside, CE-CERT	63	5	30	98

* minimum of 56 out of 70 Technical Points is required to qualify.

**The expertise of Top Shelf Consulting, LLC was not deemed to meet the targeted needs of the outlined programs. Thus, although technically qualified in certain areas, the evaluation panel did not rate this proposal

Table 2. Areas of Expertise and Awards

Proposer	Areas of Expertise	Clean Fuels Fund (31)	Carl Moyer (AB 923) Fund (80)	VIP (AB 923) Fund (80)	Prop 1B-Goods Movement Fund (81)	Prop 1B-School Bus Fund (82)	Total
Breakthrough Technologies Institute	Low- and Zero-Emission Technologies, Fuel Cells, Goods Movement, Stationary Sources, Emissions Analyses, Regulatory Policies	$30,000					$30,000
CFCI	Alternative Fuels, Charging & Fueling Infrastructure, Electric Vehicles, Renewable Energy, Incentive Programs	$60,000	$200,000		$150,000	$100,000	$510,000
GNA	Alternative Fuels, Fueling Infrastructure, Emissions Analysis, On-Road Sources	$60,000		$120,000	$150,000		$330,000
ICF International	Goods Movement, Alternative Fuels, Zero-Emission Transportation Technologies	$30,000					$30,000
Tetra Tech, Inc.	Low- and Zero-Emission Transportation Technologies, Fuel Cells, Fueling Infrastructure, Port Projects, Goods Movement, Incentive Programs				$250,000		$250,000
Total		**$180,000**	**$200,000**	**$120,000**	**$550,000**	**$100,000**	**$1,150,000**

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 9

PROPOSAL: Recognize Revenue and Appropriate Funds for Near Road Monitoring Program and Issue Purchase Orders for Air Monitoring Equipment

SYNOPSIS: U.S. EPA has allocated Section 103 funds in the amount of $400,000 for the Phase II Implementation of the Near Road Monitoring Program. As such, this action is to: 1) recognize revenue and appropriate funds for Near Road Monitoring Program and 2) issue purchase orders for air monitoring equipment.

COMMITTEE: Administrative, February 14, 2014; Recommended for Approval

RECOMMENDED ACTIONS:

1. Upon receipt of the award, recognize revenue of $400,000 and appropriate $372,420 for the estimated U.S. EPA Section 103 Grant for the Near Road NO2 Monitoring Program in the Science & Technology Advancement FY2013-14 Budget as set forth in Attachment 1. (Expenditure appropriations exclude $27,580 in Salary and Employee Benefits already included in the FY 2013-14 Budget.)
2. Authorize the Procurement Manager to:
   a. Issue a purchase order with the lowest responsive bidder from RFQ Q2014-05 for two NO2 analyzers as budgeted in the Near Road NO2 award in an amount not to exceed $21,674;
   b. Initiate a competitive bid and purchase two Meteorological Systems in an amount not to exceed $16,800 for the purchase and installation as budgeted in the Near Road NO2 award;
   c. Issue a purchase order with Thermo Fisher Scientific in an amount not to exceed $40,000 for the purchase of two sequential PM2.5 FRM monitors as budgeted in the Near Road NO2 award;
   d. Issue a purchase order with Agilaire in an amount not to exceed $16,400 for the purchase of two Site Node Loggers as budgeted in the Near Road NO2 award;
   e. Issue a purchase order with the lowest responsive bidder of RFQ Q2012-06 for an amount not to exceed $23,000 for the purchase of two Gas Dilution Systems as budgeted in the Near Road NO2 award; and

f. Initiate a competitive bid and purchase for two Zero Air Generators in an amount not to exceed $13,400 as budgeted in the Near Road NO2 award.

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:PMF:JCL:cv

Background

Near Road NO2 Monitoring Program

On February 9, 2010, U.S. EPA promulgated new monitoring requirements for the Nitrogen Dioxide (NO2) monitoring network in support of newly revised 1-hour NO2 National Ambient Air Quality Standards (NAAQS) and the retained annual NAAQS. In the new monitoring requirements, State and Local air monitoring agencies are required to install near road NO2 monitoring stations at locations where peak hourly NO2 concentrations are expected to occur. State and local air agencies are required to consider traffic volumes, fleet mix, roadway design, traffic congestion patterns, local terrain or topography, and meteorology in determining where a required near road NO2 monitor should be placed. In addition to those required considerations, there are other factors that impact the selection and implementation of a near road monitoring station including satisfying siting criteria, site logistics, and population exposure. After analyzing the siting considerations and receiving public comment, SCAQMD has deployed one near road monitoring station in Anaheim and is securing a lease for a second station in Ontario for Phase I of the program. Phase II of the program requires the deployment of an additional two near road monitoring stations by January 1, 2015.

Proposal

Recognize and Appropriate Funds for Near Road NO2 Monitoring Program

U.S. EPA is expected to provide funding in the amount of $400,000 in Section 103 Grant Funds for the implementation of the Phase II of the Near Road NO2 Monitoring Program. This action is to: 1) recognize the amount of $400,000 in the FY 2013-14 Budget; 2) upon receipt of the award appropriate $372,420 to the Major Objects in the Science and Technology Advancement FY 2013-14 Budget as set forth in Attachment 1. U.S. EPA concurs with staff's proposed allocation.

Purchase Air Monitoring Equipment

In December 2011, U.S. EPA issued the Draft Near Road NO2 Technical Assistance Document which recommended instrumentation and supplies for the establishment of two additional near road monitoring locations. Recommended instrumentation and supplies include NO2 monitors, meteorological instrumentation, PM monitors, data logging hardware, air monitoring shelters, and support equipment.

Issue Purchase Order for Two NO2 Analyzers
In February 2014, SCAQMD released RFQ Q2014-05 in accordance with SCAQMD advertisement policy. Therefore, staff recommends the Board authorize the Procurement Manager to issue a purchase order to the successful bidder at the conclusion of the evaluation process in an amount not to exceed $21,674.

Initiate a Competitive Bid and Purchase for Two Meteorological Systems
The SCAQMD procurement policy allows for purchases over $2,500 and under $25,000 to be purchased using an informal bid process. Therefore, staff recommends the Board authorize the Procurement Manager to issue a purchase order for two Meteorological Systems as a result of an informal bid process in an amount not to exceed $16,800.

Issue a Sole Source Purchase Order with Thermo Fisher Scientific for the Purchase of Two PM2.5 FRM Monitors
Procurement policy allows for sole source purchases in the event the item is available from only one vendor. In this case, Thermo Fisher Scientific is the only source for FRM sequential samplers. Therefore staff recommends the Board authorize the Procurement Manager to issue a sole source purchase order for two PM2.5 FRM sequential samplers from Thermo Fisher Scientific in an amount not to exceed $40,000.

Issue a Sole Source Purchase Order with Agilaire for the Purchase of Two Site Node Loggers
Procurement policy allows for sole source purchases in the event the item is available from only one vendor. In this case Agilaire is the only supplier of Site Node Loggers fully compatible with the AirVision data acquisition system currently in use. Therefore staff recommends the Board authorize the Procurement Manager to issue a sole source purchase order for two Site Node Loggers from Agilaire LLC in an amount not to exceed $16,400.

Issue Purchase Order for Two Gas Dilution Systems
On November 7, 2011, RFQ Q2012-06 was released in accordance with SCAQMD advertisement policy. Teledyne was chosen as the successful bidder at the conclusion of the evaluation process. Teledyne has agreed to honor the price as proposed at that time. Therefore staff recommends the Board authorize the Procurement Manager to issue a purchase of two Gas Dilution Systems from Teledyne in an amount not to exceed $23,000.

Initiate a Competitive Bid and Issue Purchase Order for Two Zero Air Generators
The SCAQMD procurement policy allows for purchases over $2,500 and under $25,000 to be purchased using an informal bid process. Therefore, staff recommends the Board authorize the Procurement Manager to issue a purchase order for two Zero Air Generators as a result of an informal bid process in an amount not to exceed $13,400.

Sole Source
Section VIII, B.3 of the Procurement Policy and Procedure identifies four major provisions under which a sole source award may be justified for federally funded procurement.

For contracts funded in whole or in part with federal funds, written justification for sole source award must be provided documenting that awarding a contract is infeasible under small purchase procedures, sealed bids or competitive proposals and that one of the following circumstances applies: (a) The item is available only from a single source; (b) The public exigency or emergency for the requirement will not permit a delay resulting from competitive solicitation; (c) The awarding federal agency authorizes noncompetitive proposals; or (d) After solicitation of a number of sources, competition is determined inadequate.

The request for sole source purchase of the PM2.5 FRM monitors and Agilaire Site Node Loggers are made under Section VIII, B.3.a for which the items are available only from a single source. There is currently only one vendor of Federal Reference Method (FRM) sequential samplers. The Site Node Loggers are available only from a single source as it is the only product compatible with the existing AirVision data acquisition system implemented in the air monitoring network.

Therefore, staff recommends that the Board authorize the Procurement Manager to issue sole source purchase orders with: 1) Thermo Fisher Scientific for an amount not to exceed $40,000 for the purchase of two PM2.5 FRM monitors as budgeted in the Near Road NO2 award; and 2) Agilaire in an amount not to exceed $16,400 for the purchase of two Site Node Loggers as budgeted in the Near Road NO2 award.

Resource Impacts
U.S. EPA Section 103 Grant funding will support the implementation of the Near Road NO2 Monitoring Program.

Attachment
1 - Proposed Near Road Monitoring Expenditures FY 2013-14

ATTACHMENT 1
Proposed Near Road Monitoring Expenditures FY 2013-14

Account Description	Account Number	Program Code	Estimated Expenditures
Services & Supplies Major Object:			
Professional and Specialized Services	67450	47469	$ 66,130
Communications	67900	47469	6,800
Small Tools	68300	47469	14,000
Utilities	67850	47469	18,000
Total Services & Supplies			**104,930**
Capital Outlay Major Object:			
NO2 Analyzer (Qty 2)	77000	47469	21,674
Meteorological Systems (Qty 2)	77000	47469	16,800
PM2.5 FRM Monitor (Qty 2)	77000	47469	40,000
PM2.5 Continuous FEM Monitor (Qty 2)	77000	47469	52,216
Site Node Logger (Qty 2)	77000	47469	16,400
Gas Dilution System (Qty 2)	77000	47469	23,000
Zero Air Generator (Qty 2)	77000	47469	13,400
Air Monitoring Platform (Qty 2)	77000	47469	44,000
CNG Vehicle (Qty 1)	77000	47469	40,000
Total Capital Outlay			**267,490**
FY 2013-14 Appropriations			**$ 372,420**
Salaries, Benefits and Indirect Costs	51000		$ 27,580 *
Total			**$ 400,000**

* Salaries and Benefits are already included in the adopted FY 2013-14 Budget

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 10

PROPOSAL: Transfer Funds and Amend/Execute Contracts with Outside Counsel

SYNOPSIS: Legal is currently being assisted in environmental lawsuits by outside law firms and in other matters requiring specialized legal counsel. This action is to transfer $250,000 from Salaries and Employee Benefits Major Object, Salaries account, to the FY 2013-14 Legal Budget and to amend or execute contracts to expend these funds with prequalified counsel approved by the Board as well as specialized legal counsel with monies to be appropriated as the need arises.

COMMITTEE: Administrative, February 14, 2014, Recommended for Approval

RECOMMENDED ACTIONS:

1. Transfer $250,000 from the FY 2013-14 District General Budget, Salaries and Employee Benefits Major Object, Salaries account, to the FY 2013-14 Legal Budget, Services and Supplies Major Object, Professional and Special Services account.

2. Authorize the Chairman or the Executive Officer, depending on whether the amount exceeds $75,000, to amend or execute contracts with prequalified counsel approved by the Board as well as specialized legal counsel in a total amount not to exceed $499,500 in FY 2013-14, as the need arises.

Barry R. Wallerstein, D.Env.
Executive Officer

KRW:vmr

Background

The FY 2013-14 Budget for Legal included $249,500 for litigation expenses in environmental law cases and specialized legal counsel. Several firms, principally Woodruff Spradlin & Smart, Shute Mihaly & Weinberger, and Perkins Coie have been assisting Legal with environmental litigation and special litigation matters. The monies for these matters have been and will be expended on lawsuits, including those involving

a challenge to permitting a power plant in Desert Hot Springs; Exide Technologies; the fire pit amendments to Rule 444; anticipated litigation on the arsenic amendments to Rule 1420.1; and a hearing before the Surface Transportation Board on approval of the Railroad Rules.

It is expected that expenses in these matters, and the other matters handled by specialized legal counsel, will require an additional amount up to $250,000. Accordingly, Legal is requesting the transfer of additional funds in the amount of $250,000, for a total expected expenditure of $499,500 this fiscal year.

Proposal
In order to defend on-going and threatened litigation, it is necessary to appropriate additional funds for expenditure by outside counsel. It is expected that on-going lawsuits, and new litigation that is possible, as well as matters requiring specialized legal counsel will require an additional $250,000 to be appropriated to prequalified counsel approved by the Board, as well as specialized legal counsel, as the need arises.

Resource Impacts
Sufficient funds will be available in Legal's FY 2013-14 Budget following the transfer of funds from the FY 2013-14 District General Budget, Salaries and Employee Benefits Major Object, Salaries account.

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 11

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 21, 2014, Recommended for Approval

RECOMMENDED ACTIONS:
1. Approve the attached Annual Investment Policy.
2. Approve the attached resolution to renew delegation of authority to the Los Angeles County Treasurer to invest and reinvest SCAQMD funds.

Barry R. Wallerstein, D.Env.
Executive Officer

MBO:lg

Background

Changes to the 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 (Gov't. 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 the SCAQMD. This change required the

development of an annual statement of investment policy specific for the SCAQMD. SCAQMD's investment consultant, working with staff of the SCAQMD 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 the 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.

The Investment Policy was substantially revised in 2013, including updating credit requirements, revising maturity limits, and clarifying diversification guidelines. There are no Investment Policy revisions required, or being recommended, for 2014.

The County of Los Angeles has provided 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 Los Angeles County.

Resource Impacts
Costs associated with SCAQMD treasury management operations are included in the FY 2013-14 Budget.

Attachments
1. SCAQMD Annual Investment Policy
2. Delegation of Authority Resolution

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 Financial Officer. The Chief Financial Officer, based on information provided by the Treasurer, shall submit a quarterly report to the Governing Board pursuant to Code Section 53646(g). The Chief Financial Officer is responsible for preparation of cash flow forecasts for SCAQMD funds as described below. The Chief

Financial 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 Financial Officer.

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 Chief Financial Officer as appropriate.

3. Provide comments to the SCAQMD Chief Financial 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 Chief Financial Officer determines that the cash flow forecast can be met, the Treasurer, at the request of the Chief Financial 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) <u>or</u> 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 at least A or its equivalent 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 "A" or higher, or the equivalent, 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 "A-1", or the equivalent, 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 better 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 “AA” or better rating 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 at least A 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.

	Instrument	*Maximum % of Portfolio*
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%

* See Section V(E)(12).

Issuer/Counterparty	*Maximum % of Portfolio*
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 "AA" or its equivalent or better 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 "A" or its equivalent or better 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 Chief Financial 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 Chief Financial 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 Chief Financial 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 7, 2014

RESOLUTION NO. 14-_____

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 District Board

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 12

PROPOSAL: Legislative and Public Affairs Report

SYNOPSIS: This report highlights the January 2014 outreach activities of Legislative and Public Affairs, which include: Environmental Justice Update, Community Events/Public Meetings, Business Assistance, and Outreach to Business and Federal, State, and Local Government.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file.

Barry R. Wallerstein, D.Env.
Executive Officer

LBS:DJA:MC:DM

BACKGROUND
This report summarizes the activities of Legislative and Public Affairs for January 2014. The report includes four major areas: Environmental Justice Update; Community Events/Public Meetings (including the Speakers Bureau/Visitor Services, Communications Center, and Public Information Center); Business Assistance; and Outreach to Business and Federal, State, and Local Governments.

ENVIRONMENTAL JUSTICE UPDATE
The following are key environmental justice-related activities in which staff participated during the month of January. These events involve communities that may suffer disproportionately from adverse air quality impacts.

January 8

- Staff participated in the Better Breathers Club meeting at Parkview Hospital in Riverside. Staff provided information on air quality and its health effects, while responding to questions.

January 22

- Staff represented SCAQMD at the Riverside County Health Coalition quarterly meeting in Moreno Valley. The purpose of the meeting was to discuss the adoption of the Healthy City Resolution in Riverside County.

January 23

- SCAQMD held a Town Hall meeting related to Carlton Forge Works at the Elks Lodge in Paramount. Staff presented information on air quality and monitoring in the community while responding to questions.

January 30

- Staff participated in a meeting at the Children's Hospital of Orange County to discuss the upcoming Air Power Games for children and families with asthma.

COMMUNITY EVENTS/PUBLIC MEETINGS

Each year, thousands of residents engage in valuable information exchanges through events and meetings that SCAQMD sponsors either alone 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.
- Ways to participate in SCAQMD's rule and policy development.
- Assistance in resolving air pollution-related problems.

The events that SCAQMD staff attended and/or provided information and updates include:

January 11

- Mayor's Race and Wellness Festival Event, Rudy Hardy Wellness Park, Palm Springs.

January 13-14

- Transportation Research Board 93rd Annual Meeting, Washington, D.C.

January 17

- City of Anaheim, 2014 State of the City luncheon event held at the City National Grove of Anaheim.

January 18

- SCAQMD-sponsored Martin Luther King, Jr., Day of Service Public Forum, Hawthorne Memorial Center.

January 29

- SCAQMD's Port Backstop Measure Working Group Meeting held in Banning's Landing Community Center, Wilmington.
- Pasadena's Forward Community Meeting, Pasadena

January 30

- San Bernardino Area Chamber of Commerce Officers Installation, San Bernardino.

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 9

- Staff presented an overview of SCAQMD, air quality, provided a tour of the agency's Diamond Bar headquarters, and displayed alternative fuel vehicles to 23 representatives from the Qinghai Provincial Government in China.

January 23

- Staff presented an overview of SCAQMD, air quality, provided a tour of the agency's Diamond Bar headquarters, and displayed alternative fuel vehicles to three representatives from the Japanese Business Delegation.

January 24

- Staff presented an overview of SCAQMD, air quality and provided a tour of the agency's Diamond Bar headquarters to three representatives from the Environmental Protection Agency in Beijing, China.

January 31

- Staff presented an overview of SCAQMD, air quality and provided a tour of the agency's Diamond Bar headquarters to three attendees participating in the SCAQMD's "Take a Tour Day" Program

COMMUNICATION CENTER STATISTICS
The Communication Center handles calls on the SCAQMD main line, 1-800-CUT-SMOG® line and Spanish line. Calls received in the month of December 2013 are summarized below:

Main Line Calls	2,613
1-800-CUT-SMOG® Line	1,766
After Hours Calls*	535
Spanish Line Calls	41
Total Calls	4,955

* Saturdays, Sundays, holidays, and after 7:00 p.m. Monday through Friday.

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 2014 is summarized below:

Calls Received by PIC Staff	35
Calls to Automated System	1,722
Total Calls	1,757
Visitor Transactions	286
E-Mail Advisories Sent	717,859

BUSINESS ASSISTANCE
SCAQMD notifies local businesses of proposed regulations so they can participate in the agency's rule development process. SCAQMD 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.

- Conducted three free on-site consultations
- Provided permit application assistance to 194 companies
- Issued 27 clearance letters
- Provided assistance in filing one request for a variance

Types of business assisted:

Restaurants	Coffee rosters	Plastic manufacture
Hotels	Dry Cleaners	Abrasive blasters
Cheese manufacturer	Gas Stations	Vitamin manufacturer
Dental products manufacturer	Auto body shops	Chrome plating

OUTREACH TO COMMUNITY GROUPS AND FEDERAL, STATE, AND LOCAL GOVERNMENTS

Field visits and communications were conducted with elected officials or staff from the following cities:

Alhambra
Agoura Hills
Aliso Viejo
Anaheim
Arcadia
Artesia
Avalon
Azusa
Baldwin Park
Banning
Beaumont
Bell
Bell Gardens
Bellflower
Beverly Hills
Big Bear Lake
Bradbury
Brea
Buena Park
Burbank
Calabasas
Calimesa
Canyon Lake
Carson
Cathedral City
Cerritos
Chino
Chino Hills
Claremont
Coachella
Colton
Commerce
Compton
Corona
Costa Mesa
Covina
Cudahy
Culver City
Cypress
Dana Point
Desert Hot Springs
Diamond Bar
Downey
Duarte
Eastvale
El Monte
El Segundo
Fontana
Fountain Valley
Fullerton
Garden Grove
Gardena
Glendale
Glendora
Grand Terrace
Hawaiian Gardens
Hawthorne
Hemet
Hermosa Beach
Hidden Hills
Highland
Huntington Beach
Huntington Park
Indian Wells
Indio
Industry
Inglewood
Irvine
Irwindale
Jurupa Valley
La Cañada Flintridge
La Habra
La Habra Heights
La Mirada
La Palma
La Puente
La Quinta
La Verne
Laguna Beach
Laguna Hills
Laguna Niguel
Laguna Woods
Lake Elsinore
Lake Forest
Lakewood
Lawndale
Loma Linda
Lomita
Long Beach
Los Alamitos
Los Angeles
Lynwood
Malibu
Manhattan Beach
Maywood
Menifee
Mission Viejo
Monrovia
Montclair
Montebello
Monterey Park
Moreno Valley
Murrieta
Newport Beach
Norco
Norwalk
Ontario
Orange
Palm Desert
Palm Springs
Palos Verdes Estates
Paramount
Pasadena
Perris
Pico Rivera
Placentia
Pomona
Rancho Cucamonga
Rancho Mirage
Rancho Palos Verdes
Rancho Santa Margarita
Redlands
Redondo Beach
Rialto
Riverside
Rolling Hills
Rolling Hills Estates
Rosemead
San Bernardino
San Clemente
San Dimas
San Fernando
San Gabriel
San Jacinto
San Juan Capistrano
San Marino
Santa Ana
Santa Clarita
Santa Fe Springs
Santa Monica
Seal Beach
Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Stanton
Temecula
Temple City

Torrance	Villa Park	Westlake Village	Yorba Linda
Tustin	Walnut	Westminster	Yucaipa
Upland	West Covina	Whittier	
Vernon	West Hollywood	Wildomar	

Visits and/or communications were conducted with elected officials or staff from the following state and federal offices:

- U.S. Senator Barbara Boxer
- U.S. Senator Tom Carper
- U.S. Congressman Ken Calvert
- U.S. Congresswoman Judy Chu
- U.S. Congresswoman Eddie Bernice Johnson
- U.S. Congressman Kevin McCarthy
- U.S. Congressman Jerrold Nadler
- U.S. Congresswoman Grace Napolitano
- U.S. Congressman Ed Royce
- U.S. Congressman Raul Ruiz
- State Senator Ed Hernandez
- State Senator Carol Liu
- State Senator Richard Roth
- State Senator Mimi Walters
- Assembly Member Ed Chau
- Assembly Member Chris Holden
- Assembly Member Brian Jones
- Assembly Member Eric Linder
- Assembly Member Jose Medina
- Assembly Member Melissa Melendez
- Assembly Member Brian Nestande
- Assembly Member Sharon Quirk-Silva
- Assembly Member Freddie Rodriguez
- Assembly Member Don Wagner

Staff represented SCAQMD and/or provided a presentation to the following groups:

American Cancer Society, Diamond Bar
American Cancer Society-Cancer Action Network, Washington, DC
American Heart Association, Riverside
American Lung Association, Inland Valley
Anaheim Chamber of Commerce
Association of California Cities, Orange County
Bike San Gabriel Valley's Health Community Task Force
Better Breathers Club, Parkview Hospital, Riverside
Carson Library
Carson Senior Center

Chino Valley Area Chamber of Commerce
Children's Hospital of Orange County, Orange
Coachella Valley Association of Governments
Culver City Senior Center
Dollarhide Neighborhood Center, Compton
Faithful Central Bible Church, Inglewood
Gardena Kiwanis Club
Gardena Library
Greater Riverside Chambers of Commerce
Hawthorne Historical Society
Hawthorne Public Library
Hawthorne Senior Center
Healthy African American Families, Los Angeles
Hemet/San Jacinto Chamber of Commerce
Inglewood Senior Center
Japanese Cultural Institute, Gardena
Lawndale Senior Center
League of California Cities, Orange County Division
League of California Cities, Riverside County Division
Moreno Valley Chamber of Commerce
Orange County City Managers Association
Orange County Council of Governments
Orange County Sanitation District
Orange County Transportation Authority
Orange County Transportation Corridor Agencies
Pasadena Chamber of Commerce
Peoples Coordinated Services, Los Angeles
Perris Valley Chamber of Commerce
Perris/Moreno Valley Transportation NOW
Riverside County Health Coalition
Riverside Transit Agency (RTA)
Riverside County Transportation Commission
San Bernardino Associated Governments
San Bernardino Chamber of Commerce
San Bernardino Valley College
San Gabriel Valley City Managers Association
San Gabriel Valley Conservation Corps
San Gabriel Valley Council of Governments
San Gabriel Valley Economic Partnership
Southern California Gas Company
South Pasadena Chamber of Commerce
South Orange County Economic Coalition
Southern California Association of Governments, Orange County

Southern California Association of Governments, Riverside County
Temecula Middle School
University of California, Irvine
Upland Chamber of Commerce
Westchester Senior Center
Western Riverside County Council of Governments
Western Riverside County Transportation NOW

- Greater Riverside Chapter, Riverside
- Hemet/San Jacinto Chapter, Hemet
- Northwest Chapter, Corona
- Moreno Valley/Perris Chapter, Moreno Valley
- Southwest Chapter, Murrietta

Yucaipa Chamber of Commerce
Yvonne Burke Senior Center, Inglewood

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 13

REPORT: Hearing Board Report

SYNOPSIS: This reports the actions taken by the Hearing Board during the period of January 1 through January 31, 2014.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file this report.

Edward Camarena
Chairman of Hearing Board

SM

Two summaries are attached: **Rules From Which Variances and Orders for Abatement Were Requested in 2014** and **January 2014 Hearing Board Cases**.

The total number of appeals filed during the period January 1 to January 31, 2014 is 2.

Rules from which Variances and Order for Abatements were Requested in 2014													
Rules from which Variances and Order for Abatements were Requested in 2013													
2014	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Total Actions***
# of HB Actions Involving Rules													
109													0
109(c)													0
109(c)(1)													0
201													0
201.1													0
202													0
202(a)													0
202(b)	1												1
202(c)													0
203													0
203(a)	1												1
203(b)	7												7
204													0
208													0
218													0
218.1													0
218.1(b)(4)(C)													0
218(b)(2)													0
218(c)(1)(A)													0
218(d)(1)(A)													0
218(d)(1)(B)													0
219													0
219(s)(2)	1												1
221(b)													0
221(c)													0
221(d)													0
222													0
222(d)(1)(C)													0
222(e)(1)													0
401													0
401(b)													0
401(b)(1)													0
401(b)(1)(A)													0
401(b)(1)(B)													0
402	1												1
403(d)(1)													0
403(d)(1)(A)													0
403(d)(2)													0
404													0
404(a)													0
405													0
405(a)													0
407													0
407(a)													0
407(a)													0
407(a)(1)													0

Rules from which Variances and Order for Abatements were Requested in 2014													
Rules from which Variances and Order for Abatements were Requested in 2013													
2014	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Total Actions***
407(a)(2)(A)													0
410(d)													0
430(b)(3)(A)(iv)													0
431.1													0
431.1													0
431.1(c)(1)													0
431.1(c)(2)													0
431.1(c)(3)(C)													0
431.1(d)(1)													0
431.1(d)(1), Att A(1)													0
442													0
444													0
444(a)													0
444(c)													0
444(d)													0
461													0
461(c)(1)													0
461(c)(1)(A)													0
461(c)(1)(B)													0
461(c)(1)(C)													0
461(c)(1)(E)													0
461(c)(1)(F)(i)													0
461(c)(1)(F)(iv)													0
461(c)(1)(F)(v)													0
461(c)(1)(H)													0
461(c)(2)													0
461(c)(2)(A)													0
461(c)(2)(B)													0
461(c)(2)(C)													0
461(c)(3)													0
461(c)(3)(A)													0
461(c)(3)(B)													0
461(c)(3)(C)													0
461(c)(3)(D)(ii)													0
461(c)(3)(E)													0
461(c)(3)(H)													0
461(c)(3)(M)													0
461(c)(4)(B)													0
461(c)(4)(B)(ii)													0
461(d)(5)(A)													0
461(e)(1)													0
461(e)(2)													0
461(e)(2)(A)													0
461(e)(2)(A)(i)													0
461(e)(2)(B)(i)													0
461(e)(2)(C)													0
461(e)(3)													0

Rules from which Variances and Order for Abatements were Requested in 2014													
Rules from which Variances and Order for Abatements were Requested in 2013													
2014	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Total Actions***
461(e)(3)(A)													0
461(e)(3)(C)(i)(I)													0
461(e)(3)(D)													0
461(e)(3)(E)													0
461(e)(5)													0
461(e)(7)													0
462	1												1
462(c)(4)(B)(i)													0
462(c)(7)(A)(ii)													0
462(d)													0
462(d)(1)													0
462(d)(1)(A)													0
462(d)(1)(A)(i)													0
462(d)(1)(B)	1												1
462(d)(1)(C)													0
462(d)(1)(E)(ii)													0
462(d)(1)(F)													0
462(d)(1)(G)													0
462(d)(2)(A)(i)													0
462(e)(1)													0
462(e)(1)(E)													0
462(e)(1)(E)(ii)													0
462(e)(1)(E)(i)(II)													0
462(e)(2)(A)(i)													0
462(e)(4)													0
462(h)(1)													0
463													0
463(c)													0
463(c)(1)													0
463(c)(1)(A)(I)-(iv)													0
463(c)(1)(B)													0
463(c)(1)(C)													0
463(c)(1)(D)													0
463(c)(1)(E)													0
463(c)(2)													0
463(c)(2)(B)													0
463(c)(2)(C)													0
463(c)(3)													0
463(c)(3)(A)													0
463(c)(3)(B)													0
463(c)(3)(C)													0
463(d)													0
463(d)(2)													0
463(e)(3)(C)													0
463(e)(4)													0
463(e)(5)(C)													0
464(b)(1)(A)													0

Rules from which Variances and Order for Abatements were Requested in 2014													
Rules from which Variances and Order for Abatements were Requested in 2013													
2014	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Total Actions***
464(b)(2)													0
468													0
468(a)													0
468(b)													0
1102													0
1102(c)(2)													0
1102(c)(5)													0
1105.1(d)(1)													0
1105.1(d)(1)(A)(i)													0
1105.1(d)(1)(A)(iii)													0
1106(c)(1)													0
1106.1(c)(1)													0
1106.1(c)(1)(A)													0
1107(c)(1)													0
1107(c)(2)													0
1107(c)(7)													0
1107													0
1110.1													0
1110.2													0
1110.2(c)(14)													0
1110.2(d)													0
1110.2(d)(1)(A)													0
1110.2(d)(1)(B)(ii)													0
1110.2(d)(1)(C)													0
1110.2(d)(1)(D)													0
1110.2(d)(1)(E)													0
1110.2(e)(1)(A)													0
1110.2(e)(1)(B)(i)(II)													0
1110.2(e)(1)(B)(i)(III)													0
1110.2(e)(4)(B)													0
1110.2(f)													0
1110.2(f)(1)(A)													0
1110.2(f)(1)(c)													0
1113(c)(2)													0
1113(d)(3)													0
1118(c)(4)													0
1118(c)(5)													0
1118(d)(1)(2)													0
1118(d)(1)(2)													0
1118(d)(2)													0
1118(d)(3)													0
1118(d)(4)(B)													0
1118(d)(5)(A)													0
1118(d)(5)(B)													0
1118(d)(10)													0
1118(d)(12)													0
1118(e)													0

Rules from which Variances and Order for Abatements were Requested in 2014													
Rules from which Variances and Order for Abatements were Requested in 2013													
2014	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Total Actions***
1118(g)(1)													0
1118(g)(3)													0
1118(g)(5)													0
1118(g)(5)(A)													0
1118(i)(5)(B)(i)													0
1118(i)(5)(B)(ii)													0
1118(j)(1)(A)(ii)													0
1118(j)(1)(B)(ii)													0
1118(j)(1)(C)													0
1121(c)(2)(C)													0
1121(c)(3)													0
1121(c)(6)													0
1121(c)(7)													0
1121(c)(8)													0
1121(e)(3)													0
1121(h)													0
1121(h)(1)													0
1121(h)(2)													0
1121(h)(3)													0
1122(c)(2)(A)													0
1122(c)(2)(E)													0
1122(d)(1)(A)													0
1122(d)(1)(B)													0
1122(d)(3)													0
1122(e)(2)(A)													0
1122(e)(2)(B)													0
1122(e)(2)(C)													0
1122(e)(2)(D)													0
1122(e)(3)													0
1122(e)(4)(A)													0
1122(e)(4)(B)													0
1122(g)(3)													0
1122(j)													0
1124													0
1124(c)(1)(A)													0
1124(c)(1)(E)													0
1124(c)(4)													0
1125(c)(1)													0
1125(c)(1)(C)													0
1125(d)(1)													0
1128(c)(1)													0
1128(c)(2)													0
1130													0
1130(c)(1)													0
1130(c)(4)													0
1131													0
1131(d)													0

Rules from which Variances and Order for Abatements were Requested in 2014													
Rules from which Variances and Order for Abatements were Requested in 2013													
2014	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Total Actions***
1132(d)(2)													0
1132(d)(3)													0
1133(d)(8)													0
1133.2(d)(8)													0
1134(c)													0
1134(c)(1)													0
1134(d)													0
1134(d)(1)													0
1134(d)(2)(B)(ii)													0
1134(f)													0
1134(g)(2)													0
1135(c)(3)													0
1135(c)(3)(B)													0
1135(c)(3)(C)													0
1135(c)(4)													0
1135(c)(4)(D)													0
1136													0
1136(c)(1)(A)(i)													0
1137(d)(2)													0
1145													0
1145(c)(1)													0
1145(c)(2)													0
1145(g)(2)													0
1145(h)(1)(E)													0
1146													0
1146(c)(2)	1												1
1146(c)(5)													0
1146(d)(8)	1												1
1146.1													0
1146.1(a)(2)													0
1146.1(a)(8)													0
1146.1(b)													0
1146.1(c)(1)													0
1146.1(c)(2)	1												1
1146.1(c)(3)													0
1146.1(e)(1)													0
1146.1(e)(1)(B)													0
1146.2													0
1146.2(c)(1)													0
1146.2(c)(2)(A)	1												1
1146.2(c)(5)													0
1146.2(e)													0
1147													0
1147(c)(1)													0
1147(c)(10)													0
1147(c)(14)(B)	1												1
1150.1(d)(1)(C)(i)													0

Rules from which Variances and Order for Abatements were Requested in 2014													
Rules from which Variances and Order for Abatements were Requested in 2013													
2014	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Total Actions***
1150.1(d)(4)													0
1150.1(d)(5)													0
													0
1150.1(d)(12)													0
1150.1(e)													0
1150.1(e)(1)													0
1150.1(e)(2)													0
1150.1(e)(3)													0
1150.1(e)(1)(B)(C)													0
1150.1(e)(1)(C)													0
1151.1(e)(2)(B)(C)													0
1150.1(e)(2)(C)													0
1150.1(e)(3)(B)													0
1150.1(e)(3)(B)(C)													0
1150.1(e)(3)(C)													0
1150.1(e)(4)													0
1150.1(e)(6)(A)(I)													0
1150.1(e)(6)(A)(ii)													0
1150.1(f)(1)(A)(iii)(I)													0
1150.1(f)(1)(H)(i)													0
1151													0
1151(c)(8)													0
1151(2)													0
1151(5)													0
1151(d)(1)													0
1151(e)(1)													0
1151(e)(2)													0
1151(f)(1)													0
1153(c)(1)													0
1153(c)(1)(B)													0
1156(d)(5)(C)(i)													0
1158													0
1158(d)(2)													0
1158(d)(5)													0
1158(d)(7)													0
1158(d)(7)(A)(ii)													0
1158(d)(10)													0
1164(c)(1)(B)													0
1164(c)(2)													0
1166(c)(2)													0
1166(c)(2)(F)													0
1168													0
1168(c)(1)													0
1169(c)(13)(ii)													0
1171													0
1171(c)													0
1171(c)(1)													0

Rules from which Variances and Order for Abatements were Requested in 2014													
Rules from which Variances and Order for Abatements were Requested in 2013													
2014	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Total Actions***
1171(c)(1)(A)(i)													0
1171(c)(1)(b)(i)													0
1171(c)(4)													0
1171(c)(5)													0
1171(c)(5)(A)(i)													0
1171(c)(6)													0
1173	1												1
1173(c)													0
1173(d)													0
1173(e)(1)													0
1173(f)(1)(B)													0
1173(g)													0
1175													0
1175(c)(2)													0
1175(c)(4)(B)													0
1175(c)(4)(B)(i)													0
1175(c)(4)(B)(ii)													0
1175(c)(4)(B)(ii)(I)													0
1175(b)(1) (C)													0
1175(d)(4)(ii)(II)													0
1176													0
1176(e)													0
1176(e)(1)													0
1176(e)(2)													0
1176(e)(2)(A)													0
1176(e)(2)(A)(ii)													0
1176(e)(2)(B)(v)													0
1176(f)(3)													0
1177(d)(2)(D)													0
1178(d)(1)(A)(xiii)													0
1178(d)(1)(A)(xiv)													0
1178(d)(1)(B)													0
1178(d)(1)(C)													0
1178(d)(3)(C)													0
1178(d)(3)(D)													0
1178(d)(3)(E)													0
1178(d)(4)(A)(i)													0
1178(g)													0
1186.1													0
1186.1													0
1189(c)(3)													0
1195													0
1195(d)(1)(D)													0
1303													0
1303(a)(1)													0
1303(a)(2)													0
1401													0

Rules from which Variances and Order for Abatements were Requested in 2014													
Rules from which Variances and Order for Abatements were Requested in 2013													
2014	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Total Actions***
1401(d)(1)													0
1401(d)(1)(A)													0
1401(d)(1)(B)													0
1405(d)(3)(C)													0
1407(d)													0
1407(d)(1)													0
1407(d)(2)													0
1407(d)(4)													0
1407(f)(1)													0
1415(d)(3)													0
1418(d)(2)(A)													0
1420													0
1420.1(g)(4)													0
1421(d)													0
1421(d)(1)(C)													0
1421(d)(1)(G)													0
1421(d)(3)(A)													0
1421(e)(2)(c)													0
1421(e)(1)(A)(vii)													0
1421(e)(3)(B)													0
1421(h)(1)(A)													0
1421(h)(1)(B)													0
1421(h)(1)(C)													0
1421(h)(1)(E)													0
1421(h)(3)													0
1421(i)(1)(C)													0
1425(d)(1)(A)													0
1469													0
1469(c)													0
1469(c)(8)													0
1469(c)(11)(A)													0
1469(c)(13)(ii)													0
1469(d)(5)													0
1469(e)(1)													0
1469(e)(2)													0
1469(g)(2)													0
1469(h)													0
1469(I)													0
1469(j)(4)(A)													0
1469(j)(4)(D)													0
1469(k)(3)(A)													0
1470													0
1470(c)(2)(C)(i)(I)													0
1470(c)(2)(C)(iv)													0
1470(c)(3)(B)													0
1470(c)(3)(C)(iii)		2											2
1470(c)(3)(C)(i)(I)													0

Rules from which Variances and Order for Abatements were Requested in 2014													
Rules from which Variances and Order for Abatements were Requested in 2013													
2014	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Total Actions***
2004													0
2004(b)(1)													0
2004(b)(4)													0
2004(c)(1)													0
2004(c)(1)(C)													0
2004(f)(1)	2												2
2004(f)(2)													0
2004(k)													0
2005													0
2009(b)(2)													0
2009(c)													0
2009(f)(1)													0
2009(f)(2)													0
2009.1													0
2009.1(c)													0
2009.1(f)(1)													0
2009.1(f)(2)													0
2009.1(f)(3)													0
2011													0
2011 Attachment C													0
2011(c)(2)													0
2011(c)(2)(A)													0
2011(c)(2)(B)													0
2011(c)(3)(A)													0
2011(e)(1)													0
2011(f)(3)													0
2011(g)													0
2011(g)(1)													0
2011(k)													0
2011(k) Appen. A, Chap. 2, except E & Attach C													0
2011(k) Appen. A, Chap. 2, Section A.3 a-c, A.5 and B. 1-4													0
and Appen. A, Chap. 2, Section C.2.a, c & d													0
2011(k) Appen. A, Chap. 2, Sections A.3.,a.-c.,e.g. and B.1.-4													0
2012													0
2012 Attach. C, B.2.a													0
2012 Appen. A, Attach. C, Section B.2.	1												1
2012 Appen. A, Attach. C, Section B.2.a. & b.													0
2012 Appen. A													0
2012 Appen. A, Chap. 2													0
2012 Appen A, Chap. 2, Sec. A													0
2012 Appen A. Chap. 2. Sec. A1(a)													0
2012 Appen A, Chap. 2, Sec. B													0
2012, Appen. A, Protocol 2012, Chap. 2, B.5.													0
2012, Appen A, Chap. 2, B.5.a													0
2012, Appen A, Chap. 2, B.10													0
2012, Appen A, Chap. 2, B.11													0
2012, Appen A, Chap. 2, B.12													0

Rules from which Variances and Order for Abatements were Requested in 2014													
Rules from which Variances and Order for Abatements were Requested in 2013													
2014	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Total Actions***
2012, Appen A, Chap. 2, B.17													0
2012, Appen A, Chap.2, B.18													0
2012, Appen A, Chap.2, B.20													0
2012, Chapter 2, E.2.b.i.													0
2012, Chapter 2, E.2.b.ii.													0
2012 Appen A, Chap. 4.A.4													0
2012(c)(2)													0
2012(c)(2)(A)													0
2012(c)(2)(B)													0
2012(c)(3)													0
2012(c)(3)(A)													0
2012(c)(3)(B)													0
2012(c)(10)													0
2012(d)(2)													0
2012(d)(2)(A)													0
2012(d)(2)(D)													0
2012(f)(2)(A)													0
2012(g)(1)													0
2012(g)(3)													0
2012(g)(7)													0
2012(h)(3)													0
2012(h)(4)													0
2012(h)(5)													0
2012(h)(6)													0
2012(i)													0
2012(j)(1)													0
2012(j)(2)													0
2012, Protocol (Appen. A) Chap. 2, Part A.1.a													0
2012, Protocol (Appen. A) Chap. 2, Part B.4													0
2012, Protocol, (Appen A) Chap. 2, Part B.5.e													0
2012 Chapter 2, B.5.f													0
2012(m)													0
2012(m) Table 2012-1, and Appen. A, Chp 2, & Attachment C													0
2012(m) Appen. A, Attach. C													0
2012(m) Appen. A, Chap. 2, Sections 2.A.1 a-c, e.g,													0
and B. 1-4 and Appendix A, Chapter 3, Section C.2 a, c & d													0
2012(m) Appen. A, Chap 3, Section (A)(6)													0
2012(m) Appen. A, Chap 5, Para G, Table 5B and Att. D													0
3002													0
3002(a)													0
3002(c)		1											1
3002(c)(1)		4											4
3002(c)(2)													0
Regulation II													0
Regulation IX													0
Regulation IX, 40 CFR Part 60, Subpart J													0
Regulation XI													0

Rules from which Variances and Order for Abatements were Requested in 2014													
Rules from which Variances and Order for Abatements were Requested in 2013													
2014	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Total Actions***
Regulation XIII													0
H&S 39152(b)													0
H&S 41510													0
H&S 41700	1												1
H&S 41701													0
H&S 93115.6(c)(2)(C)(1)													0
H&S 42303													0
Title 13 Code of Regulations §2452													0

Report of January 2014 Hearing Board Cases

Case Name and Case No.	Rules	Reason for Petition	District Position/ Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
1. 3M Company Case No. 5970-1 (L. Nevitt)	202(b) 203(b) 1147(c)(14)(B) 3002(c)(1)	Cannot meet emission limits because of problems with startup and with the new low-NO_X burners.	Not Opposed/Granted	SV granted commencing 1/8/14 and continuing through 3/1/14.	CO: 22.32 lbs/day NO_X: 1.2 lbs/day
2. 4929 Wilshire, LP Case No. 5973-1 (L. Nevitt)	1470(c)(3)(C)(iii)	Operating emergency diesel generator with PM in excess of Rule 1470.	Opposed/Dismissed	IV dismissed without prejudice.	N/A
3. Breitburn Operating, LP Case No. 4358-10 (N. Sanchez)	203(b) 462 1173	Petitioner cannot ship its produced oil by pipeline and must ship it by truck in excess of loading limit.	Opposed/Dismissed	IV dismissed without prejudice.	N/A
4. Chevron USA, Inc. Case No. 831-370 (L. Nevitt)	203(b) 462(d)(1)(B) 3002(c)(1)	CEMS serving VRS at fuel distributing terminal is erratic and must be sent out for repair.	Not Opposed/Granted	SV granted commencing 1/16/14 and continuing through 4/15/14.	None
5. Desert Regional Medical Center (Desert Hospital) Case No. 5966-1 (V. Tyagi)	203(b) 1146(c)(2) 1146(d)(8)	Operating two boilers with NO_X in excess of Rule 1146 limits.	Opposed/Denied	RV denied.	N/A
6. Los Angeles County Sheriff's Department Case No. 4270-4 (B. Gilchrist)	1146.2(c)(2)(A)	Operating three boilers with NO_X exceeding 5 ppm limit in Rule 1146.	Opposed/Granted	RV granted commencing 1/15/14 and continuing through 8/1/14, FCD.	NO_X: 32.3 lbs/day
7. Millercoors, LLC Case No. 4521-5 (V. Tyagi)	203(b) 2004(f)(1) 3002(c)(1)	Failed NH_3 source test.	Not Opposed/Granted	Ex Parte EV granted commencing 1/21/14 and continuing for 30 days or until the EV hearing currently scheduled for 2/4/14, whichever comes first.	NH_3: TBD by 2/5/14
8. Puretek Corporation Case No. 5971-1 (M. Lorenz)	1146.1(c)(2)	Operating boiler with NO_X exceeding 12 ppm limit in Rule 1146.1.	Opposed/Dismissed	IV dismissed without prejudice.	N/A
9. SCAQMD vs. Providence Holy Cross Medical Center Case No. 5701-3 (N. Sanchez)	1470(c)(3)(C)(iii)	Operating three emergency diesel ICEs with PM exceeding Rule 1470.	Stipulated/Issued	O/A issued commencing 1/8/14; the Hearing Board shall retain jurisdiction over this matter until 3/1/15.	N/A

Case Name and Case No.	Rules	Reason for Petition	District Position/ Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
10. SCAQMD vs. Ridgeline Energy Services (USA), Inc. Case No. 5954-1 (B. Baird)	203(a) 219(s)(2) 402 H&S Code §41700	Respondent is operating a wastewater treatment/disposal system without permits and is emitting high concentrations of H_2S into the community.	Not Stipulated/Issued	Mod. O/A issued commencing 1/9/14; the Hearing Board shall retain jurisdiction over this matter until 11/6/14.	N/A
11. Southern California Edison Case No. 1262-108 (L. Nevitt)	203(b) 2012, Appendix A, Attachment C, Section B.2 3002(c)	Malfunctions of steam turbine rendered it non-operational. Petitioner could not conduct RATA test by due date of 12/31/13.	Not Opposed/Granted	SV granted commencing 1/15/14 and continuing through 3/31/14.	None
12. Southern California Gas Company Case No. 137-71 (N. Sanchez)	203(b) 2004(f)(1) 3002(c)(1)	Due to unusual dry weather conditions, petitioner expects to operate emergency power ICEs beyond the annual 200-hour limit.	Not Opposed/Granted	IV granted commencing 1/29/14 and continuing for 90 days or until the RV hearing currently scheduled for 3/11/14, whichever comes first.	NO_X: 19 lbs/day VOC: 1 lb/day PM10: .32 lb/day CO: 5 lbs/day SO_X: .12 lb/day

Acronyms

AOC: Alternative Operating Conditions
BACT: Best Available Control Technology
CEMS: Continuous Emissions Monitoring System
CO: Carbon Monoxide
EV: Emergency Variance
FCD: Final Compliance Date
GDF: Gasoline Dispensing Facility
H2S: Hydrogen Sulfide
H&S: Health & Safety Code
ICE: Internal Combustion Engine
I/P: Increments of Progress
IV: Interim Variance
MFCD/EXT: Modification of a Final Compliance Date and Extension of a Variance
Mod. O/A: Modification of an Order for Abatement
NH3: Ammonia
NOV: Notice of Violation
NOx: Oxides of Nitrogen
N/A: Not Applicable
O/A: Order for Abatement
PM: Particulate Matter
PPM: Parts Per Million
RATA: Relative Accuracy Test Audit
ROG: Reactive Organic Gases
RTO: Regenerative Thermal Oxidizer
RV: Regular Variance
SCR: Selective Catalytic Reduction
SOx: Oxides of Sulfur
SV: Short Variance
TBD: To be determined
VOC: Volatile Organic Compound
VRS: Vapor Recovery System

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 14

REPORT: Civil Filings and Civil Penalties Report

SYNOPSIS: This reports the monthly penalties from January 1 through January 31, 2014, and legal actions filed by the General Counsel's Office during January 1 through January 31, 2014. An Index of District Rules is attached with the penalty report.

COMMITTEE: Stationary Source, February 21, 2014, Reviewed

RECOMMENDED ACTION:
Receive and file this report.

Kurt R. Wiese
General Counsel

KRW:lc
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Violations	Civil Actions Filed
6	EXIDE TECHNOLOGIES, INC. Los Angeles Superior Court Case No. BC533528; Filed: 1.16.14 (BTG) P49167, P49894, P49895, P49896, P49897, P49898, P49899, P51533, P62100, P62103 R. 203 – Permit to Operate R. 1407 - Control of Emissions of Arsenic, Cadmium, and Nickel from from Non-Ferrous Metal Melting Operations R. 1420.1 - Emissions Standards for Lead from Large Lead-Acid Battery Recycling Facilities R. 3002 - Requirements R. 3004 – Permit Types and Content
10 Violations	1 Case

Attachments
January 2014 Penalty Reports and Index of District Rules and Regulations

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
General Counsel's Office

January 2014 Settlement Penalty Report

Total Penalties

Civil Penalties:	**$81,000.00**
MSPAP Penalties:	**$39,650.00**
Hearing Board Penalties:	**$6,000.00**
Total Cash Penalties:	**$126,650.00**
Total SEP Value:	**$0.00**
Fiscal Year through January 2014 Cash Total:	**$2,329,448.00**
Fiscal Year through January 2014 SEP Value Only Total:	**$218,500.00**

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO	TOTAL SETTLEMENT
CIVIL PENALTIES:							
12362	ACCESS BUSINESS GROUP LLC, NUTRILITE	3002		1/14/2014	KCM	P59831	$1,000.00
131003	BP WEST COAST PROD.LLC BP CARSON REFINERY	1176	Y	1/2/2014	JMP	P57731	$2,000.00
94117	CHANNELL COMMERCIAL CORP.	203 (B)		1/14/2014	NSF	P61171	$2,500.00
800080	LUNDAYTHAGARD COMPANY	1173 2004	Y	1/28/2014	NSF	P34686 P34685	$6,000.00
132889	MONTEREY PARK AUTO BODY, INC Small Claims	109, 203 (A), 1151		1/30/2014	PH3	P56285	$1,500.00
40806	NEW BASIS	3002		1/22/2014	JMP	P60018	$1,000.00
138374	NUMBER ONE FUEL	461		1/8/2014	NAS	P59004	$500.00
59618	PACIFIC CONTINENTAL TEXTILES, INC.	2004	Y	1/14/2014	JMP	P55667	$2,500.00

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO	TOTAL SETTLEMENT
107818	PALM VALLEY COUNTRY CLUB, AMER. GOLF	203 (B)		1/8/2014	NAS	P61153	$4,000.00
		1146.2					
		1146.1					
		203 (B)				P58043	
		1146.2					
		1146.1					
133987	PLAINS EXPLORATION & PRODUCTION CO.	1166, 221(B)	Y	1/30/2014	JMP	P53987	$3,000.00
		1166				P56565	
166091	SEARS HOLDING CORPORATION	1113(C)(2)		1/29/2014	NAS	P55877	$50,000.00
140502	TEMECULA VALLEY UNIFIED SCHOOL DISTRICT	1470		1/14/2014	TRB	P61165	$7,000.00
		1470				P61166	
		1470				P61167	
		1470				P61168	
		1470				P61169	
		1470				P61170	

TOTAL CIVIL PENALTIES: $81,000.00

MSPAP SETTLEMENTS:

120076	ALISO VIEJO SHELL/VINTNERS DISTRIBUTO	461(C)(1)(A)		1/10/2014		P62405	$550.00
		41960.2					

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO	TOTAL SETTLEMENT
148146	ALL AMERICAN ASPHALT	1146.2		1/28/2014		P60042	$550.00
153009	ALLPRO COLLISION REPAIR	203		1/21/2014		P59507	$455.00
130975	ARCO FAC #05543, ORANGE TREE FRESH FRUIT	461, 41960.2		1/30/2014		P56842	$1,000.00
154619	BUDGET GRAPHIC SERV. & TRAILER	203 (A)		1/29/2014		P59509	$770.00
94193	CALIFORNIA BODY SHOP, ROSARIO FIGUEROA	109, 203(B)		1/17/2014		P48495	$715.00
147356	CHA HOLLYWOOD MED CTR LP	1146		1/7/2014		P58187	$2,970.00
172134	COMMONWEALTH AUDI VOLKSWAGON PREOWNE	203 (B)		1/15/2014		P55794	$2,885.00
165886	EL MONTE 76, CALIFORNIA PETROLEUM	203 (B)		1/17/2014		P59755	$3,200.00
134590	FLEISCHMANN'S VINEGAR CO, INC	3002(C)(1) 3003		1/28/2014		P59625	$350.00
82041	FOUNTAIN VALLEY CITY, FIRE STATION #1	1470		1/30/2014		P58891	$700.00
165690	GCGI PARTNERS INC.	461		1/7/2014		P60041	$500.00
111945	GOGLANIAN BAKERIES, INC.	222		1/30/2014		P58916	$200.00
141740	GORMAN UNION 76,SALPY SARAH TERLSIAN	461(E)(2)(C)		1/21/2014		P60220	$450.00

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO	TOTAL SETTLEMENT
133962	IMPERIAL CLEANERS, PAUL S PARK DBA	1421		1/30/2014		P52989	$400.00
68458	IRVINE OFFICE CO, TOWER 4	1146.1		1/17/2014		P58583	$1,150.00
138240	J P CLEANERS & LAUNDRY	203 (A)		1/30/2014		P55630	$100.00
138240	J P CLEANERS & LAUNDRY	203 (A)		1/30/2014		P55632	$100.00
148591	JEAN MARTIN COFFEE ROASTER	203 (A)		1/28/2014		P58259	$500.00
170925	KINARY, INC.	222		1/30/2014		P58828	$200.00
111289	KOOS MANUFACTURING INC	201		1/30/2014		P62356	$500.00
43441	LA CO., FIRE STA #30	461		1/2/2014		P52990	$1,000.00
154588	MANOR CARE HEALTH SERVICES PALM DESERT	203 (B)		1/17/2014		P59264	$500.00
167818	MISSION CARE CENTER, RIVERSIDE	203 (A)		1/10/2014		P57639	$500.00
109085	OR CO, SHERIFF DEPT, FAC OPERATIONS	203 (B)		1/2/2014		P55793	$450.00
175102	PACIFIC SHORES MASONRY, INC.	203(A)		1/7/2014		P59844	$550.00
175102	PACIFIC SHORES MASONRY, INC.	203(A)		1/7/2014		P59846	$1,000.00
120850	PRESTIGE CLEANERS	1102		1/21/2014		P57996	$650.00

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO	TOTAL SETTLEMENT
171205	ROSECRANS SHELL	41960.2 461(C)(2)(B)		1/29/2014		P62311	$1,100.00
133967	ROSS STORES, INC.	203		1/2/2014		P60037	$375.00
146025	SAM'S SHELL/SEVAN YAKINIAN	203 (B), 461		1/7/2014		P62401	$1,400.00
146025	SAM'S SHELL/SEVAN YAKINIAN	203 (B), 461		1/7/2014		P62402	$1,315.00
175180	SAN MARINO CHEVRON	203 (A), 461		1/28/2014		P60060	$715.00
123137	SELECTIVE CLEANERS, MAHER KHOURY, DBA	203 (B), 1421		1/21/2014		P60118	$500.00
100583	SOUTH LAKE AVENUE INVESTORS LLC	203 (A)		1/15/2014		P61600	$6,600.00
85964	SUNLAND MOBIL, MARK KELISHADI	203 (B), 461		1/30/2014		P60209	$400.00
171681	TESORO (USA) 63351	461, 41960.2		1/17/2014		P56847	$650.00
14665	THERMECH ENG CORP	203 (A)		1/2/2014		P58946	$1,500.00
123871	VERIZON WIRELESS/SIERRA PEAK #602	203 (B)		1/15/2014		P57636	$2,200.00

TOTAL MSPAP SETTLEMENT: $39,650.00

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO	TOTAL SETTLEMENT
HEARING BOARD SETTLEMENTS:							
103149	ASIA PLASTICS INC Hearing Board Case No. 5957-1 Facility agreed to $1,000 to resolve penalties for using more than 2 gallons VOC coating per day beginning in 1995 thru November 2013 and operating a flexographic printing press without a permit to operate from February 2013 thru November 2013.	203, 1130		1/14/2014	NAS	HRB2201	$1,000.00
120722	HEMET UNI SCHOOL DIST/HAMILTON SCHOOL Hearing Board Case No. 5956-1 Facility to pay $500/month until HUSD permanently ceases use of both ICEs located at Hamilton Elementary and High School grounds in compliance with Rule 1470.	1470		1/14/2014	NAS	HRB2202	$500.00
21728	PLACENTIA LINDA HOSPITAL Hearing Board Case No. 5953-1 Facility to pay penalty for operation of four boilers in non-compliance of District rules. Penalty is for the month of September 2013.	222, 1146		1/17/2014	TRB	HRB2204	$2,000.00
21728	PLACENTIA LINDA HOSPITAL Hearing Board Case No. 5953-1 Facility to pay penalty for operation of four boilers in non-compliance of District rules. Penalty is for the month of October 2013.	1146 222		1/17/2014	TRB	HRB2205	$2,000.00

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO	TOTAL SETTLEMENT
165209	WESTCOAST PLATING, INC.	1469		1/2/2014	JMP	HRB2200	$500.00
	Hearing Board Case No. 5840-1	203					
	Westcoast violated their Order for Abatement and will pay	201					
	$500/month beginning July 20, 2013.						

TOTAL HEARING BOARD SETTLEMENTS: $6,000.00

DISTRICT RULES AND REGULATIONS INDEX
FOR JANUARY 2014 PENALTY REPORTS

REGULATION I - GENERAL PROVISIONS

Rule 109 Recordkeeping for Volatile Organic Compound Emissions *(Amended 8/18/00)*

REGULATION II – PERMITS

List and Criteria Identifying Information Required of Applicants Seeking A Permit to Construct from the South Coast Air Quality Management - District *(Amended 4/10/98)*

Rule 201 Permit to Construct *(Amended 1/5/90)*
Rule 203 Permit to Operate *(Amended 12/3/04)*
Rule 221 Plans *(Adopted 1/4/85)*
Rule 222 Filing Requirements for Specific Emission Sources Not Requiring a Written permit Pursuant to Regulation II. *(Amended 5/19/00)*

REGULATION IV - PROHIBITIONS

Rule 461 Gasoline Transfer and Dispensing *(Amended 6/15/01)*

REGULATION XI - SOURCE SPECIFIC STANDARDS

Rule 1102 Petroleum Solvent Dry Cleaners *(Amended 11/17/00)*
Rule 1113 Architectural Coatings *(Amended 6/20/01)*
Rule 1146 Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters *(Amended 11/17/00)*
Rule 1146.1 Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters *(Amended 5/13/94)*
Rule 1146.2 Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers *(Adopted 1/9/98)*
Rule 1151 Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations *(Amended 12/11/98)*
Rule 1166 Volatile Organic Compound Emissions from Decontamination of Soil *(Amended 5/11/01)*
Rule 1173 Fugitive Emissions of Volatile Organic Compounds *(Amended 5/13/94)*
Rule 1176 Sumps and Wastewater Separators *(Amended 9/13/96)*

REGULATION XIV - TOXICS

Rule 1403	Asbestos Emissions from Demolition/Renovation Activities *(Amended 4/8/94)*
Rule 1415	Reduction of Refrigerant Emissions from Stationary Refrigeration and Air Conditioning Systems *(Amended 10/14/94)*
Rule 1421	Control of Perchloroethylene Emissions from Dry Cleaning Operations *(Amended 6/13/97)*
Rule 1469	Hexavalent Chromium Emissions From Chrome Plating and Chromic Acid Anodizing Operations *(Adopted 10/9/98)*
Rule 1470	Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines
Rule 1472	Requirements for Facilities with Multiple Stationary Emergency Standby Diesel Fueled Internal Combustion Engines
Rule 1421	Control of Perchloroethylene Emissions from Dry Cleaning Operations *(Amended 6/13/97)*
Rule 1469	Hexavalent Chromium Emissions From Chrome Plating and Chromic Acid Anodizing Operations *(Adopted 10/9/98)*
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)*

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

41960.2	Gasoline Vapor Recovery

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 15

REPORT: Lead Agency Projects and Environmental Documents Received by the SCAQMD

SYNOPSIS: This report provides, for the Board's consideration, a listing of CEQA documents received by the SCAQMD between January 1, 2014 and January 31, 2014, and those projects for which the SCAQMD is acting as lead agency pursuant to CEQA.

COMMITTEE: Mobile Source, February 21, 2014, Reviewed

RECOMMENDED ACTION:
Receive and file.

Barry R. Wallerstein, D.Env.
Executive Officer

EC:LT:SN:MK:IM:AK

Background

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 of January 1, 2014, through January 31, 2014 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 as Attachment B.

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 Governing Board's 1997 Environmental Justice Guiding Principles and Initiative #4. Consistent with the Environmental Justice Program Enhancements for FY 2002-03 approved by the Board in September 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 submitting newspaper articles. The attachments also identify for each project the dates of the public comment period and the public hearing date, 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; and 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. Staff will continue compiling tables of mitigation measures for other emission sources including airport ground support equipment, etc.

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 the SCAQMD 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 the SCAQMD staff testified at a hearing for the proposed project, a notation is provided under the "Comment Status." If there is no notation that the SCAQMD staff testified, then staff did not provide testimony at a hearing for the proposed project.

During the period January 1, 2014 through January 31, 2014, the SCAQMD received 113 CEQA documents. Of the total of 146 documents listed in Attachments A and B:

- 23 comment letters were sent;
- 20 documents were reviewed, but no comments were made;
- 46 documents are currently under review;
- 7 documents did not require comments (e.g., public notices, plot plans, Final Environmental Impact Reports);
- 0 documents were not reviewed; and
- 50 were screened without additional review.

Copies of all comment letters sent to lead agencies can be found on the SCAQMD's CEQA webpage at the following internet address: www.aqmd.gov/ceqa/letters.html.

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, 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. Through the end of January, the SCAQMD received no new requests to be the lead agency for stationary source permit application projects. As noted in Attachment C, through the end of January 2014, the SCAQMD continued working on the CEQA documents for nine active projects.

Through the end of January 2014, SCAQMD staff has been responsible for preparing or having prepared CEQA documents for ten permit application projects, all continuing from 2013.

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 1, 2014 TO JANUARY 31, 2014

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Warehouse & Distribution Centers **LAC140102-02** Conditional Use Permit (CUP 13-003) and Street Vacation (MISC 10-036)	The proposed project consists of the development of a 276,000 square foot warehouse/distribution building on an approximately 18.5 acre site in the M-1 (Light Industrial) zone and the vacation of a portion of Mount Vernon Avenue between Humane Way and the Chino Valley Freeway (SR-71). Comment Period: 12/23/2013 - 1/13/2014 Public Hearing: 1/29/2014	Draft Mitigated Negative Declaration	City of Pomona, Community Development Department, Planning Division	Document reviewed - No comments sent
Warehouse & Distribution Centers **LAC140124-08** Pacific Pointe East Development Project	The proposed project consists of the construction of three industrial buildings totaling 494,00 square feet on a site currently improved as a paved surface parking lot. These buildings would have an open floor plan and are intended for light industrial, light manufacturing, warehouse, office, and/or research and development land uses. The project is located at the southeast corner of Lakewood Boulevard and Conant Street near the Long Beach Airport. The three buildings would total a floor area of 494,000. Comment Period: 1/22/2014 - 2/20/2014 Public Hearing: N/A	Notice of Preparation	City of Long Beach	Document under review as of 1/31/14
Warehouse & Distribution Centers **RVC140107-03** I-10 Gateway Center Project	The proposed project consists of two industrial buildings that will have sizes of approximately 960,000 square feet and 1,600,000 square feet for a total of approximately 2,560,000 square feet of floor area. Comment Period: 1/7/2014 - 2/6/2014 Public Hearing: N/A	Notice of Preparation	County of Riverside	Document under review as of 1/31/14
Warehouse & Distribution Centers **SBC140115-08** Redlands Logistics Center - CUP No. 1008	The proposed project consists of developing a 1,013,460 square-foot warehouse distribution center on approximately 50.54 acres located on the north side of Lugonia Avenue, and the south side of Almond Avenue, and the east side of Research Drive in Concept Plan No. 1 of the East Valley Corridor Specific Plan. Comment Period: N/A Public Hearing: N/A	Response to Comments	City of Redlands	Document reviewed - No comments sent
Airports **ALL140123-17** Southern California Optimization of Airspace and Procedures in the Metroplex Early Notification Letter	The proposed project consists of SoCal OAPM Metroplex, which involves flight procedure optimization at airports located within the Southern California Metroplex area. The purpose of the proposed SoCal OAPM is to improve the efficiency of the airspace using more current navigation technology called Area Navigation (RNAV). Comment Period: 1/23/2014 - 2/22/2014 Public Hearing: N/A	Notice of Availability of a Draft Environmental Assessment	U.S. Department of Transportation - Federal Aviation Administration	Document under review as of 1/31/14
Airports **LAC140121-08** Bob Hope Airport Replacement Terminal and Opportunity Site Development Projects	The proposed project consists of The Burbank-Glendale-Pasadena Airport Authority filing applications with the City of Burbank to permit the development of a new 14-gate replacement passenger terminal building and related improvements at Bob Hope Airport and a mix of commercial and industrial uses adjacent to the new terminal. Comment Period: 1/21/2014 - 2/18/2014 Public Hearing: 2/13/2014	Notice of Preparation	City of Burbank	Document under review as of 1/31/14

**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.

Comment letters can be accessed at: www.aqmd.gov/ceqa/letters.html

ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
JANUARY 1, 2014 TO JANUARY 31, 2014

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Airports **LAC140121-09** LAX Master Plan Mitigation Monitoring and Reporting Program (MMRP) 2012 Annual Progress Report	This document consists of Los Angeles World Airports' eighth annual progress report (2012). The progress report provides the status of applicable mitigation measures currently being implemented on the approved LAX Master Plan. Comment Period: N/A Public Hearing: N/A	Other	Los Angeles World Airports	Document under review as of 1/31/14
Industrial and Commercial **LAC140102-03** Conditional Use Permit (CUP 13-020) and Tentative Parcel Map (TPM 13-003)	The proposed project consists of the development of an industrial park consisting of four industrial buildings totaling 492,000 square feet and to subdivide two lots into four lots on a 23.4 acre site in the M-1 Light Industrial Zone Comment Period: 12/23/2013 - 1/13/2014 Public Hearing: 1/29/2014	Draft Mitigated Negative Declaration	City of Pomona, Community Development Department, Planning Division	Document reviewed - No comments sent
Industrial and Commercial **LAC140109-03** 1402 Santa Monica Boulevard Auto Dealership	The proposed project consists of development a new two-story, 33,750 square-foot automobile dealership. Comment Period: 1/10/2014 - 2/10/2014 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	City of Santa Monica	Document reviewed - No comments sent
Industrial and Commercial **LAC140123-01** OXY USA Inc. Dominguez Oil Field Development Project	This document consists of OXY USA, Inc. proposing the construction and operation of a new oil and gas production facility to develop a portion of the Dominguez Oil Field that has been out of production for many years. The proposed Project will be designed and constructed to incorporate an existing oil and gas test well. Comment Period: 1/23/2014 - 3/10/2014 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	City of Carson	Document under review as of 1/31/14
Industrial and Commercial **SBC140102-11** P201300553	The proposed documents consists of a Planning Project Notice. The proposed project consists of a Minor Use Permit for a proposed truck terminal to provide for the parking and storing of trucks and trailers. The truck terminal storage yard will operate within three contiguous parcels located at 18133, 18144 and 18151 Valley Boulevard in Bloomington. Comment Period: 1/2/2014 - 1/14/2014 Public Hearing: N/A	Other	San Bernardino County	Document does not require comments
Industrial and Commercial **SBC140114-01** P201300505/MUP	The proposed project consists of establishing a contractor's storage facility consisting of roll-off bin storage and a 1,120 square-foot office on a 0.81 acre site. Comment Period: 1/14/2014 - 1/23/2014 Public Hearing: N/A	Initial Project Consultation	County of San Bernardino	Document does not require comments

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ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
JANUARY 1, 2014 TO JANUARY 31, 2014

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Waste and Water-related **LAC140103-01** Orange County Distribution System Infrastructure Protection Program	The proposed project consists of a comprehensive program to design and construct projects addressing surface infrastructure repair and protection needs, while simultaneously implementing a plan for conducting routine O&M activities in the Orange County Operating Region in order to ensure continued water supply reliability. Comment Period: 12/19/2013 - 1/24/2014 Public Hearing: N/A	Notice of Preparation	The Metropolitan Water District of Southern California	Document under review as of 1/31/14
Waste and Water-related **LAC140124-06** Local Coastal Program Amendment No. 13-002, Zoning Text Amendment No. 13-008 and Zoning Map Amendment No. 13-003	The proposed project consists of an amendment to establish a Civic Center Wastewater Treatment Facility Institutional Overlay District at 24000 Civic Center Way. Comment Period: 1/23/2014 - 2/18/2014 Public Hearing: 2/18/2014	Notice of a Public Hearing	City of Malibu	Document reviewed - No comments sent
Waste and Water-related **LAC140124-07** Claremont Water System Acquisition Project	The proposed Project area includes approximately 9.5 square miles currently served by the Claremont System. The City of Claremont has decided to explore potential acquisition of the Claremont Water System from Golden State Water Company, including the facilities, infrastructure and real property of the system. The City proposes to acquire Golden State Water Company rights to water supply for the Claremont System. Comment Period: 1/24/2014 - 3/10/2014 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	City of Claremont	Document under review as of 1/31/14
Waste and Water-related **RVC140129-06** Well No. 102 - Wellhead Treatment Facilities [Project No. D1723]	The proposed project consists of the construction of a new wellhead treatment facility at the District's existing Well No. 102 site. Well No. 102 is an existing municipal production well that currently supplies water, as needed, to the District's non-potable distribution system. Well No. 102 is situated in the northwest corner of a five-acre parcel owned by RCWD at 28061 Diaz Road in Temecula. Comment Period: 1/27/2014 - 2/26/2014 Public Hearing: 3/13/2014	Draft Mitigated Negative Declaration	Rancho California Water District	Document under review as of 1/31/14
Waste and Water-related **RVC140129-08** Lakeland Village Master Drainage Plan	The proposed project consists of the administration, construction, and the implementation of the Lakeland Village Master Drainage Plan (MDP). The MDP will aid local jurisdictions in planning for new development and infrastructure. Comment Period: 1/28/2014 - 3/14/2014 Public Hearing: N/A	Notice of Availability of a Draft Program Environmental Impact Report	Riverside County Flood Control and Water Conservation District	Document under review as of 1/31/14

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ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
JANUARY 1, 2014 TO JANUARY 31, 2014

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Waste and Water-related **SBC140122-04** Statement of Basis for Termination of Corrective Action for Former Broco Transfer, Storage & Disposal Facility, Rialto	The project consists of a proposed plan to terminate corrective action at the former Broco Transfer, Storage and Disposal facility (Broco), located at 2610 Alder Avenue in Rialto, as all clean up goals have been met. Comment Period: 1/23/2014 - 3/10/2014 Public Hearing: N/A	Community Notice	Department of Toxic Substances Control	Document does not require comments
Waste and Water-related **SBC140129-07** Lake Gregory Sediment Management & Bioretention Program	The proposed project consists of initial sediment removal, establishment of bioretention stormwater basins and an ongoing maintenance program. Comment Period: 1/27/2014 - 2/28/2014 Public Hearing: N/A	Notice of Availability of a Draft Mitigated Negative Declaration	County of San Bernardino Regional Parks Department	Document under review as of 1/31/14
Utilities **LAC140107-06** Silverado Power West	The proposed project consists of six proposed solar generating facilities in an area of the western Antelope Valley. The project proposes to increase electricity generated from renewable technology by generating 172 Megawatts of electrical energy from the sun. Comment Period: 1/6/2014 - 2/19/2014 Public Hearing: N/A	Draft Environmental Impact Report	County of Los Angeles	Document does not require comments
Utilities **LAC140115-04** ENV-2013-3582/ 1955 W. Florence Ave.: South Los Angeles	The proposed project consists of a permit for installation, use and maintenance of a new wireless telecommunication facility consisting of 16-panel antennas, eight remote radio units, eight tower-mounted amplifiers, one 24-inch diameter microwave dish antenna, and associated cables and equipment, on the 34-foot bell tower of an existing 29-foot seven inch church building. Comment Period: 1/15/2014 - 2/5/2014 Public Hearing: N/A	Notice of Availability of a Draft Mitigated Negative Declaration	City of Los Angeles	Document under review as of 1/31/14
Utilities **LAC140121-04** Extension of the Demonstration Period For The Terminal Island Renewable Energy Project	The proposed project consists of an Extension of the Demonstration Period For The Terminal Island Renewable Energy Project. The project will install a second biosolid injection well. Injected biosolids are subject to high temperature and pressure at depths of 5500 feet and create methane gas that is recovered and used as fuel. This activity had previously been analyzed in a 2011 MND. Comment Period: 1/21/2014 - 2/5/2014 Public Hearing: 2/6/2014	Notice of a Public Hearing	Port of Los Angeles	Document does not require comments

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ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
JANUARY 1, 2014 TO JANUARY 31, 2014

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Utilities **LAC140123-02** Reconsideration of ENV 2013-239. 610 W. Channel St., San Pedro	The proposed project consists of a Coastal Development Permit to allow the modification of an existing wireless installation. Comment Period: 1/23/2014 - 2/24/2014 Public Hearing: N/A	Draft Mitigated Negative Declaration	City of San Pedro	Document under review as of 1/31/14
Transportation **ORC140114-06** Appeal of Planning Commission's Denial of Certification of Environmental Impact Report No. 13-001 (Brookhurst and Adams Intersection Improvements Project)	The proposed project consists of analyzing the potential environmental impacts associated with widening the Brookhurst Street/Adams Avenue intersection in all directions. The proposed project would add travel lanes on both roadways. Comment Period: N/A Public Hearing: 1/21/2014	Notice of a Public Hearing	City of Huntington Beach	Document reviewed - No comments sent
Transportation **RVC140103-03** Wildomar Off-Highway Vehicle Management Plan	The proposed project consists of the Wildomar Off-Highway Vehicle Management Plan. The plan would cover a popular and unique recreation resource serving Riverside and Orange Counties. Comment Period: N/A Public Hearing: N/A	Notice of Availability of a Draft Environmental Assessment	United States Department of Agriculture	Document under review as of 1/31/14
Transportation **RVC140131-01** Mid County Parkway Project	The proposed project consists of a project to improve west-east transportation in western Riverside County between Interstate 215 in the west and State Route 79 in the east. The project is a proposed 16-mile transportation corridor designed to relieve local and regional traffic congestion between the City of Perris and San Jacinto and surrounding Riverside County communities. Comment Period: 1/31/2014 - 3/17/2014 Public Hearing: N/A	Recirculated Draft Environmental Impact Report	Riverside County Transportation Commission	Document under review as of 1/31/14
Institutional (schools, government, etc.) **LAC140115-05** ENV-2009-836. Reconsideration. 15800 W. Mulholland Dr.; Encino-Tarzana	The proposed project consists of the continued operation and maintenance of an existing private school with 63,970 square feet of floor area, including a 4,500 square-foot renovation/expansion of the Ahmanson Building currently in progress and the proposed demolition of approximately 20,670 square feet of building and construction of approximately 82,400 square feet of new facilities. Seven new buildings and additions will result in a net increase of 62,270 square feet and total project build out of 130,240 square feet. Comment Period: 1/16/2014 - 2/18/2014 Public Hearing: N/A	Notice of Availability of a Draft Mitigated Negative Declaration	City of Los Angeles	Document under review as of 1/31/14

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ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
JANUARY 1, 2014 TO JANUARY 31, 2014

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Institutional (schools, government, etc.) **LAC140123-04** ENV-2013-3211. 4654 W. Los Feliz Blvd., Hollywood	The proposed project consists of a new Conditional Use Permit to permit construction of a two-story, 512 student public charter school. Comment Period: 1/23/2014 - 2/12/2014 Public Hearing: N/A	Draft Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
Institutional (schools, government, etc.) **LAC140123-14** ENV-2013-3075. 9034, 9048, 6054, 9058 North Burnet Avenue, 15136 and 15150 West Norhoff Street, Mission Ills-Panorma City-North Hills	The proposed project consists of a Conditional Use Permit to construct a two-story 512 student public charter school. Comment Period: 1/23/2014 - 2/12/2014 Public Hearing: N/A	Draft Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
Institutional (schools, government, etc.) **LAC140129-02** 2013 Firestone Education Center Master Plan	The proposed project consists of the construction and operation of a new Los Angeles Community College District satellite campus that would replace the existing South Gate Education Center. The project would be located northwest corner of the Firestone Blvd./Santa Fe Avenue intersection in South Gate. Comment Period: 1/17/2014 - 3/3/2014 Public Hearing: 2/5/2014	Subsequent Environmental Impact Report	Los Angeles Community College District	Document under review as of 1/31/14
Institutional (schools, government, etc.) **ORC140109-04** Vision 2020 Facilities Master Plan PEIR, Golden West College	The proposed project consists of the Golden West College (GWC) Plan which consists of renovating most of its facilities, as many of the buildings currently in use have exceeded their life span, with some buildings dating back to the 1960s. Campus entrances would also be made to look more accessible to the public through visual enhancement of entryways. By improving campus accessibility, GWC will be more inviting to the surrounding community. Comment Period: 1/9/2014 - 1/23/2014 Public Hearing: N/A	Notice of Preparation	Coast Colleges	Document under review as of 1/31/14
Institutional (schools, government, etc.) **RVC140121-05** Solar Array at Two Bunch Palms Elementary School (Palm Springs Unified School District)	The proposed project consists of building and operating a one-acre array of ground-mounted photovoltaic panels in approximately the northwest quarter of the 4.7 acre parcel. The solar array would generate about 228 kilowatts alternating current electricity to power Two Bunch Palms Elementary School. Comment Period: 1/21/2014 - 2/21/2014 Public Hearing: N/A	Draft Mitigated Negative Declaration	Palm Springs Unified School District	Document reviewed - No comments sent
Institutional (schools, government, etc.) **RVC140121-06** District Community Education Support Complex	The proposed project consists of the purchase of APN 757-061-010 and the construction and operation of the District Community Education Support Complex on the project site. The intent of the proposed project is to consolidate all District administrative operations at one location. Comment Period: 1/21/2014 - 3/6/2014 Public Hearing: N/A	Draft Environmental Impact Report	Coachella Valley Unified School District	Document under review as of 1/31/14

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ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
JANUARY 1, 2014 TO JANUARY 31, 2014

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Medical Facility **LAC140123-03** Republication of ENV-2013-2232 7200 N. Medical Center Dr.; Canoga Park-Winnetka-Woodland Hills-West Hills	The proposed project consists of a Conditional Use Permit and Zone Variance to establish a roof-top emergency medical heliport on top of the approximately 2-story lower building of the emergency department/intensive care unit of the West Hills Hospital Medical Facility. Comment Period: 1/23/2014 - 2/24/2014 Public Hearing: N/A	Draft Mitigated Negative Declaration	City of Los Angeles	Document under review as of 1/31/14
Medical Facility **SBC140107-02** Loma Linda University Health Master Plan Project	The proposed project consists of the Loma Linda University Health Master Plan. The Project consists of a multi-phased development to construct new facilities and improvements to the existing campus in order to accommodate existing demand for the services provided and to meet regulatory requirements. Comment Period: N/A Public Hearing: N/A	Final Environmental Impact Report	City of Loma Linda	Document under review as of 1/31/14
Retail **LAC140108-06** California State University Long Beach (CSULB) Foundation Retail Project	The proposed project consists of demolishing the existing buildings and airports on the site and construction of a new single-story building for retail use that would be up to 122,500 square feet in size with 490 on-site parking spaces. Comment Period: 1/8/2014 - 2/21/2014 Public Hearing: N/A	Draft Environmental Impact Report	City of Long Beach	Document under review as of 1/31/14
Retail **LAC140114-04** Extension of Time Application(EXT-13-002) for CUP-08-012	The proposed project consists of a request for a three year extension of time for the construction and operation of a three phased project which includes the demolition and reconstruction of a service station and convenient store, conversion of an existing apartment complex into a 36-room motel and construction of a new three-story expansion of the motel to accommodate 36 additional rooms, for a total of 72 rooms. Comment Period: N/A Public Hearing: 1/21/2014	Notice of a Public Hearing	City of Highland	Document reviewed - No comments sent
Retail **RVC140109-01** Wildomar Walmart	The proposed project consists of constructing a new 200,000 square-foot Walmart on a 2.54-acre site on the east side of Interstate 15, south of Bundy Canyon Road and west of Monte Vista Drive. Comment Period: 1/9/2014 - 2/10/2014 Public Hearing: 1/27/2014	Notice of Preparation	City of Wildomar	Document under review as of 1/31/14
Retail **SBC140107-01** Mountain View Marketplace Project	The proposed project consists of a new convenience store, gas station, car wash, and separate commercial building pad on a 1.07 acre site. Comment Period: 1/7/2014 - 2/4/2014 Public Hearing: N/A	Draft Mitigated Negative Declaration	City of Loma Linda	Document reviewed - No comments sent

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ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
JANUARY 1, 2014 TO JANUARY 31, 2014

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
General Land Use (residential, etc.) **LAC140102-01** Conditional Use Permit (CUP 13-008); Change of Zone (CZ 13001); General Plan Amendment (GPA 13-002); Variance (VAR 13-001); Tentative Parcel Map (TPM 13-001); Certificate of Appropriateness (COA 13-010)	The proposed project consists of the development of a 62-unit residential development that will include affordable and supportive housing. Comment Period: N/A Public Hearing: 1/29/2014	Draft Mitigated Negative Declaration	City of Pomona, Community Development Department, Planning Division	Document reviewed - No comments sent
General Land Use (residential, etc.) **LAC140103-02** Olson Project - Temple City	The proposed project consists of a 74 unit single-family attached and detached residential project with associated on-site recreational amenities at 9250 Lower Azusa Road. Comment Period: N/A Public Hearing: N/A	Response to Comments	City of Temple City	Document reviewed - No comments sent
General Land Use (residential, etc.) **LAC140108-02** ENV-2013-1640/ 1217-1233 S. Westgate Ave.; West Los Angeles	The proposed project consists of demolishing four multiple family buildings containing a total of 35 dwelling units and the construction of a new 57-unit multiple family building over a subterranean garage with 114 parking spaces. Comment Period: 1/8/2014 - 1/29/2014 Public Hearing: N/A	Notice of Availability of a Draft Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
General Land Use (residential, etc.) **LAC140114-05** TTM 71977 - 1021 Meadow Pass Road	The proposed project consists of subdividing six existing lots into 13-single-family residential lots. Comment Period: 1/14/2014 - 2/1/2014 Public Hearing: 3/5/2014	Notice of Availability of a Draft Mitigated Negative Declaration	City of Walnut	Document reviewed - No comments sent
General Land Use (residential, etc.) **LAC140121-07** Baldwin Park Transit Center Apartments Project	The proposed project consists of the construction of 72 residential units and associated amenities, as well as 5,920 square feet of retail space, on 0.96 acres. The project site is located approximately 190 feet northwest of the Baldwin Park Metrolink station, which provides rail access to downtown Baldwin Park via the San Bernardino Line. Comment Period: N/A Public Hearing: N/A	Final Negative Declaration	City of Baldwin Park	Document reviewed - No comments sent

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ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
JANUARY 1, 2014 TO JANUARY 31, 2014

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
General Land Use (residential, etc.) **LAC140124-03** 2015 Potrero Grande Residential Case No. GPA-13-02; ZC-13-01	The proposed project consists of a General Plan Amendment, Specific Plan, and Mitigated Negative Declaration to allow the construction of a new 80-unit residential development at 2015 Potrero Grande Drive. Comment Period: 1/8/2014 - 1/28/2014 Public Hearing: 2/5/2014	Notice of Availability of a Draft Mitigated Negative Declaration	City of Monterey Park	Document reviewed - No comments sent
General Land Use (residential, etc.) **LAC140124-05** Green Hotel Apartments Project	The proposed project consists of construction and operation of a six-story mixed-use building with 64 residential units and 5,000 square feet of commercial space on an existing surface parking lot currently occupied by a billboard, 60 parking spaces and landscaping at 86 South Fair Oaks Avenue in Pasadena. The project site is adjacent to the existing Green Hotel Apartments building and the Castle Green. Comment Period: 1/24/2014 - 3/11/2014 Public Hearing: 3/11/2014	Notice of Availability of a Draft Environmental Impact Report	City of Pasadena Planning Department	Document under review as of 1/31/14
General Land Use (residential, etc.) **LAC140130-01** Construction of a New Mixed-Use Development at 808 West Garvey Avenue	The proposed project consists of a Notice of Public Hearing and a Precise Plan and Conditional Use Permit for the development of a mixed-use development located at the southwest corner of Garvey Avenue and Atlantic Boulevard. Comment Period: 1/23/2014 - 2/11/2014 Public Hearing: 2/11/2014	Notice of Availability of a Draft Mitigated Negative Declaration	City of Monterey Park	Document under review as of 1/31/14
General Land Use (residential, etc.) **LAC140130-02** ENV-2013-3165. 17774-17800 Tramonto Dr., 17761 Revello Dr. and 17801 Castellammare Dr., Brentwood-Pacific Palisades	The proposed project consists of the construction of two new retaining walls for slope stabilization. Comment Period: 1/30/2014 - 3/3/2014 Public Hearing: N/A	Draft Mitigated Negative Declaration	City of Los Angeles	Document under review as of 1/31/14
General Land Use (residential, etc.) **LAC140130-04** ENV-2013-3642. 1900 South Sawtelle Boulevard,11274 West Missouri Avenue, West Los Angeles	The proposed project consists of a new approximately 14,247 square-foot lot, and the construction, use and maintenance of a six-story, 43,187 square-foot mixed use project to include 52 apartments and 3,284 square feet of ground level commercial space, with 83 on-site parking spaces, including 67 residential spaces and 16 commercial parking spaces. Comment Period: 1/30/2014 - 3/3/2014 Public Hearing: N/A	Draft Mitigated Negative Declaration	City of Los Angeles	Document under review as of 1/31/14

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ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
JANUARY 1, 2014 TO JANUARY 31, 2014

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
General Land Use (residential, etc.) **ORC140116-03** Mixed-Use Project at 34202 Del Obispo Street	The proposed project consists of the construction of a residential/mixed-use community comprising 169 condominium units and approximately 2,500 square feet of commercial space. Comment Period: 1/16/2014 - 2/13/2014 Public Hearing: 1/29/2014	Notice of Preparation	City of Dana Point	Document under review as of 1/31/14
General Land Use (residential, etc.) **RVC140102-07** Specific Plan No. 285 Screencheck No. 1, General Plan Amendment No. 1125, Change of Zone No. 7814, Tentative Tract Map No. 36590	The proposed document consists of an Initial Case Transmittal. The proposed project consists of a Specific Plan which proposed a 80.9 acre residential community of up to 230 homes in varying densities from one to five dwelling units per acre with an overall density of 2.8 per acre. The proposal also includes 18.2 acres of parks and retention areas, and 2.8 acres of rural markets and equestrian way station. Comment Period: N/A Public Hearing: 1/9/2014	Initial Project Consultation	County of Riverside	Document under review as of 1/31/14
General Land Use (residential, etc.) **RVC140102-10** Cimarron Ridge Specific Plan	The proposed project consists of a Specific Plan for a project with 782 single-family residential dwelling units on 226.3 acres, an active park area on 10.9 acres within three parks, and 3.1 acres of conserved open space. The site is located southerly of McLaughlin Road, westerly of Byers Road, northerly of Chambers Avenue. Comment Period: N/A Public Hearing: N/A	Other	City of Menifee	Document under review as of 1/31/14
General Land Use (residential, etc.) **RVC140116-04** Section 24 Specific Plan, Riverside County	The proposed project consists of a Specific Plan that would coordinate the planning and future development the Specific Plan area, which consists of land under separate ownerships. The Section 24 Specific Plan would allow development of a mix of retail, entertainment, office, hotel and residential uses intended to complement existing and planned surrounding uses in the City of Rancho Mirage. Comment Period: 1/16/2014 - 2/14/2014 Public Hearing: 2/14/2014	Notice of Intent to Prepare an Environmental Impact Statement	Agua Caliente Band of Cahuilla Indians (Tribe)	Document under review as of 1/31/14
General Land Use (residential, etc.) **RVC140117-02/RVC140117-04** Village of Terrassa - Thomas Grable Tri-Pointe Homes	This document consists of a Transmittal for a Specific Plan Amendment. The project would amend the High Density Residential designation of the El Cerrito Specific Plan and establish a residential community consisting of 146 dwelling units (52 Single Family Detached Condominiums and 94 Motor Court Units) on 16.87 acres. Comment Period: 1/9/2014 - 1/18/2014 Public Hearing: 1/30/2014	Other	City of Corona	Document reviewed - No comments sent

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ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
JANUARY 1, 2014 TO JANUARY 31, 2014

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
General Land Use (residential, etc.) **RVC140122-02** Change of Zone No. 7794 and Tentative Tract Map No. 36437	The proposed project consists of a Change of Zone which proposes to change the zoning on the site from Residential Agriculture - 2-1/2 Acre Minimum to One Family Dwellings for 102 lots. Comment Period: 1/22/2014 - 2/19/2014 Public Hearing: 2/19/2014	Notice of Availability of a Draft Mitigated Negative Declaration	Riverside County Planning Department	Document reviewed - No comments sent
General Land Use (residential, etc.) **SBC140121-02** Southern California National Forests Land Management Plan Amendment	This document consists of the Draft Record of Decisions identifying Alternative 2a as the selected land use zone alternative and Alternative B as the selected monitoring alternative for each forest. Alternative 2a would allocate more area to Recommended Wilderness and Back Country Non-Motorized land use zones across the four forests. Alternative B would change the monitoring strategy to update the monitoring questions and clarify the process used for project monitoring. Comment Period: 1/15/2014 - 3/22/2014 Public Hearing: N/A	Final Supplemental Environmental Impact Report	US Forest Service	Document under review as of 1/31/14
Plans and Regulations **LAC140115-06** General Plan Update	The proposed project consists of a comprehensive update to the County's General Plan. The Los Angeles County 2035 General Plan provides the policy framework for how and where the unincorporated County will grow through the year 2035, while recognizing and celebrating the County's wide diversity of cultures, abundant natural resources, and status as an international economic center. Comment Period: N/A Public Hearing: 2/26/2014	Notice of a Public Hearing	County of Los Angeles	Document does not require comments
Plans and Regulations **LAC140115-07** Corridors Specific Plan/Active Transportation Plan/Green Plan Project	The proposed project consists of the City of Pomona General Plan Update as well as the accompanying Corridors Specific Plan, Active Transportation Plan and Green Plan. The goal of the General Plan Update is to improve the livability and cultural life of the community. Comment Period: N/A Public Hearing: N/A	Response to Comments	City of Pomona	Document reviewed - No comments sent
Plans and Regulations **LAC140122-01** PL 13-0618 (General Plan Amendment), PL 13-0619 (Zone Ordinance Amendment), PL 13-0620 (Zone Change)	The proposed project consists of a request to change the existing land use designation from General Commercial to Residential for approximately 9 acres of land and to make various minor amendments to the zoning code. Comment Period: 1/22/2014 - 1/29/2014 Public Hearing: 1/29/2014	Notice of a Public Hearing	City of Chino	Document does not require comments

- Project has potential environmental justice concerns due to the nature and/or location of the project.

Comment letters can be accessed at: www.aqmd.gov/ceqa/letters.html

ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
JANUARY 1, 2014 TO JANUARY 31, 2014

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Plans and Regulations **LAC140129-05** Lincoln Specific Plan	The proposed project consists of a Specific Plan. The proposed Land Use Plan includes a varied mix of residential, commercial and open space land uses. The project site is located at the former site of the Fred C. Nelles Youth Correctional Facility, approximately 1.3 miles east of the San Gabriel River/605 Freeway at 11850 Whittier Boulevard. Comment Period: 1/24/2014 - 2/24/2014 Public Hearing: 2/6/2014	Notice of Preparation	City of Whittier	Document under review as of 1/31/14
Plans and Regulations **RVC140108-04** 191 Riverside Avenue Land Use and Zoning Amendments	The proposed project consists of applications for a General Plan Amendment (GP2013-002) and Coastal Land Use Plan Amendment (LC2013-003) to change the land use category from Public Facilities to Mixed-Use Horizontal and a Zoning Code Amendment to change the zoning from Public Facilities to Mixed-use Mariners Mile for a 0.52-acre site. Comment Period: 1/8/2014 - 2/5/2014 Public Hearing: N/A	Draft Negative Declaration	City of Newport Beach	Document under review as of 1/31/14
Plans and Regulations **RVC140121-01** TTM No. 2012-142 and TTM No. 2012-142	The proposed project consists of Specific Plan Amendment No. 2012-033 to reconfigure the planning area boundaries within the portion of the area located north of Salt Creek; modify the range of lot sizes available within the plan and incorporate minor changes to the recreational amenities provided with the community. Comment Period: 1/21/2014 - 1/27/2014 Public Hearing: 1/28/2014	Notice of a Public Hearing	City of Menifee	Document under review as of 1/31/14
Plans and Regulations **RVC140131-02** General Plan Update (GPA 14-01)	The proposed project consists of preparing a comprehensive update to the City's existing General Plan. The update will focus on editing the existing plan to focus on City of Wildomar goals and policies. The effect will be to shorten the General Plan and result in policies that better reflect the Wildomar Vision as it exists in 2014. The City will not be changing any existing land use designations or circulation patterns as part of this update. The General Plan update will include the following mandatory elements: Land Use, Circulation and Infrastructure, Open Space, Conservation, Noise, and Safety. The Housing Element was recently adopted and will be incorporated into the update, but no changes will be made. Comment Period: 1/29/2014 - 2/27/2014 Public Hearing: 2/18/2014	Notice of Preparation	City of Wildomar	Document under review as of 1/31/14

TOTAL DOCUMENTS RECEIVED AND REVIEWED THIS REPORTING PERIOD: 63

- Project has potential environmental justice concerns due to the nature and/or location of the project.

Comment letters can be accessed at: www.aqmd.gov/ceqa/letters.html

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
Warehouse & Distribution Centers **SBC131206-02** Alliance California Gateway South Building 3 (Tentative Parcel Map) and Development Permit/Site Plan (DP-P13-09)	The proposed project consists of redeveloping a 48.58-acre portion of a 62.85-acre underutilized property by the construction and operation of one industrial warehouse building and associated improvements. The building is proposed to contain 1,199,360 square feet of floor space with 215 loading bays, as well as surface parking areas and drive aisles, utility infrastructure, landscaping, walls and fences, exterior lights, underground storm water retention/infiltration basins, and other site improvements. Comment Period: 12/9/2013 - 1/23/2014 Public Hearing: N/A	Draft Environmental Impact Report	City of San Bernardino	Document under review as of 1/31/14
Warehouse & Distribution Centers **SBC131227-09** Chiming Inc. - Industrial Project	The proposed project consists of the development of a 611,908 square foot high-cube warehouse distribution center on 27.85 acre project site located at Almond Avenue. Comment Period: N/A Public Hearing: N/A	Initial Project Consultation	County of San Bernardino	Document under review as of 1/31/14
Waste and Water-related **LAC131219-01** Draft Removal Action Workplan for South Region High School #8, Site 18	The proposed project consists of a draft Removal Action Workplan for the Los Angeles Unified School District's future South Region High School #8 Site 18. Comment Period: 12/19/2013 - 1/22/2014 Public Hearing: N/A	Initial Project Consultation	Department of Toxic Substances Control	Document under review as of 1/31/14
Waste and Water-related **RVC131126-04** Valley Verde Inc.	The proposed project consists of a request for agency comment for the construction of a Green Waste Recycling Facility proposed on a 6.06-acre site. Comment Period: 11/26/2013 - 12/12/2013 Public Hearing: N/A	Initial Project Consultation	City of Coachella	Document under review as of 1/31/14
Institutional (schools, government, etc.) **LAC131210-01** Malibu Institute Project	The proposed project consists of creating a sports-oriented educational retreat affiliated with the University of Southern California to complement a remodeled 18-hole golf course on a 650-acre property in the unincorporated Malibu area. In total the Project proposes to construct a combined 224,760 square feet of structures, which would include the reuse of the building footprint of the existing 12,475 square-foot clubhouse and cart barn as part of the Institute buildings and the removal of 11,160 square feet of existing structures, for a total increase of 201,225 square feet of structures on the Project site. Comment Period: 12/9/2013 - 2/7/2014 Public Hearing: N/A	Draft Environmental Impact Report	County of Los Angeles	Document under review as of 1/31/14
General Land Use (residential, etc.) **LAC131226-01** 8899 Beverly Blvd.	The proposed project consists of a mixed-use development of the adaptive re-use of an existing 10-story commercial office building at 8899 Beverly Boulevard and development of new residential uses to the rear along Rosewood Avenue on the existing surface parking lot serving the existing building. The total number of units within the Project would be 81, including 69 market-rate units and 12 affordable units. Comment Period: 12/20/2013 - 2/18/2014 Public Hearing: N/A	Draft Environmental Impact Report	City of West Hollywood	Document under review as of 1/31/14

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.

Comment letters can be accessed at: www.aqmd.gov/ceqa/letters.html

ATTACHMENT B
ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS OR IS CONTINUING TO CONDUCT A CEQA

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
General Land Use (residential, etc.) **LAC131227-11** Melrose Triangle Project	The proposed project consists of demolishing existing buildings and constructing a mixed-use commercial and residential development consisting of three buildings totaling 302,944 square feet. Comment Period: 12/27/2013 - 2/17/2014 Public Hearing: N/A	Recirculated Draft Environmental Impact Report	City of West Hollywood	Document under review as of 1/31/14
General Land Use (residential, etc.) **LAC131227-13** Stoneview Nature Center	The proposed project consists of demolishing all existing structures on the five acre project site in Culver City, the re-abandonment of the Dabney Lloyd No. 3 oil well, located under an existing building, and the construction of a new public nature center. The new center will include a one-story, approximately 4,000 square-foot building with a multi-purpose room, staff offices, accessible restrooms, a terrace and observation area; and landscaping elements. Comment Period: 12/23/2013 - 2/20/2014 Public Hearing: N/A	Draft Mitigated Negative Declaration	County of Los Angeles	Document under review as of 1/31/14
General Land Use (residential, etc.) **ORC131205-05** Esperanza Hills Project	The proposed project consists of constructing 340 single-family residential units on 468.9 acres. The project will retain approximately 230.8 acres of open space. Comment Period: 12/5/2013 - 2/3/2014 Public Hearing: N/A	Draft Environmental Impact Report	County of Orange	Document under review as of 1/31/14
Plans and Regulations **ODP131119-12** Division of Oil, Gas and Geothermal Resources Regulation SB 4	The proposed project consists of newly enacted legislation. Requiring new regulations for well stimulation and hydraulic fracturing activities. Comment Period: 11/19/2013 - 1/16/2014 Public Hearing: N/A	Notice of Preparation	Department of Conservation	Document under review as of 1/31/14
Warehouse & Distribution Centers **LAC131231-08** Tenth Street Center Industrial Park Project	The proposed project consists of constructing a 342,529 square-foot industrial/warehouse development. The project would include three industrial buildings that would range from 75,278 to 179,002 square feet, and would include office and distribution/warehouse/manufacturing uses. http://www.aqmd.gov/ceqa/igr/2014/January/NOPtenthstreet.pdf Comment Period: 12/31/2013 - 1/30/2014 Public Hearing: N/A	Notice of Preparation	City of Azusa	SCAQMD staff commented 1/7/2014
Airports **LAC131205-01** John Wayne Airport New Jet Fuel Pipeline and Tank Farm	The proposed project consists of constructing an approximately five-mile long 12-inch common carrier jet fuel pipeline connecting the John Wayne Airport to an existing 16-inch product pipeline operated by Kinder Morgan Energy Partners. http://www.aqmd.gov/ceqa/igr/2014/January/MNDJohnWayneTankFarm.pdf Comment Period: 12/5/2013 - 1/3/2014 Public Hearing: N/A	Draft Mitigated Negative Declaration	County of Orange	SCAQMD staff commented 1/3/2014

- Project has potential environmental justice concerns due to the nature and/or location of the project.

Comment letters can be accessed at: www.aqmd.gov/ceqa/letters.html

ATTACHMENT B
ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS OR IS CONTINUING TO CONDUCT A CEQA

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Waste and Water-related **LAC131101-07** Solid Waste Integrated Resources Plan	The proposed project consists of a Master Plan with no site specific development proposed at this time and identifies the potential future development of 10 to 15 facilities that would address the City's solid waste infrastructure needs through 2030. http://www.aqmd.gov/ceqa/igr/2014/January/DPEIRSWIRP.pdf Comment Period: 10/31/2013 - 12/20/2013 Public Hearing: N/A	Draft Environmental Impact Report	City of Los Angeles	SCAQMD staff commented 1/24/2014
Waste and Water-related **LAC131105-01** Devil's Gate Reservoir Sediment Removal and Management Project	The proposed project consists of removing sediment from Devil's Gate Reservoir to restore capacity and to protect the dam and its valves to reduce the risk of flooding in the communities located downstream. This effort will include removal of approximately 2.9 million cubic yards of existing excess sediment in the reservoir in addition to any additional sediment that accumulates during construction. http://www.aqmd.gov/ceqa/igr/2014/January/DEIRDevilsGate.pdf Comment Period: 10/23/2013 - 1/6/2014 Public Hearing: N/A	Draft Environmental Impact Report	Los Angeles County Flood Control District	SCAQMD staff commented 1/21/2014
Waste and Water-related **LAC131121-01** Zero Waste LA	The proposed project consists of the adoption of an ordinance to establish and implement an exclusive waste franchise system on a citywide basis for collection and handling of Solid Resources establishments currently serviced by permitted private waste haulers within the City. Zero Waste LA would replace the City's current open market waste collection and handling system for commercial establishments in the City. http://www.aqmd.gov/ceqa/igr/2014/January/DPEIRLACityhauling.pdf Comment Period: 11/21/2013 - 1/10/2014 Public Hearing: N/A	Draft Environmental Impact Report	City of Los Angeles	SCAQMD staff commented 1/10/2014
Waste and Water-related **LAC131210-03** Royal Recycling and Transfer Facility CUP No. 821	The proposed project consists of the operation of a material recovery facility on a 7.32-acre site. The proposed use will occupy a number of existing buildings that have a total floor area of 146,600 square feet. In addition, a new "receiving building" containing 39,500 square feet will be constructed. http://www.aqmd.gov/ceqa/igr/2014/January/NOProyal.pdf Comment Period: 12/10/2013 - 1/9/2013 Public Hearing: N/A	Notice of Preparation	City of Paramount	SCAQMD staff commented 1/3/2014
Waste and Water-related **LAC131226-04** CleanTech Environmental Inc.	The proposed project consists of a permit that would allow CleanTech to construct and operate a used oil recycling facility. CleanTech collects used oil from offsite generators and consolidates the used oil in tanks at the facility. http://www.aqmd.gov/ceqa/igr/2014/January/NOPCleantech.pdf Comment Period: 12/30/2013 - 1/31/2014 Public Hearing: 1/14/2014	Notice of Preparation	Department of Toxic Substances Control	SCAQMD staff commented 1/17/2014

- Project has potential environmental justice concerns due to the nature and/or location of the project.

Comment letters can be accessed at: www.aqmd.gov/ceqa/letters.html

ATTACHMENT B
ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS OR IS CONTINUING TO CONDUCT A CEQA

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Waste and Water-related **LAC131227-07** F.E. Weymouth Water Treatment Plan Improvement Program	The proposed project consists of upgrading existing and/or constructing new facilities at the Weymouth Plant to accommodate the plant's maximum operating capacity and update the overall facility. The Proposed Project would involve rehabilitating and refurbishing aging treatment structures, upgrading systems to improve treatment processes, enhancing worker safety, reducing carbon emissions with renewable energy, improving stormwater management, and ensuring compliance with recent legislation pertaining to the State Drinking Water Act. http://www.aqmd.gov/ceqa/igr/2014/January/NOPweymouth.pdf Comment Period: 12/19/2013 - 1/17/2014 Public Hearing: N/A	Notice of Preparation	The Metropolitan Water District of Southern California	SCAQMD staff commented 1/17/2014
Waste and Water-related **ODP131121-02** Santa Susana Field Laboratory	The proposed project consists of activities necessary to implement soil and groundwater remediation at the Santa Susana Field Laboratory site in Ventura County. http://www.aqmd.gov/ceqa/igr/2014/January/NOPsanta.pdf Comment Period: 11/22/2013 - 1/10/2014 Public Hearing: N/A	Notice of Preparation	Department of Toxic Substances Control	SCAQMD staff commented 1/3/2014
Waste and Water-related **ORC131122-02** Orange County Water District Prado Basin Sediment Management Demonstration Project	The proposed project consists of exploring practical and beneficial methods to remove approximately 250,000 to 500,000 cubic yards of sediment from Prado Basin and re-entrain the sediment into the lower Santa Ana River, below Prado Dam to help restore sediment migration to habitats and beaches downstream and to help maintain water conservation storage behind Prado Dam. http://www.aqmd.gov/ceqa/igr/2014/January/NOPpradobasin.pdf Comment Period: 11/26/2013 - 1/3/2014 Public Hearing: N/A	Notice of Preparation	Orange County Water District	SCAQMD staff commented 1/3/2014
Waste and Water-related **RVC131122-01** Solid Waste Permit Revision for Coachella Valley Compost Project	The proposed project consists of a request to increase the amount of feedstock and grease trap liquids from 250 to 785 tons per day, and from 12,500 to 55,000 gallons per day, respectively. The amount of vehicles permitted to enter the facility would increase from 169 to 536 per day. The project also includes an expansion of the Coachella Valley Compost site from 35.27 to 40.60 acres. http://www.aqmd.gov/ceqa/igr/2014/January/NOPSolidwasteCoachella.pdf Comment Period: 11/26/2013 - 12/26/2013 Public Hearing: 12/11/2013	Notice of Preparation	Riverside County Waste Management Department	SCAQMD staff commented 1/3/2014
Waste and Water-related **RVC131218-06** West Desert Hot Springs Master Drainage Plan	The proposed project consists of the West Desert Hot Springs Master Drainage Plan (WDHS MDP) which is a conceptual planning document that identifies the drainage needs of the Garnet Wash, Mission Creek and Morongo Wash watersheds and proposes regional and local drainage facilities that would relieve flooding problems with the Project area. The proposed Project consists of three components: (1) administration of the WDHS MDP; (2) future construction of the various flood control facilities proposed in the WDHS MDP; and (3) future operations and maintenance of flood control facilities. http://www.aqmd.gov/ceqa/igr/2014/January/NOPwestdesert.pdf Comment Period: 12/18/2013 - 1/20/2014 Public Hearing: N/A	Notice of Preparation	City of Desert Hot Springs	SCAQMD staff commented 1/3/2014

- Project has potential environmental justice concerns due to the nature and/or location of the project.

Comment letters can be accessed at: www.aqmd.gov/ceqa/letters.html

ATTACHMENT B
ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS OR IS CONTINUING TO CONDUCT A CEQA

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Transportation **ORC131218-04** Anaheim Rapid Connection (ARC) Fixed Guideway Project	The proposed project consists of the construction and operation of a streetcar system that would run at-grade on embedded steel rail tracks. It would operate primarily in mixed traffic on existing city streets, between ARTIC, the Platinum Triangle and The Anaheim Resort. The proposed streetcar system would include, but not be limited to, the rail alignment, stations, powering systems (i.e., traction power substations and overhead catenary wire), a maintenance facility and a pedestrian bridge crossing over Harbor Boulevard. http://www.aqmd.gov/ceqa/igr/2014/January/NOPanaheimrapid.pdf Comment Period: 12/12/2013 - 1/27/2014 Public Hearing: 1/14/2014	Notice of Preparation	City of Anaheim	SCAQMD staff commented 1/3/2014
General Land Use (residential, etc.) **LAC131226-07** ENV-2013-1441/ 5100 W. Wilshire Blvd.; Wilshire	The proposed project consists of construction of a mixed-use building with six stories, 138 residential units, 12,500 square feet of ground floor commercial space and two subterranean parking levels. http://www.aqmd.gov/ceqa/igr/2014/January/MNDENV-2013-1441.pdf Comment Period: 12/26/2013 - 1/15/2014 Public Hearing: N/A	Notice of Availability of a Draft Mitigated Negative Declaration	City of Los Angeles	SCAQMD staff commented 1/15/2014
General Land Use (residential, etc.) **LAC131227-03** Supplement to Wiseburn High School Environmental Impact Report	The proposed project consists of the development and operation of a joint-use sports complex comprising a gymnasium and an aquatics center with lighted outdoor 50-meter swimming pool, spectator bleachers, and an aquatics building and equipment/storage building. The sports complex would displace approximately two acres of the soccer field and eliminate six tennis courts from the approved project site plan. Three basketball courts would be accommodated in the gymnasium, and no tennis courts would be provided. The project site is 201 N. Douglas Street between El Segundo Boulevard and Mariposa Avenue in the City of El Segundo. http://www.aqmd.gov/ceqa/igr/2014/January/NOPwiseburn.pdf Comment Period: 12/27/2013 - 1/27/2014 Public Hearing: N/A	Notice of Preparation	Wiseburn School District	SCAQMD staff commented 1/17/2014
General Land Use (residential, etc.) **LAC131227-04** Los Valles	The proposed project consists of construction of a 497 unit single-family residential development in the Castaic community of unincorporated Los Angeles County located north of Hasley Canyon Road near its intersection with del Valle Road. The proposed Project will be developed on 430.4 acres. http://www.aqmd.gov/ceqa/igr/2014/January/NOPlosvalles.pdf Comment Period: 12/19/2013 - 1/31/2014 Public Hearing: 1/16/2014	Notice of Preparation	County of Los Angeles	SCAQMD staff commented 1/17/2014
General Land Use (residential, etc.) **LAC131231-07** Olson Residential Community Project	The proposed project consists of developing a residential project with 88 condominium units and 206 parking spaces on approximately 5.4 acres west of the Rubio Wash. The site is currently improved with an approximately 170,000 square-foot industrial warehouse building. To accommodate the construction of the project, portion of the buildings west of the Rubio Wash will be demolished and the remaining 77,000 square-foot building will be converted to a freestanding warehouse building and sold to an industrial user. http://www.aqmd.gov/ceqa/igr/2014/January/NOPolsonsangabriel.pdf Comment Period: 12/30/2013 - 1/30/2014 Public Hearing: N/A	Notice of Preparation	City of San Gabriel	SCAQMD staff commented 1/7/2014

- Project has potential environmental justice concerns due to the nature and/or location of the project.

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ATTACHMENT B
ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS OR IS CONTINUING TO CONDUCT A CEQA

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
General Land Use (residential, etc.) **ORC131108-05** Cielo Vista Project	The proposed project consists of developing a maximum of 112 single-family dwellings and associated infrastructure within two Planning Areas. Planning Area one would include 95 residences within 41.3 gross acres. Planning Area 2 would include 17 residences within 6.4 gross acres. The single-family dwellings and associated infrastructure would be developed on 47.7 acres of the site. A 1.8-acre parcel would be made available to the current on site oil operators following the Project's construction activities for continued oil operations should they decide to reconsolidate the existing oil wells on the drilling pad. The oil drilling pad would be developed for future oil operations as a separate project should the oil operators choose to relocate to this area of the project site. http://www.aqmd.gov/ceqa/igr/2014/January/DEIRCieloVista.pdf Comment Period: 11/7/2013 - 1/22/2014 Public Hearing: 12/16/2013	Draft Environmental Impact Report	County of Orange	SCAQMD staff commented 1/7/2014
General Land Use (residential, etc.) **ORC131218-05** The Los Coyotes Country Club Development Plan	The proposed project consists of modifying a previously proposed project. The new project includes: 125 residences, tennis courts, parking, landscaping, and modifications to an existing clubhouse and gold practice area. http://www.aqmd.gov/ceqa/igr/2014/January/NOPloscoyotes.pdf Comment Period: 12/13/2013 - 1/15/2014 Public Hearing: N/A	Notice of Preparation	City of Buena Park	SCAQMD staff commented 1/3/2014
General Land Use (residential, etc.) **ORC131227-02** PA-13-21 (City Ventures)	The proposed project consist of Planning Application PA-13-21-Urban Master Plan for development of a 36-unit live/work project at the site of existing boat storage and repair uses within the Mesa West Bluffs Urban Plan area. http://www.aqmd.gov/ceqa/igr/2014/January/DMND36UnitLiveWorkCostaMesa.pdf Comment Period: 12/24/2103 - 1/23/2014 Public Hearing: 2/10/2014	Draft Mitigated Negative Declaration	City of Costa Mesa	SCAQMD staff commented 1/23/2014
General Land Use (residential, etc.) **ORC131227-05** Mackay Place Project	The proposed project consists of approximately 9.7 acres within the northwestern portion of the City of Cypress. As part of the proposed project all on-site buildings, parking lots and grass and landscaped areas would be demolished and removed. The preferred land use plan consists of 47 detached single-family homes located around a central street system with access to Walker Street on 6.8 acres. The remaining 2.9 acres would be acquired by the City of Cypress from the Cypress School District for a future park. http://www.aqmd.gov/ceqa/igr/2014/January/NOPmackay.pdf Comment Period: 12/24/2013 - 1/22/2014 Public Hearing: 1/15/2014	Notice of Preparation	City of Cypress	SCAQMD staff commented 1/17/2014
General Land Use (residential, etc.) **ORC131227-06** Spieker Senior Development Project	The proposed project consists of the development of a Continuing Care Retirement Community designed for residents over the age of sixty (60) years. The Continuing Care Retirement Community would include two main components: Independent Living residences, which include 426 residential units of various sizes and types, as well as common buildings and amenities designed to provide recreational opportunities. There will also be a Health Care Center, which will contain 101 units in two separately licensed facilities. http://www.aqmd.gov/ceqa/igr/2014/January/NOPspieker.pdf Comment Period: 1/6/2014 - 2/5/2014 Public Hearing: 1/22/2014	Notice of Preparation	City of San Juan Capistrano	SCAQMD staff commented 1/11/2014

- Project has potential environmental justice concerns due to the nature and/or location of the project.

Comment letters can be accessed at: www.aqmd.gov/ceqa/letters.html

ATTACHMENT B
ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS OR IS CONTINUING TO CONDUCT A CEQA

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
General Land Use (residential, etc.)	The proposed project consists of the construction of a gated community of 39 single-family residential units on a vacant 6.37-acre site. http://www.aqmd.gov/ceqa/igr/2014/January/MNDDakotaProject2.pdf Comment Period: 12/26/2013 - 1/14/2104 Public Hearing: 1/22/2014	Draft Mitigated Negative Declaration	City of Palm Springs	SCAQMD staff commented 1/14/2014
RVC131227-01 Dakota				

TOTAL NUMBER OF REQUESTS TO AQMD FOR DOCUMENT REVIEW THIS REPORTING PERIOD:	**113**
TOTAL NUMBER OF COMMENT LETTERS SENT OUT THIS REPORTING PERIOD:	**23**
TOTAL NUMBER OF DOCUMENTS REVIEWED, BUT NO COMMENTS WERE SENT:	**20**
TOTAL NUMBER OF DOCUMENTS CURRENTLY UNDER REVIEW:	**46**
TOTAL NUMBER OF DOCUMENTS THAT DID NOT REQUIRE COMMENTS:	**7**
TOTAL NUMBER OF DOCUMENTS THAT WERE NOT REVIEWED:	**0**
TOTAL NUMBER OF DOCUMENTS THAT WERE SCREENED WITHOUT ADDITIONAL REVIEW:	**50**

- Project has potential environmental justice concerns due to the nature and/or location of the project.

Comment letters can be accessed at: www.aqmd.gov/ceqa/letters.html

ATTACHMENT C
ACTIVE SCAQMD LEAD AGENCY PROJECTS
THROUGH JANUARY 31, 2014

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
Operators of the Ultramar Wilmington Refinery are proposing to construct and install a 49 MW cogeneration unit to reduce the Refinery's reliance on electricity from the Los Angeles Department of Water and Power and produce steam to meet internal needs. No other refinery modifications are proposed.	Ultramar Wilmington Refinery	ND	Staff revising responses to the 3 comment letters received on Draft ND.	Environmental Audit, Inc.
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	EIR	The Notice of Preparation was circulated for a 30-day public comment period on March 26, 2012. The comment period ended on April 26, 2012. The consultant submitted the administrative Draft EIR to SCAQMD in late July 2013. SCAQMD reviewed the Draft EIR and the consultant is revising the document.	Environmental Audit, Inc.
The Phillips 66 Los Angeles Refinery operators are proposing to install one new 615,000-barrel crude oil storage tank with a geodesic dome to accommodate larger marine vessels delivering crude oil. The proposed project also includes increasing the throughput on two existing tanks and adding geodesic domes to these tanks, installing one new 14,000-barrel water draw surge tank and installing one new electrical power substation.	Phillips 66 Los Angeles Refinery Carson Plant	ND	The Draft ND was released for a 30-day public review and comment period beginning on September 10, 2013 and ending on October 9, 2013. Three comment letters were received. SCAQMD is reviewing the responses to the comment letters and the consultant is finalizing the Draft ND.	Environmental Audit, Inc.
The Tesoro Refining and Marketing Los Angeles Refinery operators are proposing to replace two existing tanks with two new larger tanks and to connect one existing tank to an existing vapor recovery system. The proposed project also includes replacing an onsite 12-inch pipe with a new 48-inch diameter pipe to connect to an existing pipeline to the marine terminal.	Tesoro Refining and Marketing Company Los Angeles Refinery	ND	SCAQMD staff has reviewed the Draft ND and submitted comments to the consultant. Consultant is currently revising the Draft ND in preparation for release for public review and comment.	Environmental Audit, Inc.
Warren E & P, Inc. is proposing a modification to a Subsequent MND that was certified by the SCAQMD on July 19, 2011. Warren has submitted a supplemental ND detailing a gas sales project designed to replace the gas re-injection portion of the 2011 project.	Warren E & P, Inc.	Supplemental ND	SCAQMD staff has reviewed the Draft Supplemental ND and submitted comments to the consultant. Consultant is currently finalizing the Supplemental ND and working with the engineering department on permitting language.	Environ

A shaded row indicates a new project.
#=SCAQMD was contacted regarding potential environmental justice concerns due to the natural and/or location of the project.

ATTACHMENT C
ACTIVE SCAQMD LEAD AGENCY PROJECTS
THROUGH JANUARY 31, 2014

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
Operators of the Ultramar Wilmington Refinery are proposing to add rail service to their facility.	Ultramar Wilmington Refinery	EIR	The consultant is preparing an Initial Study.	Environmental Audit, Inc.
Operators of the KinderMorgan Lomita Terminal are proposing to deliver crude oil by expanding their rail facility.	KinderMorgan Lomita Terminal	To Be Determined	The consultants are preparing emission estimates to determine the type of CEQA document to be prepared.	SABS Consulting and TRC
Operators of the Petro Diamond Marine Terminal are proposing to increase the number of ship calls delivering ethanol.	Petro Diamond	To Be Determined	The consultant had prepared Draft Negative Declaration. SCAQMD staff is currently reviewing the Draft Negative Declaration to determine if it the appropriate type of CEQA document for the project.	SABS Consulting
Quemetco is proposing an increase in daily furnace feed rate	Quemetco	To Be Determined	To Be Determined	To Be Determined
Chevron is proposing modifications to its PRO Project and has applied for a change of permit conditions for NOx emissions and fired duty operating conditions of the Tail Gas Unit.	Chevron	To Be Determined	To Be Determined	Environmental Audit, Inc.

A shaded row indicates a new project.
#=SCAQMD was contacted regarding potential environmental justice concerns due to the natural and/or location of the project.

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 16

REPORT: Rule and Control Measure Forecast

SYNOPSIS: This report highlights SCAQMD rulemaking activity and Public Workshops potentially scheduled for the year 2014

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file.

Barry R. Wallerstein, D.Env.
Executive Officer

EC:LT:cg

102	Definition of Terms
Rule 102 is moved to May from April to allow additional time to complete analysis on potential health impacts.	
1401 1402	New Source Review of Toxic Air Contaminants Control of Toxic Air Contaminants from Existing Sources
Rules 1401 and 1402 are moved to September from April to allow additional time for staff analysis and stakeholder input to further streamline Rule 1402 procedures.	
4001	Backstop to Ensure AQMP Emission Reduction Targets Are Met at Commercial Marine Ports (IND-01)
Proposed Rule 4001 is moved to July from April to allow staff more time to work with stakeholders, and to complete the CEQA document and socioeconomic assessment.	

2014 MASTER CALENDAR (continued)

Below is a list of all rulemaking activity scheduled for the year 2014. The last four columns refer to the type of rule adoption or amendment. A more detailed description of the proposed rule adoption or amendment is located in the Attachments (A through D) under the type of rule adoption or amendment (i.e. AQMP, Toxics, Other and Climate Change).

**An asterisk indicates that the rulemaking is a potentially significant hearing.*
+This proposed rule will reduce criteria air contaminants and assist toward attainment of ambient air quality standards.
[1]Subject to Board approval
California Environmental Quality Act shall be referred to as "CEQA."
Socioeconomic Analysis shall be referred to as "Socio."

2014

April		AQMP	Toxics	Other	Climate Change
1130	Graphic Arts	√			
May					
102[1]	Definition of Terms			√	
Reg. III	Fees			√	
1123	Refinery Process Turnarounds (MCS-03)	√			
2202	On-Road Motor Vehicle Mitigation Options			√	
June					
415	Odors from Rendering Plants			√	
1153.1	Emissions of Oxides of Nitrogen from Commercial Food Ovens			√	
1168	Adhesive and Sealant Applications (CTS-02)	√			
1430	Control of Toxic Air Contaminants from Metal Forging, Shredding, Grinding and Other Metal Processing Operations		√		
2301	Control of Emissions from New or Redevelopment Projects (EGM-01)	√			

2014 MASTER CALENDAR (continued)

2014

July		AQMP	Toxics	Other	Climate Change
Reg. IX X	Standards of Performance for New Stationary Sources National Emission Standards for Hazardous Air Pollutants			√	
1111	Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces			√	
1151*+	Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations			√	
Reg. XX	Regional Clean Air Incentives Market (RECLAIM) (CMB-01)	√			
4001[1]	Backstop to Ensure AQMP Emission Reduction Targets Are Met at Commercial Marine Ports (IND-01)	√			
September					
1401[1] 1402[1]	New Source Review of Toxic Air Contaminants Control of Toxic Air Contaminants from Existing Sources		√		
October					
1161	VOC Reduction from Mold Release Agents (CTS-03)	√			
November					
1188	VOC Reductions from Vacuum Trucks (FUG-01)	√			
1420 1420.2	Emissions Standard for Lead Emission Standard for Lead from Medium Sources		√ √		
2305*	Indirect Sources		√	√	
December					
1111.1	NOx Reductions from Commercial Space Heating (CMB-03)	√			
1450	Control of Methylene Chloride Emissions		√		

2014 MASTER CALENDAR (continued)

2014 TO-BE DETERMINED

TBD		AQMP	Toxics	Other	Climate Change
219	Equipment Not Requiring a Written Permit Pursuant to Regulation II			√	
222.1	Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation I			√	
1107	Coating of Metal Parts and Products			√	
1113	Architectural Coatings			√	
1118	Control of Emissions from Refinery Flares			√	√
1124	Aerospace Assembly and Component Manufacturing Operations (CTS-02)	√		√	
1162	Polyester Resin Operations (CTS-02)	√		√	
1171	Solvent Cleaning Operations (CTS-02)	√		√	
1147	NOx Reductions from Miscellaneous Sources			√	
1148.1	Oil and Gas Production Wells			√	
1177	Liquefied Petroleum Gas Transfer and Dispensing			√	
1190 Series	Fleet Vehicle Requirements			√	
1304.2	Greenfield or Existing Electrical Generating Facility Fee for Use of Offsets			√	
Reg. XIII	New Source Review			√	
1420.1	Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities		√		
1902	Transportation Conformity - Preamble			√	
2511	Credit Generation Program for Locomotive Head End Power Unit Engines			√	

2014 MASTER CALENDAR (continued)

2014 TO-BE DETERMINED

TBD	(continued)	AQMP	Toxics	Other	Climate Change
2512	Credit Generation Program for Ocean-Going Vessels at Berth			√	
Reg. XXVII	Climate Change				√
4010*+	General Provisions and Requirements for Ports of Los Angeles and Long Beach (IND-01)	√	√		
4020*+	Backstop Requirements for Ports of Los Angeles and Long Beach (IND-01)	√	√		
Reg. IV, IX, X, XI, XIV, XX and XXX Rules	Rule amendments to meet the requirements of state and federal laws, to address variance issues/technology-forcing limits, to abate a substantial endangerment to public health or welfare, or to seek additional reductions to meet the SIP short-term measure commitments. The associated rule development or amendments include, but are not limited to, SCAQMD existing rules listed in Table 1 and new or amended rules to implement the 2012 AQMP measures in Table 2. The Clean Communities Plan (CCP) has been updated to include new measures to address toxic emissions in the basin. The CCP measures will reduce exposure to air toxics from stationary, mobile, and area sources (Table 3). Rule amendments also include updates to provide consistency with CARB Statewide Air Toxic Control Measures.	√	√	√	√

ATTACHMENT A

AQMP Rule Activity Schedule

This attachment lists those control measures that are being developed into rules or rule amendments for the Governing Board consideration that are designed to implement the amendments to the 2012 Air Quality Management Plan.

2014

April	
1130	**Graphic Arts (CTS-02)** *[Projected Emission Reduction: TBD]* The proposed amendment will review fountain solutions and other technologies to align requirements with existing rules and U.S. EPA's Control Techniques Guidelines (CTG) recommendations. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
May	
1123	**Refinery Process Turnarounds (MCS-03)** *[Projected Emission Reduction: N/A]* Proposed amendments, if needed, will implement Control Measure MSC-03 of the 2007 AQMP by establishing procedures that better quantify emission impacts from start-up, shutdown or turnaround activities. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
June	
1168	**Adhesive and Sealant Applications (CTS-02)** *[Projected Emission Reduction: N/A]* Amendments to Rule 1168 will partially implement CTS-02 and reflect improvements in adhesive and sealants technology, as well as remove outdated provisions and include minor clarifications *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
2301	**Control of Emissions from New or Redevelopment Projects (EGM-01)** *[Projected Emission Reduction: Committed to reduce 0.5 tons per day of VOC, 0.8 tons per day of NOx, and 0.5 tons per day of PM2.5 in 2023.]* The proposed rule will implement the 2007 AQMP Control Measure EGM-01 – Emission Reductions from New or Redevelopment Projects. Since the initial proposal was released for PR 2301, CARB in compliance with an SB 375 requirement, has set greenhouse gas emission reduction targets for each metropolitan planning organization (MPO). SCAG's 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) contains the plan for how these target emission reductions will be met. IIn light of these developments, PR 2301 will consider the implementation of a menu of mitigation measures as well as capture the co-benefits of VOC, NOx, and PM 2.5 emission reductions from SB 375 and the 2012 RTP/SCS. *Carol Gomez 909.396. 3264 CEQA: Krause 909.396.2706 Socio: Lieu 909.396.3059*

ATTACHMENT A

AQMP Rule Activity Schedule (continued)

2014

July	
Reg. XX	**Regional Clean Air Incentives Market (RECLAIM)(CMB-01)** *[Projected Emission Reduction: 3-5 TPD]* Proposed amendments to Regulation XX will seek to implement a minimum contingency measure CMB-01 of the 2012 AQMP and possibly Phase II of the control measure if the technology assessment can be completed within the allotted time for this rulemaking. *Joe Cassmassi 909.396.3155 909.396.3155 CEQA: Krause (2706) Socio: Lieu (3059)*
4001[1]	**Backstop to Ensure AQMD Emission Reduction Targets are Met at Commercial Marine Ports (IND-01)** *[Projected Emission Reduction: TBD]* If triggered, the proposed rule will address cost-effective NOx, SOx, and PM2.5 emission reduction strategies from port-related sources to ensure emission reductions claimed or emission targets assumed in the 2012 AQMP for the 24-hr PM2.5 standard are maintained. *Randall Pasek 909.396.2251 CEQA: Krause 909.396.2706 Socio: Lieu 909.396.3059*
October	
1161	**VOC Reductions from Mold Release Agents (CTS-03)** *[Projected Emission Reduction: TBD]* The proposed rule will establish requirements for mold release products used in composite, fiberglass, metal and plastic manufacturing, and concrete stamping operations. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
November	
1188	**VOC Reductions from Vacuum Trucks (FUG-01)** *[Projected Emission Reduction: TBD]* 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 Degassing. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
2305*	**Indirect Sources** *[Projected Emission Reduction: TBD]* Proposed Rule 2305 will identify approaches to reduce exposure to diesel particulate emissions and localized NO2 emissions from facilities associated with large indirect sources (i.e. facilities that attract mobile sources). *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*

ATTACHMENT A

AQMP Rule Activity Schedule (continued)

December	
1111.1	**NOx Reductions from Commercial Space Heating (CMB-03)** *Projected Emission Reduction: N/A]* Proposed Rule 1111.1 will establish equipment specific nitrogen oxides emission limits and other requirements for the operation of commercial space heaters. *Joe Cassmassi 909.396.31553 CEQA: Krause (2706) Socio: Lieu (3059)*

ATTACHMENT A

AQMP Rule Activity Schedule (continued)

To-Be Determined 2014

To-Be Determined	
1124 1162 1171	**Aerospace Assembly and Component Manufacturing Operations (CTS-02)** **Polyester Resin Operations(CTS-02)** **Solvent Cleaning Operations (CTS-02)** *[Projected Emission Reduction: TBD]* Amendments may be necessary to integrate requirements associated with Proposed Rule 1161 – Mold Release Agents. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
4010*+ 4020*+	**General Provisions and Requirements for Ports of Los Angeles and Long Beach (IND-01)** **Backstop Requirements for Ports of Los Angeles and Long Beach (IND-01)** *[Projected Emission Reduction: TBD]* If triggered, the proposed rules will address cost-effective NOx, SOx, and PM2.5 emission reduction strategies from port-related sources to ensure emission reductions claimed or emission targets assumed in the AQMP are maintained. *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*
Reg. IV, IX, X, XI, XIV, XX and XXX Rules	Rule amendments to meet the requirements of state and federal laws, to address variance issues/technology-forcing limits, to abate a substantial endangerment to public health or welfare, or to seek additional reductions to meet the SIP short-term measure commitments. The associated rule development or amendments include, but are not limited to, SCAQMD existing rules listed in Table 1 and new or amended rules to implement the 2012 AQMP measures in Table 2.

ATTACHMENT B

Toxics Rule Activity Schedule

This attachment lists those rules or rule amendments for the Governing Board consideration that are designed to implement the Air Toxics Control Plan.

2014

June	
1430	**Control of Toxic Air Contaminants from Metal Forging, Shredding, Grinding and Other Metal Processing Operations** *[Projected Emission Reduction: TBD]* Proposed Rule 1430 will establish requirements to control toxic air contaminants from metal forging, shredding, grinding, and other metal processing operations. *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*
September	
1401[1] 1402[1]	**New Source Review of Toxic Air Contaminants** **Control of Toxic Air Contaminants from Existing Sources** *[Projected Emission Reduction: TBD]* Amendments to Rules 1401 and 1402 will address new or revised toxic air contaminants that have been approved by OEHHA. *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*
November	
1420 1420.2	**Emissions Standard for Lead** **Emission Standards for Lead from Medium Sources** *[Projected Emission Reduction: TBD]* In October 2008, U.S. EPA lowered the National Ambient Air Quality Standard for lead from 1.5 to 0.15 ug/m3. Proposed Amended Rule 1420 and Proposed Rule 1420.2 will apply to lead sources and will include requirements to ensure the Basin meets the new lead standard. *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*
2305*	**Indirect Sources** *[Projected Emission Reduction: TBD]* Proposed Rule 2305 will identify approaches to reduce exposure to diesel particulate emissions and localized NO2 emissions from facilities associated with large indirect sources (i.e. facilities that attract mobile sources). *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*
December	
1450	**Control of Methylene Chloride Emissions** *Projected Emission Reduction: N/A]* Proposed Rule 1450 will establish requirements to control methylene chloride from furniture stripping operations and other sources. *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*

ATTACHMENT B

Toxics Rule Activity Schedule (continued)

To-Be Determined 2014

To-Be Determined	
1420.1	**Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities** *[Projected Emission Reduction: TBD]* The proposed amendment will reduce arsenic, benzene, and 1,3-butadiene emissions from large lead-acid battery recycling facilities. *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*
4010*+ 4020*+	**General Provisions and Requirements for Ports of Los Angeles and Long Beach (IND-01)** **Backstop Requirements for Ports of Los Angeles and Long Beach (IND-01)** *[Projected Emission Reduction: TBD]* If triggered, the proposed rules will address cost-effective NOx, SOx, and PM2.5 emission reduction strategies from port-related sources to ensure emission reductions claimed or emission targets assumed in the AQMP are maintained. *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*
Reg. IV, IX, X, XI, XIV, XX and XXX Rules	The Clean Communities Plan (CCP) has been updated to include new measures to address toxic emissions in the basin. The CCP measures will reduce exposure to air toxics from stationary, mobile, and area sources (Table 3). Rule amendments also include updates to provide consistency with CARB Statewide Air Toxic Control Measures.

ATTACHMENT C

Other Rule Activity Schedule

This attachment lists those rules or rule amendments for the Governing Board consideration that are designed to improve rule enforceability, SIP corrections, or implementing state or federal regulations.

2014

May	
102[1]	**Definition of Terms** *[Projected Emission Reduction: N/A]* The proposed amendment would add compounds exempted by U.S. EPA to the definition of Exempt Compounds in the rule. For example, the U.S. EPA recently exempted the compound HFO 1233zd from the federal VOC definition because of its negligible photochemical reactivity level which may be added in Rule 102. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
Reg. III	**Fees** *[Projected Emission Reduction: N/A]* Regulation III is being amended to better align program revenues with program costs. Other minor amendments may also being proposed to correct typos, eliminate out-of-date references, and improve consistency and clarity. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
2202	**On-Road Motor Vehicle Mitigation Options** *[Projected Emission Reduction: TBD]* The proposed amendment is to amend sections of Rule 2202 On-Road Vehicle Mitigation Options and the Rule 2202 Implementation Guidelines that address the use of Emission Reduction Credits (ERC). Staff is proposing to restrict new transfer ERC's into the program and to clarify their use. ERCs that are already in the Rule 2202 program will remain there pursuant to existing guideline language. The restricting of the use of ERCs in the program is to prevent potentially negative impacts on their availability to the NSR program. *Carol Gomez 909.396.3264 CEQA: Krause (2706) Socio: Lieu (3059)*
June	
415	**Odors from Rendering Plants** *[Projected Emission Reduction: TBD]* Proposed Rule 415 will address odors from rendering plants. *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*

ATTACHMENT C

Other Rule Activity Schedule (continued)

2014

June	(Continued)
1153.1	**Emissions of Oxides of Nitrogen from Commercial Food Ovens** *Projected Emission Reduction: N/A]* Proposed Rule 1153.1 will establish equipment specific nitrogen oxides emission limits and other requirements for the operation of commercial food ovens. *Joe Cassmassi 909.396.31553 CEQA: Krause (2706) Socio: Lieu (3059)*
July	
Reg. IX X	**Standards of Performance for New Stationary Sources (NSPS)** **National Emissions Standards for Hazardous Air Pollutants (NESHAPS)** *[Projected Emission Reduction: N/A]* Regulation IX - Standards of Performance for New Stationary Sources and Regulation X - National Emission Standards for Hazardous Air Pollutants, incorporate by reference the corresponding federal requirements. Amendments are being proposed to incorporate the latest federal revisions. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
1111	**Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces** *[Projected Emission Reduction: N/A]* Amendments may be necessary to reflect the findings of the on-going technology assessment. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
1151*+	**Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations** *[Projected Emission Reduction: N/A]* The proposed amendments to the rule will remove language associated with outdated requirements and may also be necessary to reflect further findings relative to recordkeeping requirements for tertiary butyl acetate (TBAc), as well as include minor clarifications. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
November	
2305*	**Indirect Sources** *[Projected Emission Reduction: TBD]* Proposed Rule 2305 will identify approaches to reduce exposure to diesel particulate emissions and localized NO2 emissions from facilities associated with large indirect sources (i.e. facilities that attract mobile sources). *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*

ATTACHMENT C

Other Rule Activity Schedule (continued)

To-Be Determined 2014

To-Be Determined	
219	**Equipment Not Requiring a Written Permit Pursuant to Regulation II** *[Projected Emission Reduction: N/A]* Amendments to Rule 219 may be proposed to exclude equipment with de minimis emissions from the requirement to obtain written permits. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
222.1	**Filing Requirements for Specific Emissions Sources Not Requiring a Written Permit Pursuant to Regulation I** *[Projected Emission Reduction: N/A]* Amendments for Rule 222 may be proposed to add additional equipment categories to the streamlined filing/registration program of Rule 222. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
1107	**Coating of Metal Parts and Products** *[Projected Emission Reduction: N/A]* Potential amendments to Rule 1107 would further reduce VOC emissions and improve rule clarity and enforceability. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
1113	**Architectural Coatings** *[Projected Emission Reduction: N/A]* Potential amendments may be proposed to include administrative fixes and/or any clarifications that may arise due to compliance verification activities or manufacturer and public input. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
1118	**Control of Emissions from Refinery Flares** *[Projected Emission Reduction: TBD]* Amendments may be necessary to address results of the additional analysis required by the adopting resolution for the last amendment. Amendments may also be necessary to implement an AB 32 measure. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
1124 1162 1171	**Aerospace Assembly and Component Manufacturing Operations (CTS-02)** **Polyester Resin Operations (CTS-02)** **Solvent Cleaning Operations (CTS-02)** *[Projected Emission Reduction: N/A]* Amendments may be necessary to integrate requirements associated with Proposed Rule 1161 – Mold Release Agents. The proposed amendment may consider technology assessments for the cleanup of affected equipment. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*

ATTACHMENT C

Other Rule Activity Schedule (continued)

To-Be Determined 2014

To-Be Determined	(continued)
1147	**NOx Reductions from Miscellaneous Sources** *[Projected Emission Reduction: N/A]* Amendments may be necessary to address findings of on-going technology assessment. *Joe Cassmassi 909.396.3155 909.396.3155 CEQA: Krause (2706) Socio: Lieu (3059)*
1148.1	**Oil and Gas Production Wells** *[Projected Emission Reduction: N/A]* Amendments may be necessary to improve rule effectiveness in reducing emissions from production wells and associated equipment and improving housekeeping activities. *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*
1177	**Liquefied Petroleum Gas Transfer and Dispensing** *[Projected Emission Reduction: N/A]* Potential amendments may be proposed to include administrative fixes and/or any clarifications that may arise due to compliance verification activities or manufacturer and public input. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
1190 Series	**Fleet Vehicle Requirements** *[Projected Emission Reduction: TBD]* Amendments to Rule 1190 series fleet rules may be necessary to address remaining outstanding implementation issues and in the event the court's future action requires amendments. In addition, the current fleet rules may be expanded to achieve additional air quality and air toxic benefits. *Dean Saito 909.396.2647 CEQA: Krause (2706) Socio: Lieu (3059)*
1304.2	**Greenfield or Existing Electrical Generating Facility Fee for Use of Offsets** *[Projected Emission Reduction: TBD]* Rule 1304.2 provides for new, Greenfield or additions at existing electrical generating facilities access to the AQMD's internal offset account, subject to qualifying conditions, eligibility, and the payment of a fee to invest in air quality improvement projects consistent with the AQMP. This rule is a companion provision to recently adopted Rule 1304.1 and will provide that new, proposed and other existing electrical generating facilities can compete on a level playing field with existing generating facilities with utility steam boilers, and implement the State's plan to maintain grid reliability. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*

ATTACHMENT C

Other Rule Activity Schedule (continued)

To-Be Determined 2014

To-Be Determined	(continued)
Reg. XIII	**New Source Review** *[Projected Emission Reduction: TBD]* Amendments may be necessary to address U.S. EPA comments on SIP approvability issues and/or requirements. Amendments may also be proposed for clarity and improved enforceability. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
1902	**Transportation Conformity** *[Projected Emission Reduction: TBD]* Amendments to Rule 1902 may be necessary to bring the District's Transportation Conformity rule in line with current U.S. EPA requirements. *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*
2511	**Credit Generation Program for Locomotive Head End Power Unit Engines** *[Projected Emission Reduction: TBD]* Develop a rule to allow generation of PM mobile source emission reduction credits from Locomotive Head End Power Unit Engines. Credits will be generated by retrofitting engines with PM controls or replacing the engines with new lower-emitting engines. *Randall Pasek 909.396.2251 CEQA: Krause (2706) Socio: Lieu (3059)*
2512	**Credit Generation Program for Ocean-Going Vessels at Berth** *[Projected Emission Reduction: TBD]* Develop a rule to allow generation of PM, NOx and SOx emission reduction credits from ocean-going vessels while at berth. Credits will be generated by controlling the emissions from auxiliary engines and boilers of ships while docked. *Randall Pasek 909.396.2251 CEQA: Krause (2706) Socio: Lieu (3059)*
Reg. IV, IX, X, XI, XIV, XX and XXX Rules	Rule amendments to meet the requirements of state and federal laws, to address variance issues/technology-forcing limits, to abate a substantial endangerment to public health or welfare, or to seek additional reductions to meet the SIP short-term measure commitments. The associated rule development or amendments include, but are not limited to, SCAQMD existing rules listed in Table 1 and new or amended rules to implementation the 2012 AQMP measures in Table 2. The Clean Communities Plan (CCP) has been updated to include new measures to address toxic emissions in the basin. CCP measures will reduce exposure to air toxics from stationary, mobile, and area sources (Table 3). Rule amendments also include updates to provide consistency with CARB Statewide Air Toxic Control Measures.

ATTACHMENT D

Climate Change

This attachments lists rules or rule amendments for the Governing Board consideration that are designed to implement South Coast Air Quality Managements District's Climate Change Policy or for consistency with state or federal rules.

To-Be Determined 2014

To-Be Determined	
1118	**Control of Emissions from Refinery Flares** *[Projected Emission Reduction: TBD]* Amendments may be necessary to address findings from the additional analysis required by the adopting resolution for the last amendment. Amendments may also be necessary to implement an AB 32 measure. *Naveen Berry 909.396.2363 CEQA: Krause (2706) Socio: Lieu (3059)*
Reg. XXVII	**Climate Change** *[Projected Emission Reduction: TBD]* Additional protocols may be added to Rules 2701 and 2702. *Susan Nakamura 909.396.3105 CEQA: Krause (2706) Socio: Lieu (3059)*
Reg. IV, IX, X, XI, XIV, XX and XXX Rules	Rule developments/amendments to meet the requirements of state and federal laws related to climate change air pollutants.

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 17

PROPOSAL: Report of RFPs and RFQs Scheduled for Release in March

SYNOPSIS: This report summarizes the RFPs and RFQs for budgeted services over $75,000 scheduled to be released for advertisement for the month of March.

COMMITTEE: Administrative, February 14, 2014; Recommended for Approval

RECOMMENDED ACTION:
Approve the release of RFPs/RFQs for the month of March.

Barry R. Wallerstein, D.Env.
Executive Officer

MBO:lg

Background
At its January 8, 2010 meeting, the Board approved a revised Procurement Policy and Procedure. Under the revised policy, RFPs and 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 RFPs and 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 RFP or 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/rfp/index.html following Board approval on March 7, 2014.

Outreach
In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the RFP/RFQ and inviting bids will be 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.

Additionally, potential bidders may be notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the RFP/RFQ will be 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 where it can be viewed by making menu selections "Inside AQMD"/"Employment and Business Opportunities"/"Business Opportunities" or by going directly to http://www.aqmd.gov/rfp/index.html). Information is also available on SCAQMD's bidder's 24-hour telephone message line (909) 396-2724.

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 or academic community expertise.

Attachment
Report of RFPs and RFQs Scheduled for Release in March 2014

March 7, 2014 Board Meeting
Report on RFPs and RFQs Scheduled for Release on March 7, 2014

(For detailed information visit SCAQMD's website at http://www.aqmd.gov/rfp/index.html following Board approval on March 7, 2014)

STANDARDIZED SERVICES

NONE

REQUESTS FOR QUALIFICATIONS - Prequalified Vendor List

RFQ #Q2014-04	Issue Request for Qualifications to Prequalify Providers of Temporary Employment Services The current list of prequalified providers of temporary employment services expires June 30, 2014. This action is to issue an RFQ to solicit statements of qualifications from providers of temporary employment services interested in being prequalified to provide these services to SCAQMD through June 30, 2017.	JOHNSON/3018

RESEARCH AND DEVELOPMENT OR SPECIAL TECHNICAL EXPERTISE

RFP #P2014-15	Issue Request for Proposal for Workers' Compensation Claims Third-Party Administration The current contract for workers' compensation claims third-party administration expires June 30, 2014. This action is to issue an RFP to solicit bids from interested parties in order to secure a new three-year contract for this service, with the option to extend the contract for two additional one-year periods. Funds for this contract will be requested in the FY 2014-15 Budget, and for each of the remaining fiscal years of the contract.	JOHNSON/3018

REQUEST FOR QUOTATIONS – Commercial Off-the-Shelf Equipment

NONE

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 18

REPORT: FY 2013-14 Contract Activity

SYNOPSIS: This report lists the number of contracts let during the first six months of FY 2013-14, the respective dollar amounts, award type, and the authorized contract signatory for the SCAQMD.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file.

Barry R. Wallerstein, D.Env.
Executive Officer

MOK:DH:EA:lg

Background
Since FY 1995-96, staff has provided semi-annual reports to the Governing 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) Amendments – modifications to existing contracts usually reflecting changes in the project scope and/or schedule; 5) Terminated Contracts – Partial 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
Of the 321 contracts and modifications (including terminations) issued during this period, New Awards accounted for 152, Other accounted for 30, Sponsorships accounted for 1, and Modifications accounted for 138. The total value for New Awards was $124,069,547.07. Of this amount, $119,498,809.00 or 96% was awarded through the competitive process. The total value of all contracts and contract modifications for this

period was $127,853,161.17 with 166 contracts and contract modifications totaling $126,797,739.07 approved by the Board and 130 contracts and contract modifications totaling $1,055,422.10 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 this amount $678,723.30 representing 22 contracts and 1 contract modification was for Board Member Assistant contracts as approved by the Board's Administrative Committee; $119,800.00 representing 5 contracts was sole sourced in the areas of technical consulting, air monitoring station license agreements and litigation/legal services; $30,000.00 representing 1 contract was for a sponsorship in advanced technologies; and $128,133.50 representing 93 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 25 during this period and de-obligated a total of $4,271,717.00.

CONTRACT CATEGORY	NUMBER	AMOUNT
New Awards	152	$124,069.547.07
Other	30	$ 735,312.60
Sponsorships	1	$ 30,000.00
Modifications	113	$ 3,018,301.50
Terminations	25	-$ 4,271,717.00

Attachment
Contract Activity Report for the period July 1, 2013 through December 31, 2013

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
I. NEW AWARDS							
Competitive - Board Approved							
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12057	31	DEMONSTRATE AND EXPAND HYDROGEN FUELING INFRASTRUCTURE TO SUPPORT EXISTING AND ANTICIPATED FCV POPULATION IN LAGUNA NIGUEL AREA	LINDE ELECTRONICS & SPECIALTY GASES	$250,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12087	81	PROP 1B TRUCK REPLACEMENT PROGRAM - OPERATE TRUCK PREVIOUSLY PAID TO CASCADE SIERRA SOLUTIONS	RUDY MONTEALEGRE	$0.00	15
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12233	81	INSTALLATION OF A GRID-BASED, SHORE POWER SYSTEMS AT UP TO 12 BERTHS AT THE PORT OF LONG BEACH	PORT OF LONG BEACH	$30,000,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12486	31	TECHNICAL ASSISTANCE WITH GOODS MOVEMENT AND ZERO-EMISSION TRANSPORTATION TECHNOLOGIES	ICF INCORPORATED, L.L.C.	$50,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12884	81	REPLACE 10 DIESEL SOLID WASTE COLLECTION VEHICLES WITH NATURAL GAS VEHICLES	CITY OF LOS ANGELES	$250,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12886	81	REPLACE 12 DIESEL SOLID WASTE COLLECTION VEHICLES WITH NATURAL GAS VEHICLES	BURRTEC WASTE INDUSTRIES INC	$250,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13028	32	REPOWER 5 DIESEL OFF-ROAD VEHICLES	RRM PROPERTIES, LTD - LSR	$989,463.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13151	81	INSTALLATION OF TRUCK STOP ELECTRIFICATION SYSTEM - PROP1B - GOODS MOVEMENT PROGRAM	CONVOY SOLUTIONS LLC	$407,042.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13313	32	REPOWER 1 MAIN ENGINE ON A MARINE VESSEL	GIACOMO F. DAMATO FISHING	$60,782.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13431	27	DEMONSTRATE STAGED COMBUSTION HYDROGEN ASSISTED EMISSION CONTROL SYSTEM	GAS TECHNOLOGY INSTITUTE	$183,988.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13432	27	CONDUCT A NATIONWIDE SURVEY OF BIOGAS CLEANUP TECHNOLOGIES AND COSTS	GAS TECHNOLOGY INSTITUTE	$150,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13434	80	REPOWER 5 OFF-ROAD VEHICLES	ABOVE ALL GRADING	$430,888.00	

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13435	80	REPOWER 1 OFF-ROAD VEHICLE	DOUGLAS CASH HEAVY EQUIPMENT RENTAL	$161,012.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13436	80	REPOWER 1 OFF-ROAD VEHICLE	P. RILEY ENTERPRISES, INC.	$106,272.00	
16	ADMINISTRATIVE & HUMAN RESOURCES	C13438	01	LANDSCAPE AND TREE MAINTENANCE SERVICES	TROPICAL PLAZA NURSERY INC	$158,529.00	
27	INFORMATION MANAGEMENT	C13440	2	AUDIO VISUAL SYSTEM UPGRADE	DIGITAL NETWORKS GROUP, INC.	$1,196,952.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13442	58	MOBILE HOME PARK PAVING PROJECTS	COUNTY OF RIVERSIDE	$4,097,114.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13444	58	PARKING LOT PAVING DUST MITIGATION PROJECT	TORRES MARTINEZ DESERT CAHUILLA INDIANS	$999,989.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13446	80	REPOWER OF 4 OFF-ROAD VEHICLES	MUTH EQUIPMENT, INC.	$527,255.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13450	58	PROCUREMENT OF FIVE NEW CARB-CERTIFIED DEDICATED CNG-POWERED VEHICLES	ANGEL VIEW, INC	$270,818.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13452	32	OPERATE 1 REPOWERED MARINE VESSEL PREVIOUSLY PAID TO MARIA T. LLC	TOMICH BROTHERS LOGISTICS, LLC	$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13455	81	TECHNICAL ASSISTANCE WITH DOE'S GOODS MOVEMENT TRUCK REPLACEMENT PROGRAM	TETRA TECH INC	$100,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13456	58	INSTALLATION OF SOLAR PV PARKING CANOPY SYSTEM	SUNPOWER CORPORATION	$2,000,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13459	58	PARKWAY 1e11 PROJECT	COACHELLA VALLEY ASSOC OF GOVERNMENTS	$17,400,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13460	80	REPOWER 13 DIESEL OFF-ROAD VEHICLES	JAGUR TRACTOR	$1,786,662.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13461	58	AIR FILTRATION FOR SCHOOLS IN EJ AREA	IQAIR NORTH AMERICA, INC.	$921,235.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13463	58	AIR FILTRATION FOR SCHOOLS IN EJ AREA	COACHELLA VALLEY UNIFIED SCHOOL DISTRICT	$337,200.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13466	80	REPOWER ONE DIESEL OFF-ROAD CONSTRUCTION EQUIPMENT	JKM EQUIPMENT INC	$173,482.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13467	80	REPOWER 3 DIESEL OFF-ROAD CONSTRUCTION EQUIPMENT	POWER MOVE, INC.	$296,652.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14020	58	PROJECT TO PROCURE NATURAL GAS VEHICLES	FIND FOOD BANK	$304,623.00	

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14025	80	REPOWER 2 DIESEL OFF-ROAD CONSTRUCTION VEHICLES	LEE & STIRES INC	$117,796.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14026	58	UPGRADE EXISTING CNG FUELING STATION	DESERT SANDS UNIFIED SCHOOL DISTRICT	$174,250.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14027	58	COACHELLA VALLEY WEATHERIZATION PROJECT	QUALITY INTERIORS, INC.	$2,354,164.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14030	58	COACHELLA VALLEY WEATHERIZATION PROJECT	SUMMIT INSULATION INC.	$1,054,164.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14031	58	INSTALLATION OF SOLAR PHOTOVOLTAIC GROUND MOUNT SYSTEM	PALM SPRINGS UNIFIED SCHOOL DISTRICT	$3,000,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14032	80	OPERATE 1 REPOWERED MARINE VESSEL PREVIOUSLY PAID TO CALAMAR KID LLC	FISHERS CATCH LLC	$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14033	58	UPGRADE PUBLIC ACCESS STATION TO L/CNG	BORDER VALLEY TRADING	$900,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14035	58	INSTALLATION OF SOLAR PHOTOVOLTAIC GROUND MOUNT SYSTEM	MISSION SPRINGS WATER DISTRICT	$3,330,546.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14037	58	INSTALLATION OF SOLAR PHOTOVOLTAIC ROOF AND PARKING CANOPY SYSTEM	CITY OF PALM SPRINGS	$1,175,225.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14039	58	MITIGATION FEE EMISSION REDUCTION PROJECT TO CONSTRUCT NEW CNG STATION	COACHELLA VALLEY UNIFIED SCHOOL DISTRICT	$300,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14040	58	INSTALLATION OF SOLAR PHOTOVOLTAIC GROUND MOUNT SYSTEM	RENOVA ENERGY CORP.	$314,584.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14042	58	CONSTRUCT NEW CNG STATION, PROCURE VEHICLES, AND INSTALL SOLAR PV PARKING CANOPY SYSTEM	CITY OF COACHELLA	$1,895,000.00	
20	MEDIA OFFICE	C14055	36	MEDIA, ADVERTISING, AND PUBLIC OUTREACH CAMPAIGN FOR CHECK BEFORE YOU BURN PROGRAM	QUIJOTE CORP dba SENSIS	$493,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14064	27	EXCHANGE 1,500 MODEL BR500 BACKPACK BLOWERS FOR USE BY COMMERCIAL GARDENERS/LANDSCAPERS	PACIFIC STIHL	$269,925.00	
26	PLANNING RULE DEV & AREA SOURCES	C14065	01	REVIEW OF SCscaqmd SOCIOECONOMIC ASSESSMENT	ABT ASSOCIATES, INC	$153,208.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13201	80	PURCHASE 2 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	ABC UNIFIED SCHOOL DISTRICT	$351,000.00	

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13202	80	PURCHASE 1 CNG SCHOOL BUS WITH FIRE SUPRESSION SYSTEM AND ASSOCIATED INFRASTRUCTURE	ALHAMBRA UNIFIED SCHOOL DISTRICT	$175,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13203	80	PURCHASE 1 CNG SCHOOL BUS WITH FIRE SUPPRESSANT SYSTEMS AND ASSOCIATED INFRASTRUCTURE	BANNING UNIFIED SCHOOL DISTRICT	$175,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13204	80,33	PURCHASE 4 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	BEAR VALLEY UNIFIED SCHOOL DISTRICT	$756,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13205	80	PURCHASE 3 CNG SCHOOL BUSES WITH FIRE SUPPRESSANT SYSTEMS AND ASSOCIATED INFRASTRUCTURE	BEAUMONT UNIFIED SCHOOL DISTRICT	$526,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13206	80	PURCHASE 1 CNG SCHOOL BUS WITH FIRE SUPRESSION SYSTEM AND ASSOCIATED INFRASTRUCTURE	BONITA UNIFIED SCHOOL DISTRICT	$175,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13207	80	PURCHASE 9 CNG SCHOOL BUSES WITH FIRE SUPPRESSANT SYSTEMS AND ASSOCIATED INFRASTRUCTURE	CHAFFEY JOINT UNION HIGH SCHOOL DISTRICT	$1,579,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13208	80	PURCHASE 4 CNG SCHOOL BUSES WITH FIRE SUPPRESSANT SYSTEMS AND ASSOCIATED INFRASTRUCTURE	COLTON JOINT UNIFIED SCHOOL DISTRICT	$702,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13209	80	PURCHASE 2 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	CYPRESS SCHOOL DISTRICT	$351,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13210	80	PURCHASE 6 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	DOWNEY UNIFIED SCHOOL DISTRICT	$1,053,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13211	80	PURCHASE 16 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	FULLERTON SCHOOL DISTRICT	$2,072,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13212	80	PURCHASE 6 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	FULLERTON JOINT UNION HIGH SCHOOL DIST	$1,053,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13213	80	PURCHASE 3 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	HUNTINGTON BEACH UNION HS DISTRICT	$526,500.00	

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13214	80	PURCHASE 7 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	HEMET UNIFIED SCHOOL DISTRICT	$1,228,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13215	80	PURCHASE 4 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	LA HABRA CITY SCHOOL DISTRICT	$702,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13216	80	PURCHASE 9 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	LAKE ELSINORE UNIFIED SCHOOL DISTRICT	$1,579,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13217	80	PURCHASE 5 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	MONTEBELLO UNIFIED SCHOOL DISTRICT	$877,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13218	80	PURCHASE 10 CNG SCHOOL BUSES WITH FIRE SUPPRESSANT SYSTEMS AND ASSOCIATED INFRASTRUCTURE	MURRIETA VALLEY USD	$1,755,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13219	80	PURCHASE 8 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	NEWPORT-MESA UNIFIED SCHOOL DISTRICT	$1,404,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13220	80	PURCHASE 8 CNG SCHOOL BUSES WITH FIRE SUPPRESSANT SYSTEMS AND ASSOCIATED INFRASTRUCTURE	OCEAN VIEW SCHOOL DISTRICT	$1,404,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13221	80	PURCHASE 11 CNG SCHOOL BUSES WITH FIRE SUPPRESSANT SYSTEMS AND ASSOCIATED INFRASTRUCTURE	ONTARIO-MONTCLAIR SCHOOL DISTRICT	$1,930,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13222	80	PURHASE 3 CNG SCHOOL BUSES WITH FIRE SUPPRESION SYSTEM AND ASSOCIATED INFRASTRUCTURE	ORANGE UNIFIED SCHOOL DISTRICT	$526,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13223	80	PURCHASE 4 CNG SCHOOL BUSES WITH FIRE SUPPRESSANT SYSTEMS AND ASSOCIATED INFRASTRUCTURE	PLACENTIA-YORBA LINDA UNIFIED SCH DIST	$702,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13224	80	PURCHASE 4 CNG AND 5 PROPANE SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	PUPIL TRANSPORTATION COOPERATIVE	$1,349,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13225	80	PURCHASE 15 CNG SCHOOL BUSES WITH FIRE SUPPRESSANT SYSTEMS AND ASSOCCIATED INFRASTRUCTURE	REDLANDS UNIFIED SCHOOL DISTRICT	$2,632,500.00	

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13226	80	PURCHASE 16 CNG SCHOOL BUSES WITH FIRE SUPPRESSANT SYSTEMS AND ASSOCIATED INFRASTRUCTURE	RIALTO UNIFIED SCHOOL DISTRICT	$2,808,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13227	80,33	PURCHASE 1 CNG SCHOOL BUS WITH FIRE SUPPRESSION SYSTEM AND ASSOCIATED INFRASTRUCTURE	RIM OF THE WORLD UNIFIED SCHOOL DISTRICT	$189,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13228	80	PURCHASE 5 CNG SCHOOL BUSES	ROWLAND UNIFIED SCHOOL DISTRICT	$877,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13229	80	PURCHASE 5 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	TEMECULA VALLEY UNIFIED SCHOOL DISTRICT	$877,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13230	80	PURCHASE 4 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	TORRANCE UNIFIED SCHOOL DISTRICT	$702,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13231	80	PURCHASE 6 CNG SCHOOL BUSES WITH FIRE SUPPRESSION SYSTEMS AND ASSOCIATED INFRASTRUCTURE	UPLAND UNIFIED SCHOOL DISTRICT	$1,053,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13232	80	PURCHASE 5 CNG SCHOOL BUSES	WALNUT VALLEY UNIFIED SCHOOL DISTRICT	$877,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13234	80	LOWER EMISSION SCHOOL BUS PM TRAP RETROFIT PROGRAM	BEAUMONT UNIFIED SCHOOL DISTRICT	$20,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13235	80	LOWER EMISSION SCHOOL BUS PM TRAP RETROFIT PROGRAM	CYPRESS SCHOOL DISTRICT	$20,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13236	80	LOWER EMISSION SCHOOL BUS PM TRAP RETROFIT PROGRAM	LA HABRA CITY SCHOOL DISTRICT	$60,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13237	80	LOWER EMISSION SCHOOL BUS PM TRAP RETROFIT PROGRAM	ONTARIO-MONTCLAIR SCHOOL DISTRICT	$100,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13238	80	LOWER EMISSION SCHOOL BUS PM TRAP RETROFIT PROGRAM	RIVERSIDE COUNTY OFFICE OF EDUCATION	$20,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13239	80	LOWER EMISSION SCHOOL BUS PM TRAP RETROFIT PROGRAM	SANTA MONICA-MALIBU UNIFIED SCHOOL DIST	$140,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13241	80	LOWER EMISSION SCHOOL BUS PM TRAP RETROFIT PROGRAM	JFK TRANSPORTATION CO., INC.	$20,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13242	80	LOWER EMISSION SCHOOL BUS PM TRAP RETROFIT PROGRAM	PACIFIC COACHWAYS CHARTER SERVICES, INC.	$120,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13243	80	LOWER EMISSION SCHOOL BUS PM TRAP RETROFIT PROGRAM	TUMBLEWEED TRANSPORTATION	$460,000.00	

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G13269	80	REPLACE 2 CNG FUEL TANKS ON 2 SCHOOL BUSES	PUPIL TRANSPORTATION COOPERATIVE	$40,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G14045	80	INSTALL 3 REPLACEMENT CNG TANKS ON SCHOOL BUSES	RIALTO UNIFIED SCHOOL DISTRICT	$60,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G14047	80	INSTALL 1 REPLACEMENT CNG TANK ON 1 SCHOOL BUS	CHAFFEY JOINT UNION HIGH SCHOOL DISTRICT	$20,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	G14048	80	REPLACE 5 CNG TANKS ON 5 SCHOOL BUSES	COVINA VALLEY UNIFIED SCHOOL DISTRICT	$100,000.00	
44	MSRC	ML12014	23	PURCHASE CNG & LPG FUELED VEHICLES, EXPAND EXISTING CNG FUELING STATION AND INSTALL ELECTRIC CHARGING STATIONS	CITY OF SANTA ANA	$384,000.00	
44	MSRC	ML12017	23	PURCHASE 32 HEAVY-DUTY NATURAL GAS VEHICLES	CITY OF LOS ANGELES	$950,000.00	
44	MSRC	ML12018	23	EXPAND CNG STATION	CITY OF WEST COVINA	$300,000.00	
44	MSRC	ML12019	23	ELECTRIC VEHICLE CHARGING INFRASTRUCTURE	CITY OF PALM SPRINGS	$38,000.00	
44	MSRC	ML12022	23	PURCHASE TWO MEDIUM-DUTY CNG AND THREE HEAVY-DUTY LPG VEHICLES	CITY OF LA PUENTE	$110,000.00	
44	MSRC	ML12023	23	INSTALL EV CHARGING INFRASTRUCTURE	COUNTY OF LOS ANGELES	$250,000.00	
44	MSRC	ML12043	23	PURCHASE 2 HEAVY-DUTY CNG VEHICLES	CITY OF HEMET	$60,000.00	
44	MSRC	ML12046	23	PURCHASE 1 HEAVY-DUTY CNG VEHICLE	CITY OF IRVINE	$30,000.00	
44	MSRC	ML12054	23	ELECTRIC VEHICLE CHARGING INFRASTRUCTURE	CITY OF PALM DESERT	$77,385.00	
44	MSRC	ML12057	23	PURCHASE HEAVY-DUTY CNG VEHICLE AND REGIONAL STREET SWEEPING	CITY OF COACHELLA	$57,456.00	
44	MSRC	MS11008	23	EXPAND LNG FUELING STATION	USA WASTE OF CALIFORNIA INC	$125,000.00	
44	MSRC	MS11009	23	EXPAND LNG FUELING STATION	WASTE MANAGEMENT COLLECTION & RECYCLING	$125,000.00	
44	MSRC	MS11085	23	DEMONSTRATE RETROFIT DEVICES ON OFF-ROAD VEHICLES	CITY OF LONG BEACH	$159,012.00	
44	MSRC	MS12004	23	INSTALL NEW CNG FUELING STATION AND MAINTENANCE FACILITY MODIFICATIONS	USA WASTE OF CALIFORNIA INC	$175,000.00	
44	MSRC	MS12008	23	INSTALL NEW CNG FUELING STATION	BONITA UNIFIED SCHOOL DISTRICT	$175,000.00	
44	MSRC	MS12011	23	NEW PUBLIC ACCESS CNG STATION-PICO RIVERA	SOUTHERN CALIFORNIA GAS COMPANY	$150,000.00	
44	MSRC	MS12024	23	INSTALL A CNG FUELING STATION IN MURRIETA	SOUTHERN CALIFORNIA GAS COMPANY	$150,000.00	

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	MSRC	MS12063	23	NEW CNG STATION - INDUSTRY	CUSTOM ALLOY LIGHT METALS, INC	$100,000.00	
44	MSRC	MS12065	23	IMPLEMENT SPECIAL BUS SERVICE TO HONDA CENTER	ORANGE CO TRANSPORTATION AUTHORITY	$26,673.00	
44	MSRC	MS12067	23	DEMONSTRATE RETROFIT DEVICES ON OFF-ROAD VEHICLES	LEATHERWOOD CONSTRUCTION, INC	$122,719.00	
44	MSRC	MS12069	23	IMPLEMENT SPECIAL TRANSIT SERVICE TO SOLAR DECATHLON	CITY OF IRVINE	$45,000.00	
44	MSRC	MS12073	23	INSTALL A CNG FUELING STATION IN LAKE FOREST	FIRSTCNG, LLC	$150,000.00	
44	MSRC	MS12074	23	EXPAND EXISTING CNG FUELING STATION	ARCADIA UNIFIED SCHOOL DISTRICT	$175,000.00	
44	MSRC	MS12075	23	EXPAND CNG STATION	CR&R INC	$100,000.00	
44	MSRC	MS12077	23	INSTALL CNG FUELING STATION	CITY OF COACHELLA	$225,000.00	
44	MSRC	MS12080	23	EXPAND CNG STATION	CITY OF PASADENA	$225,000.00	
44	MSRC	MS12082	23	CONSTRUCT A NEW LIMITED ACCESS CNG FUELING STATION AND OPERATE STATION FOR 5 YEARS	CITY OF LOS ANGELES	$175,000.00	
44	MSRC	MS12084	23	NEW CNG FUELING STATION IN ONTARIO, CALIFORNIA	AIRPORT MOBIL, INC	$150,000.00	
44	MSRC	MS14002	23	IMPLEMENT EXPRESS BUS SERVICE TO ORANGE COUNTY FAIR	ORANGE CO TRANSPORTATION AUTHORITY	$576,833.00	
44	MSRC	MS14003	23	IMPLEMENT SPECIAL METROLINK SERVICE TO ANGEL STADIUM	ORANGE CO TRANSPORTATION AUTHORITY	$194,235.00	
44	MSRC	MS14004	23	IMPLEMENT EXPRESS BUS SERVICE TO SOLAR DECATHLON	ORANGE CO TRANSPORTATION AUTHORITY	$36,800.00	
44	MSRC	MS14006	23	TECHNICAL ADVISOR SERVICES FOR THE MSRC	RAYMOND GORSKI	$294,700.00	
					Subtotal	**$119,456,633.00**	

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
Competitive-Executive Officer Approved							
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14046	01	CONDUCT PM NETWORK PERFORMANCE AND SYSTEM EVALUATION PROGRAM	TECHNICAL AND BUSINESS SYSTEMS	$42,176.00	
					Subtotal	**$42,176.00**	
Sole Source - Board Approved							
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12899	32	DEMO OF THE MOBICLEAN COMBINED DPF & SCR TECHNOLOGY ON A COMMERCIAL HARBOR VESSEL	HUG ENGINEERING, INC	$100,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13058	31	DEVELOPMENT OF MICROTURBINE SERIES HYBRID SYSTEM FOR CLASS 7 HEAVY-DUTY VEHICLE APPLICATION	CAPSTONE TURBINE CORPORATION	$360,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13391	32	OPERATE 1 REPOWERED MARINE VESSEL	SOO KYUNG LEE	$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13401	31	DEMONSTRATE NATURAL GAS-POWERED PARKING LOT SWEEPER VEHICLE	NITE-HAWK SWEEPERS, LLC.	$90,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13404	01	LEASE 2 HONDA FIT EVS	PENSKE HONDA ONTARIO	$30,513.60	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13408	31	DEMONSTRATION OF BUILDING INTEGRATION OF ELECTRIC VEHICLES, PHOTOVOLTAICS, AND STATIONARY FUEL CELLS	UC REGENTS	$150,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13418	31	SO CAL IEV INFRASTRUCTURE MOA	CITY OF CLAREMONT	$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13419	31	SO CAL IEV INFRASTRUCTURE MOA	CALIFORNIA STATE UNIVERSITY-LOS ANGELES	$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13420	31	SO CAL IEV INFRASTRUCTURE MOA	UC REGENTS	$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13421	31	SO CAL IEV INFRASTRUCTURE MOA	COUNTY OF LOS ANGELES	$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13422	31	SO CAL IEV INFRASTRUCTURE MOA	DEPARTMENT OF WATER & POWER	$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13433	61	DEVELOP AND DEMONSTRATE TWO CLASS 8 ZERO-EMISSION ELECTRIC TRUCKS	US HYBRID CORPORATION	$943,810.00	
26	PLANNING RULE DEV & AREA SOURCES	C14021	17	PROVIDE VIRTUALPAINT TRAINING FOR EPA TARGETED AIRSHED GRANT	UNIVERSITY OF NORTHERN IOWA	$14,358.47	

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14038	32	OPERATE ONE REPOWERED VESSEL	DAVERY FISHERIES, LLC	$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14041	81	TECHNICAL ASSISTANCE FOR THE PROPOSITION 1B GOODS MOVEMENT PROGRAM	CLEAN FUEL CONNECTION INC	$100,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14059	61	DEVELOP & DEMONSTRATE 3 CLASS 8 ZERO-EMISSION ELECTRIC TRUCKS	BALQON CORPORATION	$925,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14060	61	DEVELOP & DEMONSTRATE 4 CLASS 8 ZERO-EMISSION FUEL CELL HYBRID TRUCKS	VISION INDUSTRIES	$958,120.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14061	44	CONDUCT PILOT STUDY OF NEW APPLICATION OF REMOTE SENSING TECHNOLOGY	FLUXSENSE AB	$50,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14137	32	PROVIDE TECHNICAL ASSISTANCE FOR THE CARL MOYER AND VIP PROGRAMS	CLEAN FUEL CONNECTION INC	$80,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C14138	81	PROVIDE TECHNICAL ASSISTANCE WITH THE PROP 1B GOODS MOVEMENT PROGRAM	GLADSTEIN, NEANDROSS & ASSOCIATES	$150,000.00	
44	MSRC	MS12087	23	IMPLEMENT UPDATED METRO REWARDS INCENTIVE PROGRAM	LOS ANGELES COUNTY METROPOLITAN	$125,000.00	
44	MSRC	MS12088	23	DESIGN, MARKET AND IMPLEMENT AN EXPANDED "SHARE THE RIDE INCENTIVE PROGRAM"	ORANGE CO TRANSPORTATION AUTHORITY	$125,000.00	
44	MSRC	MS12089	23	IMPLEMENT EXPANDED RIDESHARE INCENTIVE PROGRAMS	RIVERSIDE COUNTY TRANSPORTATION COMM	$249,136.00	
					Subtotal	**$4,450,938.07**	

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
Sole Source - Executive Officer Approved							
27	INFORMATION MANAGEMENT	C14049	01	CONTACT DATABASE OF EMAIL ADDRESSES	CHMB CONSULTING FIRM	$74,800.00	
08	LEGAL	C14069	01	LEGAL ADVICE AND REPRESENTATION	WERB & SULLIVAN	$30,000.00	
08	LEGAL	C14147	01	PROVIDE EXPERT CONSULTING SERVICES CONCERNING RAILROAD ISSUES	RAILEX, INC.	$5,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C14163	01	PROVIDE SPEAKER SERVICES FOR REV. DR. MARTIN LUTHER KING JR. DAY OF SERVICE FORUM	DONZALEIGH ABERNATHY	$3,500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C14160	01	REV. DR. MARTIN LUTHER KING JR. DAY OF SERVICE FORUM	SNAP PRODUCTION	$6,500.00	
					Subtotal	**$119,800.00**	
II. OTHER							
Board Assistant							
Board Administrative Committee Reviewed / Executive Officer Approved							
02	GOVERNING BOARD	C14000	01	BOARD ASSISTANT SERVICES FOR MICHAEL ANTONOVICH	DEBRA S MENDELSOHN	$37,707.00	
02	GOVERNING BOARD	C14001	01	BOARD ASSISTANT SERVICES FOR BEN BENOIT	WESTERN RIVERSIDE COUNCIL OF GOVERNMENT	$37,707.00	
02	GOVERNING BOARD	C14002	01	BOARD ASSISTANT SERVICES FOR JOHN BENOIT	BUFORD A CRITES	$37,707.00	
02	GOVERNING BOARD	C14003	01	BOARD ASSISTANT SERVICES FOR WILLIAM BURKE	SARAH EWELL	$113,121.00	
02	GOVERNING BOARD	C14004	01	BOARD ASSISTANT SERVICES FOR JOSIE GONZALES	COUNTY OF SAN BERNARDINO	$37,707.00	
02	GOVERNING BOARD	C14005	01	BOARD ASSISTANT SERVICES FOR JOSEPH LYOU	MARK ABRAMOWITZ	$30,000.00	
02	GOVERNING BOARD	C14006	01	BOARD ASSISTANT SERVICES FOR JOSPEH LYOU	NICOLE NISHIMURA	$7,707.00	
02	GOVERNING BOARD	C14007	01	BOARD ASSISTANT SERVICES FOR JUDITH MITCHELL	MARISA KRISTINE PEREZ	$37,707.00	
02	GOVERNING BOARD	C14008	01	BOARD ASSISTANT SERVICES FOR SHAWN NELSON	INFRASTRUCTURE GROUP, INC	$37,707.00	

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
02	GOVERNING BOARD	C14009	01	BOARD ASSISTANT SERVICES FOR CLARKE PARKER	MARIA INIGUEZ	$37,707.00	
02	GOVERNING BOARD	C14010	01	BOARD ASSISTANT SERVICES FOR MIGUEL PULIDO	LUIS A PULIDO	$37,707.00	
02	GOVERNING BOARD	C14011	01	BOARD ASSISTANT SERVICES FOR DENNIS YATES	EARL C ELROD	$56,560.44	
02	GOVERNING BOARD	C14012	01	BOARD ASSISTANT SERVICES FOR DENNIS YATES	ROBERT ULLOA	$56,560.44	
02	GOVERNING BOARD	C14013	01	BOARD ASSISTANT SERVICES FOR JAN PERRY	EVA KANDARPA BEHREND	$1,333.32	
02	GOVERNING BOARD	C14014	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	FRANK CARDENAS AND ASSOCIATES	$6,576.00	
02	GOVERNING BOARD	C14015	01	BOARD ASSISTANT SERVICES FOR JAN PERRY	JEFF CATALANO	$4,951.16	
02	GOVERNING BOARD	C14016	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	ALLIS ANN DRUFFEL	$3,288.00	
02	GOVERNING BOARD	C14017	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	JAMES GLEN DUNCAN	$9,059.44	
02	GOVERNING BOARD	C14018	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	WILLIAM GLAZIER	$6,657.00	
02	GOVERNING BOARD	C14019	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	RONALD KETCHAM	$12,124.00	
02	GOVERNING BOARD	C14023	01	BOARD ASSISTANT SERVICES FOR JUDITH MITCHELL	CHUNG S. LIU	$18,853.50	
02	GOVERNING BOARD	C14134	01	BOARD ASSISTANT SERVICES FOR JOSEPH BUSCAINO	JACOB LEE HAIK	$31,422.50	
					Subtotal	**$659,869.80**	

Other - Executive Officer Approved

16	ADMINISTRATIVE & HUMAN RESOURCES	C13167		COMMERCIAL REAL ESTATE BROKER	COMPREHENSIVE REAL ESTATE SERVICES	$0.00	2
16	ADMINISTRATIVE & HUMAN RESOURCES	C13399		H2S SALTON SEA MONITORING STATION	IMPERIAL IRRIGATION DISTRICT	$0.00	1
16	ADMINISTRATIVE & HUMAN RESOURCES	C13427		INSURANCE CONSLUTANT/BROKER SERVICES	MERCER	$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13439		MOU FOR CATENARY PROJECT	CITY OF CARSON	$0.00	1

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
26	PLANNING RULE DEV & AREA SOURCES	C14028		UPPER AIR STATION ONTARIO AIRPORT	CITY OF LOS ANGELES	$0.00	9
16	ADMINISTRATIVE & HUMAN RESOURCES	C14029		PARAMOUNT AIR MONITORING STATION	MOBILE RELAY ASSOCIATES	$0.00	2
16	ADMINISTRATIVE & HUMAN RESOURCES	C14057	01	ANAHEIM AIR MONITORING STATION - 5 YEAR LICENSE AGREEMENT	CHARLES HANCE	$57,442.80	
16	ADMINISTRATIVE & HUMAN RESOURCES	C14058	01	RIVERSIDE AIR MONITORING STATION - 5 YEAR LICENSE AGREEMENT	RIVERSIDE CENTER FOR BEHAVIORAL MEDICINE	$18,000.00	
					Subtotal	**$75,442.80**	

III. SPONSORSHIPS
Sponsorship -Executive Officer Approved

44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13415	01	CO-SPONSOR THE ASILOMAR 2013 CONFERENCE ON TRANSPORTATION AND ENERGY POLICY	UNIVERSITY OF CALIFORNIA-DAVIS	$30,000.00	
					Subtotal	**$30,000.00**	

IV. MODIFICATIONS
Board Approved

08	LEGAL	C10060	01	PROVIDE EMPLOYEE LITIGATION SERVICES	WILEY PRICE & RADULOVICH	$75,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11150	55	MAINTENANCE AND OPERATION OF CITY OF BURBANK HYDROGEN FUELING STATION	HYDROGEN FRONTIER, INC	$275,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C11738	01	IMPLEMENTATION OF THE AIR QUALITY INSTITUTE (AQI)	CORDOBA CORPORATION	$133,470.00	
08	LEGAL	C12075	01	ENVIRONMENTAL LAW	WOODRUFF SPRADLIN & SMART	$100,000.00	
27	INFORMATION MANAGEMENT	C12151	01	CONTRACT FOR SYSTEMS DEVELOPMENT, MAINTENANCE AND SUPPORT SERVICES	SIERRA CYBERNETICS INC	$200,000.00	
27	INFORMATION MANAGEMENT	C12157	01	SHORT AND LONG-TERM SYSTEMS DEVELOPMENT, MAINTENANCE AND SUPPORT SERVICES	PRELUDE SYSTEMS, INC.	$87,500.00	
27	INFORMATION MANAGEMENT	C12188	01	SHORT AND LONG-TERM SYSTEMS DEVELOPMENT, MAINTENANCE & SUPPORT SERVICES	VARSUN ETECHNOLOGIES GROUP, INC	$75,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C12200	01	SACRAMENTO LEGISLATIVE REPRESENTATION	GONZALEZ, QUINTANA & HUNTER, LLC	$119,070.00	

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
35	LEGISLATIVE & PUBLIC AFFAIRS	C12201	01	SACRAMENTO LEGISLATIVE REPRESENTATION	JOE A GONSALVES & SON	$123,248.00	
27	INFORMATION MANAGEMENT	C12285	01	SHORT AND LONG-TERM SYSTEMS DEVELOPMENT, MAINTENANCE AND SUPPORT SERVICES	CMC AMERICAS INC	$25,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12297	58	TECHNICAL ASSISTANCE WITH PROP 1B GOODS MOVEMENT PROGRAM	CLEAN FUEL CONNECTION INC	$50,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12308	40	PERFORM WEBSITE SERVICES FOR THE CNGVP	GLADSTEIN, NEANDROSS & ASSOCIATES	$12,500.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12679	32	PURCHASE UP TO 4,000 CORDLESS ELECTRIC LAWNMOWERS	BLACK & DECKER (US) INC	$290,000.00	
08	LEGAL	C12702	01	LEGAL ADVICE FOR LAWSUITS AND ADMINISTRATIVE PROCEEDINGS	SHUTE MIHALY & WEINBERGER LLP	$10,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13055	17	INSTALL AND MAINTAIN AIR FILTRATION SYSTEMS IN SAN BERNARDINO AND BOYLE HEIGHTS SCHOOLS	IQAIR NORTH AMERICA, INC.	$118,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13190	32	REPLACE 1 DIESEL OFF-ROAD CONSTRUCTION VEHICLE	SUKUT CONSTRUCTION, INC.	$789,813.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13283	32	REPOWER 3 DIESEL OFF-ROAD CONSTRUCTION VEHICLES	SAGE GREEN, LLC	$293,149.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13387	81	PROP 1B TRUCK REPLACEMENT PROGRAM	MARTA PERDOMO	$15,000.00	
44	MSRC	ML08028	23	PURCHASE 24 HEAVY-DUTY CNG TRUCKS	CITY OF SANTA MONICA	$0.00	11
44	MSRC	MS11056	23	PROGRAMMATIC OUTREACH SERVICES	THE BETTER WORLD GROUP, INC	$98,418.00	
					Subtotal	**$2,890,168.00**	

Executive Officer Approved

11	LEGAL	C01096	01	CONFLICT OF INTEREST ADVICE	OLSON HAGEL WATERS & FISHBURN LLP	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C06042	31	UPGRADE EXISTING CNG PUBLIC ACCESS STATION WITH DISPENSER & CARD READER	UNIVERSITY OF CALIFORNIA-LOS ANGELES	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C06091	31	INSTALL NEW PUBLIC ACCESS CNG FUELING STATION AT THE CITY YARD	CITY OF WHITTIER	$0.00	6

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C07245	31	PURCHASE AND INSTALL NEW LNG PRODUCTION FACILITY USING LANDFILL GAS FROM ALTAMONT LANDFILL IN LIVERMORE, CA	USA WASTE OF CALIFORNIA INC	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C08043	31	PUBLIC ACCESS CNG FUELING STATION UPGRADE	UNIVERSITY OF CALIFORNIA-LOS ANGELES	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C08044	31	INSTALL LIMITED ACCESS CNG FUELING STATION	BEAUMONT UNIFIED SCHOOL DISTRICT	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C08098	31	PURCHASE/INSTALL NEW CNG FUELING STATION	REDLANDS UNIFIED SCHOOL DISTRICT	$0.00	6
26	PLANNING RULE DEV & AREA SOURCES	C08323	01	SYSTEM AND PERFORMANCE AUDITS OF THE scaqmd METEOROLOGICAL MONITORING	TECHNICAL AND BUSINESS SYSTEMS	$30,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C09308	71	MAINTAIN AND MANAGE CNG FUELING STATION AT scaqmd HEADQUARTERS	PINNACLE CNG SYSTEMS, LLC	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C09354	36	RESEARCH STUDY & DEMO FEASIBILITY OF CONTROL TECHNOLOGY TO REDUCE PM2.5 AND ULTRAFINE EMISSIONS	FOSSIL ENERGY RESEARCH CORPORATION	$0.00	11
08	LEGAL	C10052	01	PROVIDE EMPLOYEE RELATIONS LITIGATION SERVICES	LIEBERT CASSIDY WHITMORE	$0.00	6
08	LEGAL	C10060	01	PROVIDE EMPLOYEE LITIGATION SERVICES	WILEY PRICE & RADULOVICH	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C10189	81	PROP 1B PORT TRUCK PROGRAM	CALIFORNIA CARTAGE CO, LLC	$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C10465	81	PROP 1B PORT TRUCK PROGRAM	RAILPORT LOGISTICS, INC.	$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C10621	32,80	REPOWER 4 DIESEL CRANES	FOUNDATION PILE, INC.	$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C11015	01	MEDICAL SERVICES	CONCENTRA MEDICAL CENTERS, A MED CORP	$5,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11026	81	PROP 1B PORT TRUCK PROGRAM	DEPENDABLE HIGHWAY EXPRESS, INC.	$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11028	01	TECHNICAL ASSISTANCE ON STATIONARY SOURCE CONTROL MEASURES & FUTURE CONSULTATION ON TAO ACTIVITIES	MARTIN L KAY	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11050	27	DEVELOP PROTOTYPE NATURAL GAS-FIRED, GAN-TYPE CENTRAL FURNACES WITH REDUCED NOX EMISSIONS	BECKETT GAS, INC.	$0.00	6

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11395	80	REPOWER 2 OFF-ROAD CONSTRUCTION EQUIPMENT	B & D EQUIPMENT RENTAL, INC.	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11484	31	TRUCK OUTREACH CENTERS	GLADSTEIN, NEANDROSS & ASSOCIATES	$0.00	6
08	LEGAL	C11594	01	LEGAL REPRESENTATION	PERKINS COIE LLP	$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C11607	01	NATURAL GAS PURCHASE AGREEMENT	STATE OF CALIFORNIA	$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11614	17	DEMONSTRATE BATTERY ELECTRIC HEAVY-DUTY TRUCKS	TRANSPORTATION POWER,INC.	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11615	31	DEVELOPMENT AND DEMONSTRATION OF UP TO 4 HEAVY-DUTY HYDRAULIC HYBRID VEHICLES	PARKER HANNIFIN CORPORATION	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11724	32	REPOWER 6 OFF-ROAD SCRAPERS	TINA MCMINN EQUIPMENT RENTALS, INC.	$0.00	11
35	LEGISLATIVE & PUBLIC AFFAIRS	C11738	01	IMPLEMENTATION OF THE AIR QUALITY INSTITUTE (AQI)	CORDOBA CORPORATION	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12133	32	REPOWER 7 DIESEL OFF-ROAD CONSTRUCTION VEHICLES	SUKUT CONSTRUCTION, INC.	$0.00	6
08	LEGAL	C12170	01	CEQA/ENVIRONMENTAL LAW	BEST BEST & KRIEGER	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12174	48	CHARACTERIZATION OF THE PHYSICAL, CHEMICAL, AND BIOLOGICAL PROPERTIES OF PM EMISSIONS, VOCS AND CARBONYL GROUPS FROM UNDER-FIRED CHARBROILERS	UNIVERSITY OF CALIFORNIA, RIVERSIDE	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12197	31	HEALTH EFFECTS OF PM PARTICLES EMITTED FROM HEAVY-DUTY VEHICLES--A COMPARISON BETWEEN DIFFERENT BIODIESEL FUELS	UNIVERSITY OF CALIFORNIA, RIVERSIDE	$0.00	6
26	PLANNING RULE DEV & AREA SOURCES	C12207	01	LOW TOXICITY ALTERNATIVES FOR MOLD CLEANERS AND MOLD RELEASE AGENTS	INSTITUTE FOR RESEARCH & TECHNICAL	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12230	81	INSTALLATION OF GRID-BASED, SHORE POWER SYSTEMS UP TO THREE BERTHS AT THE PORT OF HUENEME	OXNARD HARBOR DISTRICT	$0.00	11
26	PLANNING RULE DEV & AREA SOURCES	C12296	01	PROVIDE SOCIOECONOMIC CONSULTING SERVICES	REGIONAL ECONOMIC MODELS INC	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12409	36	RENEWABLE ENERGY PROJECTS IN COMMUNITIES SURROUNDING ELECTRICAL GENERATING FACILITIES	ALTERNATIVE ENERGY CONNECTIONS	$0.00	6

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12446	81	PROP 1B TRUCK REPLACEMENT PROGRAM	MARTIAN TRUCKING, INC.	$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C12880	01	SUBSURFACE GEOTECHNICAL INVESTIGATION	COTTON, SHIRES AND ASSOCIATES, INC.	$10,270.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12886	81	REPLACE 12 DIESEL SOLID WASTE COLLECTION VEHICLES WITH NATURAL GAS VEHICLES	BURRTEC WASTE INDUSTRIES INC	$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12888	01	LBUSD AIR MONITORING STATION	LONG BEACH UNIFIED SCHOOL DISTRICT	$0.00	1
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13022	32	REPOWER 2 DIESEL OFF-ROAD CONSTRUCTION EQUIPMENT VEHICLES	PEED EQUIPMENT	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13033	81	PROVIDE TECHNICAL ASSISTANCE FOR PROP 1B APPROVED SHORE POWER PROJECTS	POWER-TECH ENGINEERS, INC	$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C13054	01	WEST INLAND EMPIRE EMPLOYMENT RELATIONS CONSORTIUM	LIEBERT CASSIDY WHITMORE	$3,549.00	
08	LEGAL	C13057	01	PROVIDE INSURANCE COVERAGE COUNSEL TO scaqmd	PERKINS COIE LLP	$1,000.00	
08	LEGAL	C13060	01	LITIGATION COUNSEL	PAUL HASTINGS LLP	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13169	01	ASSESSMENT OF PERFORMANCE AND OPERATIONAL ISSUES WITH LNG TRUCKS UNDER PROP 1B PROGRAM	GLADSTEIN, NEANDROSS & ASSOCIATES	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13184	32	REPOWER 5 OFF-ROAD VEHICLES	MORLEY GROUP, INC.	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13185	32	REPOWER OF 5 OFF-ROAD VEHICLES	SHORING ENGINEERS	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13186	32	REPOWER 2 OFF-ROAD VEHICLES	J.A. LYNCH MASONRY, INC.	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13193	32	REPOWER 5 OFF-ROAD VEHICLES	PARK WEST LANDSCAPE, INC.	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13244	32	REPOWER 6 OFF-ROAD VEHICLES	WHITTIER FERTILIZER CO.	$0.00	6
27	INFORMATION MANAGEMENT	C13252	01	TELECOM AND INTERNET SERVICES	TW TELECOM	$0.00	11
04	FINANCE	C13253	22,23	AUDIT OF AB 2766 FEE REVENUE RECIPIENTS FOR FISCAL YEARS 2009-10 AND 2010-11	SIMPSON & SIMPSON	$0.00	6
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13255	32	REPOWER 3 OFF-ROAD VEHICLES	WEST PILING, INC.	$0.00	6

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
16	ADMINISTRATIVE & HUMAN RESOURCES	C13272	01	REPLACEMENT OF HVAC BLACK STEEL PIPING	CENTRAL PLUMBING CO, INC.	$0.00	6
08	LEGAL	C13312	01	LEGAL COUNSEL FOR CONFLICTS OF INTEREST/PUBLIC LAW ISSUES	BURKE, WILLIAMS & SORENSEN, LLP	$0.00	6
08	LEGAL	C13312	01	LEGAL COUNSEL FOR CONFLICTS OF INTEREST/PUBLIC LAW ISSUES	BURKE, WILLIAMS & SORENSEN, LLP	$25,000.00	
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13364	58	REPLACEMENT OF 5 DIESEL BUSES WITH PROPANE BUSES	DESERT SANDS UNIFIED SCHOOL DISTRICT	$0.00	11
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13400	31	DEVELOP HYDROGEN STATION INVESTMENT PLAN	ENERGY INDEPENDENCE NOW COALITION	$0.00	11
08	LEGAL	C13403	01	PROVIDE EMPLOYMENT/LABOR RELATED LEGAL SERVICES	THE SILLAS LAW FIRM	$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C13424	01	DEFERRED COMPENSATION PLAN SERVICES	BENEFIT FUNDING SERVICES GROUP	$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C13427	01	INSURANCE CONSULTANT/BROKER SERVICES	MERCER	$0.00	6
08	LEGAL	C13428	01	CONSULTING EXPERT	FRANK A. WOLAK	$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C13437	01	ENGINEERING FOR REPLACEMENT OF 800 TON COOLING TOWERS	TTG ENGINEERS	$0.00	11
16	ADMINISTRATIVE & HUMAN RESOURCES	C13437	01	ENGINEERING FOR REPLACEMENT OF 800 TON COOLING TOWERS	TTG ENGINEERS	$21,240.00	
27	INFORMATION MANAGEMENT	C13440	01	AUDIO VISUAL SYSTEM UPGRADE	DIGITAL NETWORKS GROUP, INC.	$0.00	11
27	INFORMATION MANAGEMENT	C13440	01	AUDIO VISUAL SYSTEM UPGRADE	DIGITAL NETWORKS GROUP, INC.	$13,221.00	
26	PLANNING RULE DEV & AREA SOURCES	C13453	01	STATISTICAL ANALYSIS OF TRUCK ACTIVITY AND TRIP COUNT DATA FOR HIGH CUBE WAREHOUSE	UNIVERSITY OF CALIFORNIA RIVERSIDE	$0.00	6
27	INFORMATION MANAGEMENT	C14049	01	CONTACT DATABASE OF EMAIL ADDRESSES	CHMB CONSULTING FIRM	$0.00	11
20	MEDIA OFFICE	C14055	36	MEDIA, ADVERTISING, AND PUBLIC OUTREACH CAMPAIGN FOR CHECK BEFORE YOU BURN PROGRAM	QUIJOTE CORP dba SENSIS	$0.00	6
44	MSRC	ML05014	23	SYNCHRONIZE TWENTY FOUR TRAFFIC SIGNALS ON FLORENCE/MILLS AVENUES	COUNTY OF LOS ANGELES	$0.00	6
44	MSRC	ML07044	23	PURCHASE 24 HEAVY-DUTY NATURAL GAS VEHICLES	CITY OF SANTA MONICA	$0.00	6
44	MSRC	ML09026	23	REPOWER FIVE OFF-ROAD VEHICLES	COUNTY OF LOS ANGELES	$0.00	11

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	MSRC	ML09036	23	PURCHASE 35 HEAVY-DUTY NATURAL GAS VEHICLES	CITY OF LONG BEACH	$0.00	6
44	MSRC	ML09043	23	UPGRADE CNG STATION	CITY OF COVINA	$0.00	6
44	MSRC	ML11021	23	PURCHASE 7 HEAVY-DUTY CNG VEHICLES	CITY OF WHITTIER	$0.00	11
44	MSRC	MS06012	23	INSTALL PUBLIC ACCESS LNG STATION IN LONG BEACH	CONSOLIDATED DISPOSAL SERVICE LLC	$0.00	6
44	MSRC	MS06049	23	INSTALL PUBLIC ACCESS CNG STATION AT LONG BEACH POLICE DEPARTMENT	CLEAN ENERGY	$0.00	6
44	MSRC	MS06049	23	INSTALL PUBLIC ACCESS CNG STATION AT LONG BEACH POLICE DEPARTMENT	CLEAN ENERGY	$0.00	11
44	MSRC	MS08007	23	PURCHASE 10 CNG TRUCKS	UPS	$0.00	6
44	MSRC	MS08007	23	PURCHASE 10 CNG TRUCKS	UPS	$0.00	6
44	MSRC	MS08013	23	PURCHASE 12 YARD TRACTORS EQUIPPED WITH ADVANCED NG ENGINES	UPS	$0.00	6
44	MSRC	MS08057	23	INSTALL CNG FUELING STATION	ORANGE CO TRANSPORTATION AUTHORITY	$0.00	11
44	MSRC	MS08068	23	INSTALL HYDROGEN FUELING STATION	UNIVERSITY OF CALIFORNIA-LOS ANGELES	$0.00	6
44	MSRC	MS08072	23	CONSTRUCT CNG FUELING STATION - BURBANK	CLEAN ENERGY	$0.00	11
44	MSRC	MS08076	23	INSTALL LIMITED-ACCESS CNG STATION AND MODIFY MAINTENANCE FACILITY	AZUSA UNIFIED SCHOOL DISTRICT	$0.00	6

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	MSRC	MS10006	23	PURCHASE 3 SWEEPERS EQUIPPED WITH ADVANCED NATURAL GAS ENGINES	NATIONWIDE ENVIRONMENTAL SERVICES	$0.00	11
44	MSRC	MS11056	23	PROGRAMMATIC OUTREACH SERVICES	THE BETTER WORLD GROUP, INC	$0.00	11
44	MSRC	MS11060	23	INSTALL CNG FUELING STATION	ROWLAND UNIFIED SCHOOL DISTRICT	$0.00	6
44	MSRC	MS11067	23	EXPAND LCNG AND LNG FUELING STATION	CITY OF REDLANDS	$0.00	6
44	MSRC	MS12011	23	NEW PUBLIC ACCESS CNG STATION-PICO RIVERA	SOUTHERN CALIFORNIA GAS COMPANY	$0.00	6
44	MSRC	MS12062	23	DEVELOP AND IMPLEMENT "RIDESHARE THURSDAY" CAMPAIGN	FRASER COMMUNICATIONS	$0.00	11
08	LEGAL	XC12250	01	PROVIDE RAILROAD LITIGATION SERVICES	LIGHTFOOT STEINGARD & SADOWSKY, LLP	$0.00	6
					Subtotal	**$109,280.00**	

Board Assistant
Board Administrative Committee Reviewed/Executive Officer Approved

02	GOVERNING BOARD	C14007	01	BOARD ASSISTANT SERVICES FOR J. MITCHELL	MARISA KRISTINE PEREZ	$18,853.50	
					Subtotal	**$18,853.50**	

V. TERMINATED CONTRACTS-PARTIAL/NO WORK PERFORMED

44	SCIENCE & TECHNOLOGY ADVANCEMENT	C10162	32	REPOWER 5 DIESEL SCRAPERS AND RETROFIT 3 OF THE 5 GRADERS PLUS AN ADDITIONAL 2 GRADERS	MILLER BLADES, INC.	-$27,494.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C10188	81	PROP 1B PORT TRUCK PROGRAM	CITY NATIONAL BANK	-$950,000.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C10504	32	REPOWER 1 SINGLE ENGINE SCRAPER AND 2 GRADERS	FINE GRADE EQUIPMENT, INC.	-$125,877.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C10591	32	REPOWER 33 RUBBER-TIRED LOADERS	ROBERTSON'S READY MIX	-$75,131.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11027	32	REPOWER OF 4 LOADERS	SA RECYCLING LLC	-$149,760.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11167	80	REPOWER 1 CRAWLER TRACTOR AND 1 RUBBER-TIRED DOZER	KASSEL CONTRACTING, INC.	-$98,124.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11174	32	REPOWER 1 DIESEL RUBBER-TIRED DOZER AND 2 DIESE L SCRAPERS	THE JOHNSON EQUIPMENT COMPANY, INC	-$238,597.00	7

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11222	81	PROP 1B TRUCK REPLACEMENT (NONPORT)	BUDWAY ENTERPRISES INC.	-$600,000.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11543	32	REPOWER 12 OFF-ROAD EQUIPMENT	SA RECYCLING LLC	-$757,531.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C11689	32	REPOWER 1 RUBBER-TIRED LOADER AND 1 SPEED SWING	J.A. PLACEK CONSTRUCTION CO.	-$29,987.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12161	32	REPOWER 2 MAIN AND 2 AUXILLARY ENGINES ON 2 MARINE VESSELS	SANTA CATALINA ISLAND COMPANY	-$8,640.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12249	80	REPOWER 4 OFF-ROAD VEHICLES	MCMINN EQUIPMENT RENTAL & LEASING, INC.	-$16,053.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12326	81	PROP 1B TRUCK REPLACEMENT PROGRAM	ECOLOGY AUTO PARTS, INC.	-$63,000.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12375	81	PROP 1B TRUCK REPLACEMENT PROGRAM	EDGAR REYES	-$50,000.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C12637	81	PROP 1B TRUCK RETROFIT PROGRAM	RRM PROPERTIES, LTD - LSR	-$730,000.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13130	81	PROP 1B TRUCK REPLACEMENT PROGRAM	KOUKLIS EQUIPMENT COMPANY, INC.	-$60,000.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13191	32	RETROFIT 4 OFF-ROAD HEAVY-DUTY VEHICLES	MALCOLM DRILLING	-$15,809.00	7
44	SCIENCE & TECHNOLOGY ADVANCEMENT	C13394	81	PROP 1B TRUCK REPLACEMENT PROGRAM	JUAN GOMEZ DOMINGUEZ	-$15,000.00	7
44	MSRC	ML07033	23	PURCHASE HEAVY-DUTY CNG VEHICLE & UPGRADE CNG STATION	CITY OF LA HABRA	-$50,000.00	7
44	MSRC	ML08049	23	PURCHASE ONE HEAVY-DUTY CNG VEHICLE	CITY OF CERRITOS	-$25,000.00	7
44	MSRC	ML09008	23	PURCHASE 6 HEAVY-DUTY CNG VEHICLES	CITY OF CULVER CITY	-$25,000.00	7
44	MSRC	ML09009	23	UPGRADE CNG STATION	CITY OF SOUTH PASADENA	-$14,500.00	7
44	MSRC	ML12015	23	HD CNG VEHICLE, EXPAND CNG STATION, NEW LPG STATION, MAINTENANCE FACILITY	CITY OF FULLERTON	-$50,000.00	7
44	MSRC	MS11066	23	EXPAND CNG FUELING STATION	TORRANCE UNIFIED SCHOOL DISTRICT	-$34,284.00	7
44	MSRC	MS12034	23	PURCHASE 2 MEDIUM AND 7 MEDIUM-HEAVY DUTY ON-ROAD VEHICLES	WARE DISPOSAL, INC.	-$61,930.00	7
					Subtotal	**-$4,271,717.00**	

South Coast Air Quality Management District
Contract Activity Report
July 1, 2013 - December 31, 2013

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOT NOTE

SPECIAL FUNDS

17	ADV. TECH, OUTREACH & EDU FUND
20	AIR QUALITY ASSISTANCE 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
41	STATE BUG FUND
45	CBE/CBO SETTLEMENT AGREEMENT FUND
46	BP ARCO SETTLEMENT FUND
48	HEALTH EFFECTS RESEARCH 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
56	HEROS II PROGRAM FUND
58	AB1318 MITIGATION FEES FUND
59	CARL MOYER VOUCHER INCENTIVE FUND
60	DOE PEV INFRASTRUCTURE PLANNING SPECIAL REVENUE FUND
61	ADVANCED TECHNOLOGY GOODS MOVEMENT 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 COMMITTIEE
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.

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 19

PROPOSAL: Status Report on Major Projects for Information Management Scheduled to Start During Last Six Months of FY 2013-14

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 projects to be initiated by Information Management during the last six months of FY 2013-14.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file.

Barry R. Wallerstein, D.Env.
Executive Officer

JCM:MAH:OSM:nv

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 expected to come before the Board between January 1 and June 30, 2014. Information provided for each project includes a brief project description, FY 2013-14 Budget, and the schedule associated with known major milestones (issue RFP/RFQ, execute contract, etc.).

Attachment
Information Management Major Projects for Period January 1 through June 30, 2014

ATTACHMENT
March 7, 2014 Board Meeting
Information Management Major Projects
for the Period of January 1 through June 30, 2014

Item	Brief Description	Budgeted Funds	Schedule of Board Actions	Status
Phone System Replacement	Authorize release of RFP for phone system replacement (Headquarters and Long Beach).	$1,200,000	RFP Release October 4, 2013; Contract Award April 4, 2014	On Schedule
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.	$300,000	Release RFQQ November 1, 2013; Approve Vendors List and Award Purchase February 7, 2014	Completed
Systems Development, Maintenance and Support	Provide Development, Maintenance and Support for: • CLASS System Enhancements • eGovernment Infrastructure/Architecture Implementation • Software Version Upgrades • Systems Maintenance	$391,560	March 7, 2014	On Schedule

Double-lined Rows - Board Agenda items current for this month

Shaded Rows - activities completed

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 21

REPORT: Administrative Committee

SYNOPSIS: The Administrative Committee met on Friday, February 14, 2013. The Committee discussed various issues detailed in the Committee report. The next Administrative Committee meeting is scheduled for Friday, March 14, 2014 at 10:00 a.m.

RECOMMENDED ACTION:
Receive and file.

Dr. William A. Burke, Chair
Administrative Committee

GC

Attendance: Attending the February 14, 2014 meeting were Committee Members Mayor Dennis Yates and Supervisor Josie Gonzales at SCAQMD headquarters, and Chairman William Burke and Dr. Clark E. Parker, Sr. via teleconference.

ACTION/DISCUSSION ITEMS:

1. **Board Members' Concerns:** Mayor Dennis Yates commented that he would like an item agendized for the next Administrative Committee meeting regarding requests for sponsorships or donations. He wanted the committee to evaluate the current process and discuss possible enhancements and/or alternatives.
   Dr. Burke concurred regarding a review of the current process. Dr. Burke directed staff to work with the Board Chair and Vice Chair on this issue.

   Supervisor Josie Gonzales also expressed interest in this issue of partnership projects.

   Dr. Burke suggested that the Supervisor speak directly with Deputy Executive Officer Lisha Smith regarding partnership projects. A recommendation could be presented for discussion at a subsequent Administrative Committee meeting on how to proceed.

On a different topic, Supervisor Gonzales mentioned that she recently had an opportunity to meet Eldon Heaston, Executive Director of the Mojave Desert Air Quality Management District as well as Executive Director of the Antelope Valley Air Quality Management District. As Chair of the Legislative Committee and wanting to solidify regional support versus some of the contrasting views that many times lie between our agencies, Supervisor Gonzales proposed that consideration be given to having a subcommittee of the respective Board Members meet with these two agencies to explore one-on-one our similarities and differences. With direct conversations, we can legislatively move forward and seek support where we can and a better understanding of misunderstandings that would then lead toward a more united and attainment of similar goals.

Dr. Burke suggested that we explore the idea of inviting them to a portion of our upcoming Board Retreat. The Board would conduct their regular business and then set aside a certain amount of time necessary for a discussion among Board Members from the two agencies.

2. **Chairman's Report of Approved Travel:** General Counsel Kurt Wiese reported that Mayor Judith Mitchell travelled to Sacramento on February 4-5, 2014 to meet with Senate Rules Committee staff on various issues and on February 12 regarding SCAQMD-related activities. Mayor Mitchell also anticipated trips to Sacramento on February 17-21 and March 19-21, 2014 to attend the Senate Rules Committee Confirmation Hearing for CARB appointment in February and the monthly CARB Board Meetings (February and March). Also, Mayor Miguel Pulido planned to attend the annual U.S. Conference of Mayors Winter Leadership Meeting in the Mesa/Phoenix Area on March 19-21, 2014 as it relates to air quality issues on behalf of the SCAQMD.

3. **Approval of Compensation for Board Member Assistant(s)/Consultant(s):**

   Moved by Yates; seconded by Gonzales; unanimously approved.

4. **Report of Approved Out-of-Country Travel:** None to report.

5. **Discuss Revisions to the Facility Use Policy:** Assistant Deputy Executive Officer Chris Marlia advised that this item is to seek direction from the Board regarding revisions to the Facility Use Policy. With the recent upgrade of the Board Room and the conference rooms throughout the building, all of the equipment has been replaced with digital equipment. A description of the functionality of the rooms and their capabilities need to be reflected in the Facility Use Policy. Staff is also seeking direction regarding the need for more supervision in the rooms during meetings. With the rooms now being equipped

with expensive equipment requiring the operation of control panels, there is more risk for damage to the equipment. To recover the cost for damage, staff is seeking the Board's direction on the feasibility of charging a fee for the use of the rooms.

Mayor Yates commented that if it costs the District money to provide these amenities and services, it should be reflected in the use of the room.

Dr. Parker commented that the actual cost of the room should be considered, which would include the utilities, janitorial, deterioration, and the actual cost of the maintenance that will be expended over a period of time. If we have expensive equipment in the room, it is acceptable criteria to have a certain staff level to operate it. The policy should be established or revised and published to the extent that if anybody wants to use the room, this is what it will cost and this is what they will get.

Dr. Burke questioned whether there was insurance on the equipment if it were destroyed either accidentally or maliciously. Assistant Deputy Executive Officer Bill Johnson responded that our Facility Use Agreement requires that one provide evidence of liability insurance for a minimum of a million dollars per occurrence and also sign an indemnification requirement that they will reimburse us for the cost of the damage whether or not it is provided by insurance or the organization.

On another topic, Dr. Burke asked Lisha Smith why we do not broadcast on the educational channels like the city council meetings and county board meetings. Mayor Yates responded that when the city negotiated with the cable providers in their city, as part of the agreement, they have to provide the broadcast channel for a live broadcast of our council meetings and show them three times a day during the week. This is what happens in all of the cities and counties.

Dr. Burke inquired whether public access was negotiated. Mayor Yates responded that for promotional events, a DVD is sent to them and plugged into their system and shown three times a day on their cable channel. If, for example, the SCAQMD wants to get a message out, they would send us the DVD to be placed in our system for showing. Dr. Burke directed Lisha to work with Chris Marlia to get our message out to the educational channels in the four counties since they are a major tool in educating the public.

Supervisor Gonzales added that it would be a simple matter of sending a letter of request to the four respective counties and every city in the four counties to request that they include our Board meetings, message, and other programs we would like to promote, in their public access channel feed letting them know that

we appreciate their support.

Moved by Gonzales; seconded by Yates; unanimously approved.

MARCH AGENDA ITEMS

6. **Transfer Funds and Amend/Execute Contracts with Outside Counsel:** Mr. Wiese advised that this item is to request an augmentation to the litigation budget of $250,000 for the remainder of the fiscal year. The recent, significant environmental litigation has required staff to retain assistance of outside counsel. The matters include lawsuits on the Sentinel Power Plant, Exide Technologies, and the recent lawsuit challenging the Board's amendments to Rule 1420.1

   Moved by Yates; seconded by Parker; unanimously approved.

7. **Recognize Revenue and Appropriate Funds for Near Road Monitoring Program and Issue Purchase Orders for Air Monitoring Equipment:** Assistant Deputy Executive Officer Philip Fine reported that U.S. EPA has recently mandated that several monitoring stations be placed in locations that are next to roadways. U.S. EPA has provided funding for this program in several phases. This item is to recognize the second phase of funding and to authorize purchase orders for the needed air monitoring equipment.

   Moved by Yates; seconded by Gonzales; unanimously approved.

8. **Authorize Purchase of Phone System Replacement:** Mr. Marlia reported that this item is delayed one month.

9. **Amend Contracts to Provide Short- and Long-Term Systems Development, Maintenance and Support Services:** Mr. Marlia reported that this is a standard item that is brought to the Board once or twice a year to add budgeted funds to the contracts of several companies for needed systems development and maintenance work.

   Moved by Yates; seconded by Gonzales; unanimously approved.

10. **Report of RFPs and RFQs Scheduled for Release in March:** Chief Financial Officer Michael O'Kelly requests approval to release an RFQ for Providers of Temporary Employment Services and to also release an RFP for Workers' Compensation Claims Third-Party Administration.

    Moved by Yates; seconded by Gonzales; unanimously approved.

11. **Local Government & Small Business Assistance Advisory Group Minutes for the December 13, 2013 Meeting:** Attached for information only are the minutes from the December 13, 2013 meeting of the Local Government & Small Business Assistance Advisory Group.

12. **Review of the March 7, 2014 Governing Board Agenda**

13. **Other Business:** None.

14. **Public Comment:** None.

Meeting adjourned at 10:35a.m.

Attachment
Minutes from the December 13, 2013 meeting of the Local Government & Small Business Assistance Advisory Group

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

LOCAL GOVERNMENT & SMALL BUSINESS ASSISTANCE ADVISORY GROUP
FRIDAY, DECEMBER 13, 2013
MEETING MINUTES

MEMBERS PRESENT:
Dennis Yates, Mayor, City of Chino and LGSBA Chairman
Felipe Aguirre, Councilmember, City of Maywood
Paul Avila, P.B.A. & Associates
Geoffrey Blake, Metal Finishers of Southern California/All Metals
Jacob Haik, Office of Councilmember Joe Buscaino
John Hill, Riverside County Representative
Maria Elena Kennedy, Kennedy Communications
Rita Loof, RadTech International

MEMBERS ABSENT:
Ben Benoit, Councilman, City of Wildomar and LGSBA Vice Chairman
Greg Adams
Todd Campbell, Clean Energy
Mary Ann Lutz, Mayor, City of Monrovia
Kelly Moulton, Paralegal
Lupe Ramos Watson, Councilmember, City of Indio

OTHERS PRESENT:
Earl Elrod, Board Member Assistant (*Yates*)
Grieg Ascher, Southern California Association of Governments (SCAG)

SCAQMD STAFF:
Derrick J. Alatorre, Assistant DEO/Public Advisor
Elaine Hills, Air Quality Inspector II
Lori Langrell, Secretary
Nicholas Sanchez, Senior Deputy District Counsel
William Sanchez, Sr. Public Affairs Manager
Jeanette Short, Senior Admin Secretary
Paul Wright, Audio Visual Specialist

Agenda Item #1 – Call to Order/Opening Remarks
Chair Yates called the meeting to order at 11:53 a.m.

Agenda Item #2 – Approval of November 8, 2013 Meeting Minutes/Review of Follow-Up/Action Items

Chair Yates called for approval of the meeting Minutes of November 8, 2013. The Minutes were approved.

With regard to Rita Loof's request pertaining to a summary of the ASTM meeting of June 2013 held in Canada, Mr. Derrick Alatorre indicated that a presentation should be available for the February 2014 meeting, which will consist of both the June 2013 and January 2014 meetings.

Agenda Item #3 –Overview of 2012 Sustainable Communities Strategy Follow-Up and Implementation, Pursuant to SB 375

Mr. Grieg Ascher provided an update on the next steps and implementation actions related to the Sustainable Communities Strategy, adopted in 2012.

Mr. Paul Avila asked how accurate have the target impacts been in SCAG's 20-30 year history. Mr. Ascher replied with regard to population, the more condensed the area of study, the more accurate the results would be. Chair Dennis Yates sought to confirm that SCAG gets these numbers from cities and counties, and Mr. Ashcer replied in the affirmative. SCAG is a member organization with 200 cities.

Ms. Maria Kennedy asked, given the emphasis on fuel efficiency and the reduction in fuel taxes collected, how will highway projects be paid for. Mr. Ascher indicated that SCAG does not implement transportation plans, but does communicate with the six counties regarding transportation issues, and the ever shrinking pool of money. Each county has its own funds and SCAG would reflect each county's funding in the strategy.

Mr. Avila inquired whether San Bernardino County is looking into putting a toll road. Chair Yates indicated that a potential toll road is being looked at on the 10 freeway.

Mr. Avila asked if routes for trash companies have been completed. Mr. Ascher replied he is not familiar with trash and landfill issues.

Mr. Avila asked if trains, specifically high-speed trains, would take any money. Mr. Ascher indicated that trains are as competitive as air freight; however, SCAG is not expecting big changes. SCAG plans to move forward to implement the last plan.

Ms. Rita Loof inquired if the newly formed Sustainability Program involves Transportation. Mr. Ascher indicated it does not involve transportation, but involves land use and environmental issues, including a three person task force to ramp up bike use. Mr. Ascher further stated that no new staff was hired for the new program; it was merely a SCAG staff reorganization.

Ms. Kennedy asked how strategic growth is being implemented for the 25% that is being used for disadvantaged communities. Mr. Ascher responded that the U.S. Environmental Protection Agency (EPA) has developed a mapping tool to determine how funds would be distributed and who would be eligible. This tool is known as Map 21, which would be used to measure growth by zip code. San Bernardino Associated Governments (SANBAG) or Orange County Transportation Authority (OCTA) can apply for funding as they are in a targeted area, and a large amount of the SCAG region is eligible.

Mr. Avila asked if bike usage impacts would be measured. Mr. Ascher replied that there are different ways to count - traffic counters taped on to the street which count how many cars pass by or staff on an intersection corner with clickers counting cars. All information is collected and incorporated into a graph.

Agenda Item #4 – Local Government & Small Business Assistance Advisory Group 2013 Accomplishments/2014 Goals & Objectives

Mr. Derrick Alatorre presented the 2013 Accomplishments and 2014 Goals & Objectives of the LGSBA Advisory Group.

Mr. Avila inquired whether the new fire pits are going to be artificial gas, and how much time will be needed to measure whether the new technology will work. Mr. Alatorre responded that different alternatives are being considered, including propane or natural gas, as well as placement of faux wood into the pit. Chair Yates also indicated that they are looking at moving the fire rings closer to the parking lot. Mr. Alatorre further pointed out that off the 57 freeway in the City of Brea, a Boy Scout campground already utilizes propane fire pits.

Mr. Geoff Blake asked why the air on this date, looks like it did 20 years ago. Mr. Alatorre responded that the current weather pattern caused an inversion layer, which resulted in the air remaining trapped.

Mr. Avila asked what constitutes a public nuisance, in other words, how many complaints would be considered a public nuisance. Mr. Nicholas Sanchez replied between 6 and 9 complaints are required, and SCAQMD inspectors must verify the complaint prior to the issuance of a Notice of Violation (NOV). Mr. Sanchez indicated that SCAQMD's public nuisance rule, Rule 402, mimics the Health and Safety code.

Ms. Kennedy inquired whether a resident can be issued a NOV if, for instance, odors emanate from cooking for personal consumption. Per Mr. Nicholas Sanchez, it is a case by case basis, and that neighbors have the right to comfort as well. Ms. Loof asked in relation to complaints, if a complaint of this nature has come up. Mr. Sanchez indicated, to his knowledge it has not; however, many different situations can exist.

Mr. John Hill asked if residents would be fined if they use wood-burning fireplaces or other equipment during "no burn" days. In reference to the same topic, Mr. Jacob Haik asked what would happen to a homeowner if they burn wood to stay warm during cold weather. Chair Yates indicated that if wood burning is the resident's soul source of heat, the equipment would be exempt from rule requirements.

Agenda Item #5 – Monthly Report on Small Business Assistance Activities

No comments.

Agenda Item #6 – Other Business

No comments

Agenda Item #7 – Public Comment

No comments.

Adjournment

The meeting adjourned at 1:07 p.m.

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 22

REPORT: Investment Oversight Committee

SYNOPSIS: The Investment Oversight Committee met Friday, February 21, 2014 and discussed various issues detailed in the Committee report. The next Investment Oversight Committee meeting is scheduled for Friday, May 16, 2014 at 12:00 noon in Conference Room CC2.

RECOMMENDED ACTION:
Receive and file this report.

Michael Antonovich, Chair
Investment Oversight Committee

MBO:lg

Attendance: Present at SCAQMD were Committee members Dr. Joseph K. Lyou, and Gary Burton. Supervisor Michael Antonovich and Councilmember Michael A. Cacciotti attended by teleconference. Absent were Committee members Richard Dixon, Brent Mason, and Dr. William Burke.

Investment Committee Action Items:
Quarterly Report of Investments: The Committee reviewed the quarterly investment report that was provided to the Governing Board. For the month of December 2013, the SCAQMD's weighted average yield on total investments of $538,119,684.63 from all sources was .62%. The allocation by investment type was 85.26% in the Los Angeles County Pooled Surplus Investment Fund (PSI) and 14.74% 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, 2013 was .13%. The Committee unanimously approved the quarterly report.

Approval of Annual Investment Policy and Delegation of Authority to Appointed Treasurer to Invest SCAQMD Funds: The Committee reviewed the Annual Investment Policy for 2013 and SCAQMD's renewal of its delegation of authority to its treasurer. The SCAQMD Annual Investment Policy and the reauthorization of the Los Angeles County Treasurer to invest and reinvest SCAQMD funds were unanimously recommended for approval at the March 7, 2014 meeting of the Governing Board.

Cancel or Reschedule May 16, 2014 Investment Oversight Committee (IOC) Meeting Date: The Committee directed staff to reschedule the May 16, 2014 IOC meeting due to a conflict with the Governing Board Retreat scheduled for the same day.

Investment Committee Discussion Item:
Treasury Operations and Contingency Plan and Procedures: The Committee discussed the need to revise the Treasury Operations Contingency Plan and Procedures primarily due to an issue related to SCAQMD's account with the State of California Local Agency Investment Fund (LAIF) where the Los Angeles County Treasurer is not comfortable with SCAQMD employees as signatories on the LAIF account, as was previously allowed in the past. The original purpose of the LAIF account was to allow SCAQMD emergency access to operating funds outside of the Los Angeles County investment pool in the event of an unforeseen financial instability on the part of Los Angeles County. The Chief Financial Officer (CFO), Michael O'Kelly, stated that he will discuss the issue with the Executive Officer, explore options, and return with an agenda item at the next Investment Oversight Committee meeting.

Financial Market Update: Sarah Meacham and Carlos Oblites from PFM Asset Management provided the Committee with information on current investment markets, economic conditions, and the overall outlook. They presented market information on current low, but rising Treasury yields, continued steepening Treasury yield curve, the further narrowing yield spreads between Treasuries and U.S. Agencies, tightening corporate yield spreads, and fixed-income market performance. Economic indicators were also presented showing moderate economic growth, business inventory build-up, increased consumer spending and a shrinking federal budget deficit.

Other Business: None

Public Comment: None

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 23

REPORT: Legislative Committee

SYNOPSIS: The Legislative Committee held a meeting on Friday, February 14, 2014. The next Legislative Committee meeting is scheduled for Friday, March 14, 2014, at 9 a.m. in Conference Room CC8.

The Committee deliberated on the following agenda item for Board consideration and recommended the following action:

Agenda Item	Recommendation Action
H.R. 3963 (Huffman) Federal Leadership in Energy Efficient Transportation (FLEET) Act of 2014	SUPPORT AND RECOMMEND AMENDMENTS

RECOMMENDED ACTION:
Receive, file this report, and approve the agenda item as specified in this letter.

Josie Gonzales
Chair
Legislative Committee

LBS:GS:PFC:jf

Attendance *[Attachment 1]*
The Legislative Committee met on February 14, 2014. Committee Chair Supervisor Josie Gonzales was present at SCAQMD's Diamond Bar headquarters. Committee Members Supervisor Michael D. Antonovich, Mayor Judy Mitchell, Dr. Clark E. Parker, Sr. and Dr. William A. Burke attended via teleconference.

Update on Federal Legislative Issues
Mark Kadesh of Kadesh & Associates, SCAQMD federal legislative consultant, updated the Committee on key Washington D.C. issues.

Mr. Kadesh reported that Congress passed the debt ceiling extension which lasts into 2015. Congress also passed the Omnibus Appropriations bill last month, which included funding for the government for the remainder of FY 2014. As part of this FY 2014 Omnibus Appropriations bill, $10 million in zero emissions goods movement funding was included, similar to the type of funding received in 2012 by SCAQMD. SCAQMD will again pursue this funding opportunity.

The Senate Environment and Public Works (EPW) committee held its first surface transportation reauthorization bill (MAP-21) hearing. Committee Chair, Sen. Boxer, and the Republican Ranking Member of the Committee, Sen. Vitter (R-Louisiana) indicated they would like the bill out of Committee by April. It was noted that MAP-21 expires at the end of October 2014 and that identifying a source of funding for this bill remains a key issue of debate.

Mr. Kadesh reported on a cascading change in committee assignments caused by the confirmation of Sen. Max Baucus (D-Montana) as the new ambassador to China, including: Sen. Ron Wyden from (D-Oregon) will now chair the Senate Finance Committee; Sen. Mary Landrieu (D-LA) will chair the Senate Energy and Natural Resources Committee. Sen. Ed Markey (D- Massachusetts) will now be a member of the Senate EPW Committee, which in turn, will impact its subcommittee chairmanships.

Mia O'Connell of the Carmen Group, SCAQMD federal legislative consultant, also provided the Committee with updates on key Washington D.C. issues.

Ms. O'Connell reported that she has been working with Congressman Ken Calvert's staff and SCAQMD staff to explore opportunities to increase Diesel Emission Reduction Act (DERA) program funding. She similarly noted that, working alongside SCAQMD staff, regarding MAP-21 reauthorization and U.S. EPA's new proposed allocation formula for Section 105 of the Clean Air Act funding is under review.

Ms. O'Connell shared Congressman Gary Miller's announcement that he would not be seeking reelection to Congress at the end of his current term. Various names are surfacing as potential candidates for that congressional seat, including Pete Aguilar, Mayor of Redlands and former Congressman Joe Baca. Supervisor Gonzales added that other potential candidates for Congressman Miller's seat include attorney Eloise Reyes, San Bernardino School Board Member Danny Tillman, San Bernardino City Councilmember John Valdivia, and Assembly Member Curt Hagman.

Ms. O'Connell also indicated that there was a House Transportation and Infrastructure (T&I) Committee hearing on surface transportation reauthorization in January addressing preliminary issues related to the bill, including what direction the Committee wants to take. There have been various other related proceedings and on February 27th there will be a hearing on improving the highway freight network. The bill could move by spring or summer and discussions between the transportation committee chair and other relevant committee chairs are already occurring.

Recommend Position on H.R. 3963 ***[Attachment 2]***
Marc Carrel, Program Supervisor, presented H.R. 3963 (Huffman) Federal Leadership in Energy Efficient Transportation (FLEET) Act of 2014 to the Committee for their consideration. The FLEET Act would require the United States Postal Service (USPS) to reduce its petroleum consumption by 2% each year over the next 10 years and help set benchmarks to maximize fuel economy and reduce emissions for the USPS fleet.

Staff recommended a position on the bill of: SUPPORT AND RECOMMEND AMENDMENTS

The Legislative Committee approved staff's recommendation to SUPPORT THE BILL AND RECOMMEND AMENDMENTS.

Dr. Clark E. Parker, Sr. inquired if there has been a prioritization in the bill of any particular type of clean technology or clean fuel usage. Mr. Carrel responded in the negative.

Supervisor Gonzales commented on the need for the agency to focus on identifying the most efficient, effective, and accessible clean energy/fuel element.

Update on Sacramento Legislative Issues
Will Gonzalez of Gonzalez, Quintana & Hunter, SCAQMD state legislative consultant, briefed the Committee on key Sacramento issues.

Mr. Gonzalez reported that AB 1102 (Allen) was recently double referred to the Senate Environmental Quality and the Senate Natural Resources committees, and because it is a fiscal bill, it would ultimately also be heard in the Senate Appropriations Committee. There will not likely be a hearing on this bill until June.

Mr. Gonzalez reported that February 21st is the bill introduction deadline and over 1,000 bills are expected to be introduced by that date. Two soon-to-be-introduced bills that are relevant to the SCAQMD include:

- A bill by Sen. Pavley to create a new 2030 interim target carbon reduction goal in line with previous targets of 2020 set by AB 32 and of 2050 set by previous Governor's Executive Order; and

- A controversial bill by Sen. Steinberg that would take transportation fuels out from under the purview of the Cap and Trade Program under AB 32, and instead would create a carbon tax (i.e. gas tax). Monies collected by this bill would help fund an earned income tax credit for low income workers. The Administration and the environmental community are working hard to stop this bill from being introduced.

Supervisor Gonzales and Mayor Judy Mitchell inquired about details of Steinberg's proposed bill. Mr. Gonzalez responded that many details are not yet available and that the bill to be introduced will be a spot bill without many specifics.

Paul Gonsalves of Joe A. Gonsalves & Son, SCAQMD state legislative consultant, also briefed the Committee on other key Sacramento issues.

Mr. Gonsalves reported that many of the new bills introduced by the deadline will be spot bills without specifics. As they develop, the new bills will be monitored for potential impact on the SCAQMD. Legislative hearings will resume in late March, but bills not in their house of origin will likely not be heard until June. Over the next few months there will be numerous budget subcommittee hearings and negotiations on the Governor's Proposed Budget. On February 26th there will be a hearing on SB 4 (Pavley) related to fracking regulations and on March 5th there will be an Assembly Budget Subcommittee hearing on the cap and trade expenditure plan.

Mr. Gonsalves also reported that there have been five cap and trade auctions held thus far, with two remaining auctions in 2014, February 19th and May 16th. Thus far the Governor has allocated $850 million of those auction funds in his Budget Proposal, with $250 million going to high speed rail, $50 million for rail integration and capital improvement, $100 million for SB 375 implementation, $200 million for low carbon freight and passenger transportation, and $200 million towards various water and energy efficiency programs.

AB 1330 (John Pérez) Environmental Justice
Barbara Baird, Chief Deputy Counsel, reported on AB 1330. The bill focused on seeking to increase penalties for serious, serial violators of environmental laws. SCAQMD staff has been working with the California Air Pollution Control Officers Association (CAPCOA), State Assembly Speaker John Perez's staff, and various environmental groups that are supporting this bill.

Report from SCAQMD Home Rule Advisory Group *[Attachment 3]*
Please refer to Attachment 3 for written report.

Other Businesses
Lisha B. Smith, Deputy Executive Officer for Legislative & Public Affairs, reported that SCAQMD staff and Legislative Committee Members will be traveling to Washington, D.C. in April to meet with Congressional offices to discuss SCAQMD policy priorities. She added that an email will be sent out to determine which Committee Members would be available to attend.

Supervisor Gonzales proposed that during the March Legislative Committee meeting, the Members would discuss enhanced outreach to Congress to address areas of broadening SCAQMD authority to meet federal clean air standards. The purpose would be to bring to the attention of Congress the need for the agency to have better federal regulatory and legislative participation to address air pollution categories, such as mobile sources, that fall under federal requirements. Chairman William Burke urged that the discussion also include urging Congress to provide SCAQMD with vehicular regulatory authority in order to better address a major source of pollution within the South Coast region.

Public Comment Period
No public comment.

Attachments
1. Attendance Record
2. H.R. 3963 Bill Analysis and Bill Language
3. SCAQMD Home Rule Advisory Group Report

ATTACHMENT 1

ATTENDANCE RECORD –February 14, 2014

DISTRICT BOARD MEMBERS:
Dr. William A. Burke (teleconference)
Supervisor Josie Gonzales
Supervisor Michael Antonovich (teleconference)
Mayor Judy Mitchell (teleconference)
Dr. Clark E. Parker, Sr. (teleconference)

STAFF TO COMMITTEE:
Lisha B. Smith, Deputy Executive Officer
Derrick Alatorre, Assistant Deputy Executive Officer/Public Advisor
Julie Franco, Senior Administrative Secretary

DISTRICT STAFF:
Barbara Baird, Chief Deputy Counsel
Elaine Chang, Deputy Executive Officer
Phillip Fine, Assistant DEO
Peter Greenwald, Senior Policy Advisor
Mohsen Nazemi, Deputy Executive Officer
Marc Carrel, Program Supervisor
Tina Cox, Senior Public Information Specialist
Philip Crabbe, Community Manager
Chris Marlia, Assistant DEO
Laki Tisopulos, Assistant DEO
Kim White, Public Affairs Specialist
Bill Wong, Principal Deputy District Counsel
Paul Wright, Audio Visual Specialist

OTHERS PRESENT:
Mark Abramowitz, Board Member Assistant (Lyou)
Paul Gonsalves, Gonsalves & Son (teleconference)
Will Gonzalez, Gonzalez, Quintana & Hunter (teleconference)
Stewart Harris, Carmen Group (teleconference)
Gary Hoitsma, Carmen Group (teleconference)
Mark Kadesh, Kadesh & Associates (teleconference)
Chris Kierig, Kadesh & Associates (teleconfernce)
Rita Loof, RadTech
Clayton Miller, Construction Industry Air Quality Coalition
Peter Okurowski, CEA
Mia O'Connell, Carmen Group (teleconference)
David Rothbart, LACSD
Andy Silva, Board Member Assistant (Gonzales)
Susan Stark, Tesor Consultant
Tara Tisopulos, ECS, on behalf of OCTA
Warren Weinstein, Kadesh & Associates (teleconference)

Attachment 2A

H.R. 3963 (Huffman)

Federal Leadership in Energy Efficient Transportation (FLEET) Act of 2014

Summary:

Requires the United States Postal Service (USPS) to reduce its petroleum consumption by 2% each year over the next 10 years. This Act will increase cost savings by reducing expenditures on petroleum fuel and maintenance and sets benchmarks to make the USPS fleet a global leader in efficiency and innovation.

Background:

The USPS owns and operates the world's largest civilian vehicle fleet: 192,000 mail delivery vehicles that are driven 4.3 million miles per day. More than 141,000 are aging Grumman LLVs, which average only 10 miles per gallon. This vehicle first entered service in 1987, and the majority have reached the end of their 24-year operational lifespan. Fueling these vehicles comes at a high cost: in FY 2010, the petroleum fuel bill for all postal transportation totaled $1.7 billion. And, since 2005, the USPS has marked a 6.4% increase in petroleum use.

According to the author, the goal of this bill is to upgrade the USPS vehicle fleet, to improve mail delivery services to benefit customers and the environment, to increase savings by reducing maintenance or other costs, and to set benchmarks to maximize fuel economy and reduce emissions for the Postal fleet.

The author also states that this bill will reduce expenditures on petroleum fuel and maintenance and sets benchmarks to make the USPS fleet a global leader in efficiency and innovation by modernizing its "inefficient and outdated" vehicle fleet. According to the Union of Concerned Scientists, implementation of the FLEET Act would save the Postal Service an estimated 150 million gallons of fuel over the next ten years—about $400 million.

Status:

On January 29, 2014, the bill was introduced and referred to the House Committee on Oversight and Government Reform and to the House Committee on Energy and Commerce. No hearings are set on this bill.

Specific Provisions:

This bill requires that the Postmaster General develop guidelines for contracted vehicles and vehicles purchased or leased for use by the USPS that, at a minimum, include the following:

- Light-duty vehicles must comply with applicable U.S. EPA standards for carbon dioxide emissions developed pursuant to the Clean Air Act and may not exceed an average of 250 grams per mile. Light duty vehicles must also meet applicable federal average fuel economy standards of 34.1 miles per gallon.

- Medium-duty and heavy-duty vehicles must comply with applicable U.S. EPA standards for carbon dioxide emissions developed pursuant to the Clean Air Act and meet applicable federal average fuel economy standards.

The guidelines would go into effect one year after the enactment of this Act.

This bill also requires the Postmaster General to ensure that the USPS reduce the total consumption of petroleum products by vehicles in its fleet by a minimum of two percent annually through the end of fiscal year 2025, relative to the baseline established for fiscal year 2005. The Postmaster General is directed to conduct a cost-benefit analysis to determine if the cost to maintain any vehicle outweighs the benefit or savings of replacing that vehicle.

To inform and prioritize purchases, this bill requires the Postmaster General to review and identify Postal delivery routes to determine if motor vehicles used on those routes can be replaced with technologies that increase average fuel economy or reduce carbon dioxide emissions.

The Postmaster General is required to submit a report to Congress within one year of this Act's enactment which contains a plan to achieve the guidelines he develops, and recommendations for vehicle body design specifications for vehicles purchased for the USPS fleet that would increase average fuel economy and reduce carbon dioxide emissions. Then reporting must continue on an annual basis describing the USPS's progress in meeting the annual target and any changes to Postal delivery routes or vehicle purchase strategies.

The USPS may not reduce the frequency of mail delivery to fewer than six days per week, close post offices or postal distribution facilities, take any action that would restrict or diminish a collective bargaining agreement or eliminate or reduce any employee benefits; or enter into a contract with a private company to perform duties that, as of the date of enactment, are performed by bargaining unit employees.

Impacts on SCAQMD's Mission, Operations or Initiatives:
This legislation would have some impact on the South Coast Air Basin as it would clean up an often ignored fleet that is not subject to SCAQMD or CARB regulations. With 192,000 mail delivery vehicles serving the entire U.S., approximately 9,600 postal vehicles (5%) are used for mail delivery in the South Coast Air Basin. This effort is not only consistent with the district's "Powering the Future" vision but also with the Governing Board's energy policy to move toward vehicles which have zero- or near-zero-emissions.

Recommended Position: SUPPORT AND RECOMMEND AMENDMENTS

As the bill moves forward, it could be strengthened by adding to Sectional 804(4) of the National Energy Conservation Policy Act (42 U.S.C. 8287c(4)) the following amendments:

SEC. 3. AUTHORITY TO ENTER INTO ENERGY SAVINGS PERFORMANCE CONTRACTS.

Section (c)(ii)…….a measure to upgrade a vehicle owned, operated, leased, or otherwise controlled by or assigned to the United States Postal Service to increase average fuel economy and reduce the emissions of ***criteria pollutants and*** carbon dioxide of such vehicle; or

Section {c}(iii)……the construction of infrastructure, including electric vehicle charging ***and/or alternative fueling stations***, to support vehicles described in clauses (i) and (ii)……

SEC. 4. UPGRADE OF POSTAL FLEET

(b) Replacing Vehicles Within the Postal Fleet- The Postmaster General shall conduct a cost benefit analysis of vehicles in the Postal fleet to determine if the cost to maintain any such vehicle outweighs the benefit or savings of replacing the vehicle ***and prioritize the replacement of vehicles in the Postal fleet based on the replacement vehicles' cost effectiveness in reducing criteria pollutants and greenhouse gases as well as the reduction in maintenance and petroleum fuel costs***.

(c) Route Requirements – To inform and prioritize purchases, the Postmaster General shall review and identify Postal delivery routes to determine if motor vehicles used on such routes can be replaced with technologies that increase average fuel economy or reduce emissions of ***criteria pollutants and*** carbon dioxide.

(d) Reporting Requirements – (a) and recommendations for vehicle body design specifications for vehicles purchased for the Postal fleet what would increase average fuel economy and reduce emissions of ***criteria pollutants and*** carbon dioxide of any such vehicle; and……

AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

Attachment 2B

I

113TH CONGRESS
2D SESSION

H. R. 3963

To provide for the upgrade of the vehicle fleet of the United States Postal Service, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 29, 2014

Mr. HUFFMAN (for himself and Mr. CONNOLLY) introduced the following bill; which was referred to the Committee on Oversight and Government Reform, and in addition to the Committee on Energy and Commerce, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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A BILL

To provide for the upgrade of the vehicle fleet of the United States Postal Service, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Federal Leadership in Energy Efficient Transportation Act of 2014" or the "FLEET Act".

SEC. 2. PURPOSES.

The purposes of this Act are to provide for the upgrade of the vehicle fleet of the United States Postal Service, to improve mail delivery services to benefit customers and the environment, to increase savings by reducing maintenance or other costs, and to set benchmarks to maximize fuel economy and reduce emissions for the Postal fleet with the goal of making the Postal Service a national leader in efficiency and technology innovation.

SEC. 3. AUTHORITY TO ENTER INTO ENERGY SAVINGS PERFORMANCE CONTRACTS.

Section 804(4) of the National Energy Conservation Policy Act (42 U.S.C. 8287c(4)) is amended—

(1) in subparagraph (A), by striking "or" after the semicolon;

(2) in subparagraph (B), by striking the period at the end and inserting "; or"; and

(3) by adding at the end the following new subparagraph:

"(c) in the case of a contract in which the United States Postal Service is a party—

"(i) the purchase or lease of low emission and fuel efficient vehicles;

"(ii) a measure to upgrade a vehicle owned, operated, leased, or otherwise controlled by or assigned to the United States

Postal Service to increase average fuel economy and reduce the emissions of carbon dioxide of such vehicle; or

"(iii) the construction of infrastructure, including electric vehicle charging stations, to support vehicles described in clauses (i) and (ii).".

SEC. 4. UPGRADE OF POSTAL FLEET.

(a) POSTAL FLEET REQUIREMENTS.—

(1) MOTOR VEHICLE STANDARDS.—The Postmaster General shall develop guidelines for contracted vehicles and vehicles purchased or leased for use by the Postal Service, that, at a minimum, provide—

(A) for light-duty vehicles—

(i) that emissions of carbon dioxide comply with applicable standards developed by the Environmental Protection Agency under title II of the Clean Air Act (42 U.S.C. 7521 et seq.) and may not exceed, on average, 250 grams per mile; and

(ii) to meet applicable average fuel economy standards developed by the National Highway Traffic Safety Administra-

tion under chapter 329 of title 49, United States Code, of 34.1 miles per gallon; and

(B) for medium-duty and heavy-duty vehicles, that comply with applicable standards—

(i) for emissions of carbon dioxide developed by the Environmental Protection Agency under title II of the Clean Air Act (42 U.S.C. 7521 et seq.); and

(ii) for average fuel economy developed by the National Highway Traffic Safety Administration under chapter 329 of title 49, United States Code.

(2) APPLICABILITY.—The standards described in paragraph (1) shall apply to contracted vehicles and vehicles purchased or leased for use by the Postal Service after the date that is 1 year after the date of enactment of this Act.

(3) REDUCTION IN CONSUMPTION OF PETROLEUM PRODUCTS.—The Postmaster General shall reduce the total consumption of petroleum products by vehicles in the Postal fleet by a minimum of 2 percent annually through the end of fiscal year 2025, relative to the baseline established for fiscal year 2005.

1 (b) REPLACING VEHICLES WITHIN THE POSTAL
2 FLEET.—The Postmaster General shall conduct a cost-
3 benefit analysis of vehicles in the Postal fleet to determine
4 if the cost to maintain any such vehicle outweighs the ben-
5 efit or savings of replacing the vehicle.

6 (c) ROUTE REQUIREMENTS.—To inform and
7 prioritize purchases, the Postmaster General shall review
8 and identify Postal delivery routes to determine if motor
9 vehicles used on such routes can be replaced with tech-
10 nologies that increase average fuel economy or reduce
11 emissions of carbon dioxide.

12 (d) REPORTING REQUIREMENTS.—The Postmaster
13 General shall submit a report to Congress—

14 (1) not later than 1 year after the date of en-
15 actment of this Act, that contains a plan to achieve
16 the requirements of subsection (a) and recommenda-
17 tions for vehicle body design specifications for vehi-
18 cles purchased for the Postal fleet that would in-
19 crease average fuel economy and reduce emissions of
20 carbon dioxide of any such vehicle; and

21 (2) annually, that describes—

22 (A) the progress in meeting the annual
23 target described in subsection (a)(3); and

(B) any changes to Postal delivery routes or vehicle purchase strategies made pursuant to subsection (c).

(e) RESTRICTIONS.—To meet the requirements of this Act, the Postmaster General may not—

(1) reduce the frequency of delivery of mail to fewer than 6 days each week;

(2) close post offices or postal distribution facilities;

(3) take any action that would restrict or diminish a collective bargaining agreement or eliminate or reduce any employee benefits; or

(4) enter into a contract with a private company to perform duties that, as of the date of enactment of this Act, are performed by bargaining unit employees.

SEC. 5. DEFINITIONS.

In this Act the following definitions apply:

(1) CONTRACTED VEHICLE.—The term "contracted vehicle"—

(A) means any motor vehicle used in carrying out a contract for surface mail delivery pursuant to section 5005(a)(3) of title 39, United States Code; and

(B) does not include any motor vehicle used in carrying out a contract for surface mail delivery pursuant to sections 406 and 407 of such title.

(2) MOTOR VEHICLE.—The term "motor vehicle" means any self-propelled vehicle designed for transporting persons or property on a street or highway.

(3) POSTAL DELIVERY ROUTE.—The term "Postal delivery route" means the transportation route for surface mail delivery.

(4) POSTAL FLEET.—The term "Postal fleet" means any vehicle that is owned, operated, leased, or otherwise controlled by or assigned to the Postal Service.

(5) POSTAL SERVICE.—The term "Postal Service" means the United States Postal Service.

○

Attachment 3

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

LEGISLATIVE REPORT
FROM HOME RULE ADVISORY GROUP
MEETING OF JANUARY 15, 2014

HRAG members present:
Dr. Joseph Lyou, Chairman
Dr. Elaine Chang, SCAQMD
Curt Coleman, Southern California Air Quality Alliance
Jayne Joy, Eastern Municipal Water District
Bill LaMarr, California Small Business Alliance
Joy Langford, Vasari Energy Capital
Rongsheng Luo, SCAG (participated by phone)
Bill Quinn, CCEEB (participated by phone)
Terry Roberts, American Lung Association of California
Dmitri Smith on behalf of Chris Gallenstein, CARB (participated by phone)
Lee Wallace, So Cal Gas and SDG&E
Mike Wang, Western States Petroleum Association (WSPA)

SCAQMD staff: Guillermo Sanchez, Bill Wong, and Marilyn Traynor

LEGISLATIVE UPDATE
Guillermo Sanchez reported as follows:

Special Legislative Committee meeting-December 20, 2013
The Committee discussed AB 1102, Travis Allen's bill on fire rings. SCAQMD has taken an oppose position on this bill which would remove the SCAQMD's authority to regulate fire rings under Rule 444. Moreover, the bill requires all local jurisdictions to obtain a coastal development permit to move, relocate or maintain their fire pits and would subject all local safety, time and condition ordinances with respect to fire rings subject to coastal commission review. Representatives of the Coastal Commission, the City of Newport Beach, and SCAQMD have initiated discussions to resolve their concerns locally.

Discussion
Mr. LaMarr expressed his support of small businesses and their opposition to the removal of the fire rings at the beaches. He commented that the issue may have been less controversial if the stakeholders had been involved in the discussions early on. Dr. Lyou noted that the new alternative technologies that are being developed may actually prove to be financially beneficial to small businesses. He added that he is not opposed to fire rings, in general, but recommended that the existing and new fire rings be used with alternative technologies such as propane or natural gas which are not likely to result in a public nuisance or health threat.

Legislative Committee meeting-January 17, 2014
At the Legislative Committee meeting on January 17, 2014, there will be an update on current federal and state legislative issues. Staff will also provide an update on AB 1330 (Perez) Environmental Justice.

At the request of Dr. Lyou, Mr. Sanchez provided the following background on AB 1330:

AB 1330 (John Perez) Environmental Justice

AB 1330 was a gut and amend bill introduced in the last days of session. The intent of AB 1330 was to improve enforcement and increase resources particularly in environmental justice communities. However, as originally drafted, the bill had serious due process concerns and had the potential to redline certain areas, creating further impediments to creating jobs and stimulating the economy. The bill quickly failed after concerns were raised by multiple parties including air districts, labor, and the business community. The Speaker committed to meet with SCAQMD and the other stakeholders to craft a workable bill. In those initial discussions, the Speaker's staff has indicated that bill will be redrafted to focus on serial, egregious violators.

Discussion

Mr. Quinn noted that CCEEB will be working with the author to address CCEEB's strong concerns with the proposed amendments to AB 1330, including those suggested by SCAQMD. Mr. Wang asked for an example of the type of facility that prompted the writing of this bill. Mr. Sanchez responded that the Speaker was particularly concerned with Exide and other battery recycling centers that have been allowed to operate with temporary permits over an extended period of time. Dr. Lyou clarified that the long-term interim permit in question was issued to Exide Technologies by the Department of Toxics Substances Control (DTSC) under the Resource Conservation and Recovery Act (RCRA).

Mr. Wallace requested additional information on the California EJ Alliance principles. Mr. Sanchez offered to send this information to the HRAG members after the meeting.

Dr. Lyou asked for an update on the Governor's Budget. Mr. Sanchez reported as follows:

Governor's Budget

Governor Brown released his budget which proposes an 8.5 percent boost in spending from the current year and includes $11 billion to pay down state debts and liabilities, $6 billion in deferred payments to schools, nearly $4 billion to pay down the "economic recovery" bonds from the previous administration and $1.6 billion reserve fund. More controversial is his proposal to dedicate greenhouse gas auction revenues to the high speed rail project. Dr. Lyou added that $250 million has been proposed for high-speed rail projects and approximately $600 million for other greenhouse gas reduction projects, many of which are established programs that the SCAQMD would like to see funded. Mr. Sanchez noted that the Governor was urging fiscal restraint as the Legislature begins to engage in the budget process.

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 24

REPORT: Mobile Source Committee

SYNOPSIS: The Mobile Source Committee met Friday, February 21, 2014 Following is a summary of that meeting.

RECOMMENDED ACTION:
Receive and file.

Dr. Clark E. Parker, Sr., Chair
Mobile Source Committee

EC:fmt

Attendance

Dr. Parker, *(via videoconference)*, called the meeting to order at 9:04 a.m. Dr. Joseph Lyou was present at SCAQMD headquarters. Councilman Ben Benoit and Supervisor Shawn Nelson *(arrived at 9:11a.m.)* were present via videoconference.

The following items were presented:

INFORMATIONAL ITEMS:

1) Review of Proposed First Update to the Climate Change Scoping Plan

Dr. Elaine Chang, Deputy Executive Officer/Planning, Rule Development & Area Sources, presented an overview of CARB's AB 32 Scoping Plan updates. Under AB 32, CARB is required to update the Scoping Plan every five years. CARB's Scoping Plan Discussion Draft (Update) was presented to the CARB Board on October 24, 2013. The Proposed First Update to the Climate Change Scoping Plan was released on February 10, 2014 and is anticipated to be considered at the May CARB Board meeting. Dr. Chang mentioned the appendices for the environmental analysis, status of scoping plan measures, and focus group white papers, which are anticipated to be released in a month. Dr. Chang mentioned that staff will update the Committee in April to review the appendices and further comments by staff on the Update.

Dr. Chang provided an overview of the focus on eight key sectors within the document and the recommendation to establish a mid-term GHG target. It was highlighted that the recent Update provides an expanded discussion of air quality benefits coinciding with GHG reductions. It was noted that the document provides greater emphasis on reducing short-lived climate pollutants which also can have the significant co-benefit of reducing other air pollutants. Another highlighted change was the addition of an appendix developed by CAPCOA that provides a description of local and regional climate efforts. Dr. Chang provided details of several recommended actions in the Update within the energy, transportation, green buildings, and short-lived climate pollutants sectors. Dr. Chang noted that the development of a comprehensive strategy for mitigation of short-lived climate pollutants was moved up a year to 2015. A summary of comments from stakeholders and initial SCAQMD staff comments was also provided.

Dr. Wallerstein noted that establishing a mid-term target aligns GHG targets with criteria pollutants air quality targets and there is discussion on whether legislative action is needed to establish a mid-term GHG target. It is his understanding that the legislature will consider establishing a mid-term target. Dr. Wallerstein also noted that in 2015, fuels will be in the Cap-and-Trade program, and there is likely legislative discussion on taking fuels out of the Cap-and-Trade program. For example, a carbon tax on each gallon of gasoline sold is being considered. The logic for this is to provide better price certainty and minimize the potential impacts of GHG credit prices spiking. Dr. Parker mentioned that Senator Steinberg has introduced a bill of 15 cents per gallon. It is not clear how the proceeds of the taxes will be distributed. Dr. Parker asked if there are sources of black carbon from coal sources in the Basin. Dr. Wallerstein noted that the only coal combustion source in the Basin is at a cement plant that has been shut down and that there are pet coke facilities that have some re-suspended particulate emissions. Dr. Lyou asked if the Updated Scoping Plan discussed how funding will be distributed.

Dr. Chang mentioned that this was not specified in the Update. Dr. Lyou noted that this Update has less controversy and better alignment with SCAQMD goals. Dr. Wallerstein related this to a larger discussion of actions taken to reduce GHG emissions that also reduce criteria pollutants, and vice versa. He noted many of these actions will need to be taken anyway to meet federal clean air standard. Dr. Parker asked if we currently receive any cap-and-trade funds. Dr. Wallerstein noted that these funds are yet to be disbursed and that we will be able to apply for some funds. Dr. Parker noted that some of the largest emission sources that are participating in the Cap-and-Trade program are located in our Basin, such that we need to start seeking funds and recommending expenditures for our jurisdictional areas. Dr. Wallerstein noted that we have been involved in commenting on the

guidance of expenditures that are aligned with SCAQMD goals and concurred that we need to further discuss these funds at the Legislative Committee.

2) Status Report on CV Link

Mr. Tom Kirk, Coachella Valley Association of Governments (CVAG) Executive Director, provided a status report on the status of the CV Link, which is a proposed project that will connect the Coachella Valley with a continuous pathway along or near the existing Whitewater River for pedestrians, bicyclists and low-speed electric vehicles. Mr. Kirk provided information on the background of the project, the proposed design and its cost versus the benefits to the residents and visitors of the Coachella Valley. Mr. Kirk stated that close to $65 million has been secured to fund the project, including the $17.4 million received as an eligible project for CPV Sentinel air quality mitigation funds (AB 1318). Mayor Pro Tem Benoit asked about the funding gap. Mr. Kirk replied that the gap is about $30 million, but that CVAG is working hard to complete the funding gap. However, there are sufficient funds to begin the project. It is anticipated that the project can break ground in March 2016 after completion of the Master Plan and Environmental Impact Report in January 2016. Supervisor Nelson suggested the flood control district as a possible funding source. Dr. Parker asked whether this item would be presented to the full Board. Dr. Wallerstein replied that he is planning to have Mr. Kirk address the Board at the May Board retreat. Supervisor Nelson also asked about the SCAQMD's role in funding similar projects. Dr. Wallerstein responded that this project was a unique opportunity due to the mitigation fees from the CPV Sentinel Energy project pursuant to AB 1318, and that there are opportunities that will come about from the cap-and-trade revenues under SB 375, and should other power plant mitigation fees become available to the SCAQMD, such as the proposed AES Huntington Beach project, the Board can consider similar projects.

3) Summary of California Air Resources Board's Briefing on the Implementation Status of SB 375

Staff provided a summary of the CARB staff presentation to their Board regarding the implementation of SB 375. SCAQMD staff provided background information regarding SB 375's objective to reduce greenhouse gas (GHG) emissions from passenger cars and light-duty trucks (sports utility vehicles and pickup trucks) through land use and transportation planning. Passenger cars and light-duty trucks contribute about 30% to the GHG emissions in California. SB 375 requires local metropolitan planning organizations (MPO) to identify strategies to reduce GHG emissions by 2020 and 2035. Reduction targets for the two years are set by CARB. In addition, SB 375 streamlines certain projects under CEQA that are part of the strategies identified under SB 375.

Staff described the various implementation roles under SB 375. As mentioned above, CARB sets the emission reduction targets for 2020 and 2035 based on methodologies recommended by the Regional Targets Advisory Committee (RTAC) formed in 2009. The targets are based on reductions from 2005 GHG levels and scenarios modeled by the MPOs. Every eight years (or four years, if necessary), CARB reviews the targets and determines if the targets need to be updated. The MPOs develop the strategies (known as sustainable community strategies – SCS) to meet the emission reduction targets for 2020 and 2035. CARB then evaluates the proposed strategies and determines if the strategies when implemented will meet the targets. Local governments implement the strategies. In addition, funding for the implementation of the strategies may be provided by the Strategic Growth Council. The Strategic Growth Council has provided around $50 million towards implementation of the SCSs and has $20 million available for the current year. In addition, the Governor announced as part of the proposed budget another $100 million for SB 375 implementation.

There are 18 MPOs affected by SB 375. CARB placed its initial focus on the four largest regions: Southern California (SCAG region); San Diego; San Francisco Bay Area; and Sacramento. The four regions have adopted SCSs to meet the targets. The eight San Joaquin Valley MPOs are in the process of preparing SCSs for submittal to CARB later this year. The SCSs developed to date focus on growth in urban areas accessible by transit; accommodating more multi-family housing near public transit; encouraging active transportation and increasing transit investments; and other actions that shift away from auto trips.

CARB staff identified three broad areas of implementation challenges. The first is the need to build local government support and the need for growth and development to effect change. The second is financial resources to implement the SCSs. The third is continued enhancements of the modeling tools used to estimate the benefits of the various strategies. In addition, CARB staff discussed the process for determining whether the targets will be updated every eight years.

Public comments were provided by the four major MPOs regarding the implementation status of SCSs in their respective regions. In addition, San Barbara and the San Joaquin Valley MPOs provided comments on the status of their SCS development. Several environmental organizations and community councils urged CARB to review and revise the targets in 2014 and not wait until 2018. Comments were also made regarding local governments ability to implement the SCSs given the funding resources needed and the need to seek additional funding.

SCAQMD staff indicated that the SB 375 process is followed very closely by staff since the SCSs provide potential co-benefits in reducing criteria pollutant

emissions, air toxic exposure, and energy consumption. The SCSs are part of SCAG's Regional Transportation Plan and the criteria pollutant emission reductions are assumed in the AQMP and are reflected in the transportation conformity budgets.

Dr. Lyou asked whether staff has an idea of the total funding needed to implement SB 375 and that the $100 million identified is not sufficient. Staff indicated that they do not believe anyone has such a number. The $100 million is a good start. Staff also indicated that there is recognition that the projects are no longer viewed as simply additional enhancements, but viewed as the proper way to design mixed-use plans and the economic value and intrinsic value of having more sustainable communities is starting to take hold. There were many examples of cities independently implementing sustainable strategies because it made sense for the local constituents regardless of SB 375.

Dr. Lyou asked about the models used in developing the SCSs and how different assumptions can influence the model results. Staff indicated that during the RTAC meetings there were discussions on how the models operate and each region had their own models. Dr. Wallerstein indicated that he had asked that presentations be made on the fundamental assumptions that went into the models knowing that are differences in the urban landscape and transportation differences betwen the San Francisco Bay Area and Southern California. There were discussions about assumptions that did not make sense in terms of differences among regions. The land use models and transportation models are being integrated for future SCS development and more updated assumptions are being incorporated.

Dr. Lyou also asked what the SCAQMD can do with indirect sources given that SB 375 is looking at such sources in terms of reductions in vehicle miles traveled. Dr. Wallerstein indicated that SB 375 is looking at reducing emissions from light-duty vehicles and developing sustainable communities through shifting to non-auto trips. The SB 375 process will be a long and slow process given the nature of the projects and the time it takes to make changes in the urban form. The timeframe to meet SB 375 targets are so lengthy that there will be some emission benefits to help meet air quality standards, but will not be sufficient to meet air quality standards by their applicable dates under the Clean Air Act. As such, there will be a need to look at opportunities for the Board to use its indirect source authority to help fill the gap and supplement what is being implemented in SB 375.

Supervisor Nelson commented that there is a need to encourage job growth and development of office buildings near rail stops such that commuters do not need to use their cars after traveling by train to their work place. Supervisor Nelson also

stated that there is a need to develop policies and legislative actions to promote the development of work centers in close proximity of rail stops and discourage low-density housing development. Staff clarified that the agency has been promoting all of the approaches to shift people away from vehicle use to mass transit. The Board has been funding cleaner technologies, but also has been promoting projects such as grade separations. Staff will continue to closely follow these efforts.

4) Report on the Status of the VMT Offset Demonstration in the Ozone Plans

Mr. Henry Hogo provided an update on the vehicle miles travelled (VMT) offset demonstration submitted as part of the 2012 AQMP in December 2012. Under Section 182(d)(1)(A), a demonstration must be made identifying sufficient transportation control strategies (TCS) and transportation control measures (TCM) to offset any increase in emissions due to increase in vehicle miles traveled or number of vehicle trips in the applicable attainment year. Such demonstrations have been provided in each of the ozone air quality management plans submittals. However, in February 2011, the 9th Circuit Court of Appeals rejected U.S. EPA's 20 years of interpretation of the Clean Air Act section and required that any demonstration explicitly identify the TCSs and TCMs that offset the increased emissions due to VMT growth. Prior AQMP submittals included this demonstration with the submittal of the total emissions benefits of the mobile source control programs such as the state's Low Emission Vehicle (LEV) regulations. However, individual TCSs or TCMs were not explicitly associated with the VMT offset.

In August 2012, the U.S. EPA issued new guidance on the VMT offset demonstration with a specific approach to conduct the offset demonstration and if necessary, identify the specific TCSs or TCMs that led to the emission benefits. The SCAQMD followed the guidance and provided the demonstration in Appendix VIII of the Final 2012 AQMP. However, the U.S. EPA guidance were in draft form and had not been finalized at the time the 2012 AQMP was approved by the SCAQMD Board in December 2012. As such, the demonstration provided in Appendix VIII contained additional analysis in the event that the final U.S. EPA guidance called for such information. The additional analyses included the use of different base years depending on the ozone air quality standards (i.e., the 1-hr or 8-hr ozone standards) and analysis for VOC and NOx emissions associated with the VMT increase (the draft guidance provided an example for VOC emissions).

Staff discussed the methodology provided by U.S. EPA to conduct the demonstration. The methodology required three analyses of the attainment year assuming: (1) that there were no additional mobile source controls after the base year (either 1990 for the 1-hr ozone or 2002 for the 8-hr ozone) and VMT increased as projected; (2) that there were no additional mobile source controls after the base year and VMT levels were held constant at the base year level; and

(3) the implementation of the mobile source control programs since the base year with VMT growth. If the emissions associated with Analysis (3) are less than the emissions associated with Analysis (2), then the demonstration has been made and no additional TCSs or TCMs would be required. The TCSs and TCMs in the mobile source control programs would need to be listed explicitly in the demonstration.

Since the submittal of the VMT offset demonstration, U.S. EPA indicated to CARB and SCAQMD staff that the demonstrations should be based on the applicable base years and that an analysis for only VOC is needed. U.S. EPA also indicated that an analysis holding the number of vehicle trips is needed in addition to the VMT analysis. CARB is currently conducting the analysis. Initial indications are that the region will meet the demonstration with the existing mobile source control programs. CARB will be submitting the additional analysis and will provide an update to SCAQMD staff prior to the submittal.

Dr. Parker asked whether CARB staff was aware of these changes. Staff responded that there were ongoing discussions with U.S. EPA, CARB and SCAQMD staffs, and that today's presentation reflects the outcome of those discussions. Ms. Nancy Carroll, a resident of the City of Beaumont located in Riverside County, asked whether the analysis takes into account economic growth. Staff indicated that the analysis does account for growth as provided by SCAG in its Regional Transportation Plans.

WRITTEN REPORTS:

5) Rule 2202 Activity Report
The report was received as submitted.

6) Monthly Report on Environmental Justice Initiatives – CEQA Document Commenting Update
The report was received as submitted.

OTHER BUSINESS:
None

PUBLIC COMMENT:
Ms. Nancy Carroll voiced her concerns regarding the Gateway Warehouse, a construction project that is being proposed in the unincorporated community of Cherry Valley on the border of Beaumont. Ms. Carroll lives near to the proposed Gateway Warehouse project, and noted that the project is a 2.5 million square foot logistics warehouse. She stated that the developer is seeking to change the zoning from rural residential to light industrial, and that there are no prospective tenants

or purchaser for the warehouse. She also commented that the proposed warehouse will accommodate 428 truck bays for diesel trucks to operate, and voiced her concern that this will adversely affect the air quality and will be harmful to the many senior citizens that live within close proximity to the proposed project. Ms Carroll expressed her belief that this is an environmental justice issue. Dr Wallerstein stated that the analysis of the project would be conducted under the CEQA review process, and expressed his appreciation for Ms. Carroll taking the time to highlight the importance of this project to her community. Dr. Wallerstein also stated that staff would look at the details and follow-up with Ms. Carroll regarding the staff's analysis and the SCAQMD's role in terms of the project.

The meeting was adjourned at 10:45 a.m.

Attachment
Attendance Roster

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
MOBILE SOURCE COMMITTEE MEETING
Attendance Roster- February 21, 2014

NAME		AFFILIATION
Chair Dr. Clark E. Parker, Sr.		SCAQMD Governing Board *(via videoconference)*
Vice Chair Dr. Joseph Lyou		SCAQMD Governing Board
Committee Member Ben Benoit		SCAQMD Governing Board *(via videoconference)*
Committee Member Shawn Nelson		SCAQMD Governing Board
Board Asst/Consultant Mark Abramowitz		SCAQMD Governing Board (Lyou)
Board Asst/Consultant Frank Cardenas		SCAQMD Governing Board (Cacciotti)
Board Asst/Consultant Marisa Perez		SCAQMD Governing Board (Mitchell)
David Rothbart		Los Angeles County Sanitation Districts
Susan Stark		Tesoro
Candice Gantt		Southern California Edison
Christine Truong		Los Angeles Department of Water & Power
Barry Wallerstein		SCAQMD Staff
Elaine Chang		SCAQMD Staff
Philip Fine		SCAQMD Staff
Barbara Baird		SCAQMD Staff
Henry Hogo		SCAQMD Staff
Laki Tisopulos		SCAQMD Staff
Joe Cassmassi		SCAQMD Staff
Dean Saito		SCAQMD Staff
Carol Gomez		SCAQMD Staff
Connie Day		SCAQMD Staff
Aaron Katzenstein		SCAQMD Staff
Tracy Goss		SCAQMD Staff
Sam Atwood		SCAQMD Staff
Kim White		SCAQMD Staff

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 25

REPORT: Stationary Source Committee

SYNOPSIS: The Stationary Source Committee met Friday, February 21, 2014. Following is a summary of that meeting. The next meeting will be March 21, at 10:30 a.m., in Conference Room CC8.

RECOMMENDED ACTION:
Receive and file.

Dr. Joseph Lyou, Vice Chair
Stationary Source Committee

MN:am

Attendance
The meeting began at 10:55 a.m. Present were Dr. Joseph Lyou, Supervisor Shawn Nelson (VT) (joined meeting at 11:00 due to technical difficulties) and Mayor Pro Tem Ben Benoit (VT). Absent were Mayor Dennis Yates and Mayor Pro Tem Judith Mitchell. Dr. Joseph Lyou chaired the meeting,

Due to technical difficulties, Supervisor Nelson was unable to attend the beginning of the meeting, and there was no quorum, therefore the meeting began with the Informational Items. Dr. Lyou announced that the Action Items would be delayed until a quorum is established.

INFORMATIONAL ITEM

4. Rule 1148.2 – Status Report
Susan Nakamura, Director of Strategic Initiatives, presented the Status Report for Rule 1148.2 – Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers. Pursuant to the adoption resolution in April 2013, staff is to report semi-annually to the Stationary Source Committee on notifications, emissions, and chemical use reporting related to Rule 1148.2. In addition to updating the Committee again in six months, staff will also: continue sampling and

inspections; pursue instances of non-compliance with Rule 1148.2 requirements (i.e., operators conducting oil/gas well activities, but not reporting emissions or chemical usage); continue analysis of notification, emissions and chemical usage data; and continue to make improvements to the Rule 1148.2 website and public portal.

Sandra Burkhart, Western States Petroleum Association (WSPA) expressed concerns regarding a recently issued Compliance Advisory for Rule 1148.2. Ms. Burkhart indicated that the advisory noted that oil/gas well operators would be required to submit records of mobile source engine emissions associated with oil/gas well activities covered under Rule 1148.2. However, Ms. Burkhart indicated that, during the rulemaking for Rule 1148.2, stakeholders were advised that mobile source engine emissions would not be required to be submitted. Ms. Burkhart stated that it would be virtually impossible for oil/gas well operators to accurately report the required information for projects that have already been completed. Ms. Nakamura clarified that only emissions from combustion equipment associated with applicable oil/gas well activities must be reported. For example, if a vehicle's primary engine is used to power other equipment used in well activities, the emissions from that engine must be reported. However, if a vehicle's engine is used only for propulsion of the vehicle, then the emissions information is not required to be reported.

Ms. Burkhart mentioned that information about toxics is obtained from MSDS sheets and not actual measurements. Ms. Burkhart also suggested that the SCAQMD be consistent with SB4, and differentiate between maintenance acidizing and acidizing operations intended to stimulate oil/gas production.

Blair Knox, California Independent Petroleum Association (CIPA), indicated that stakeholders should be informed of SCAQMD staff's methodology for analyzing Rule 1148.2 data. Mr. Knox asked for direction from SCAQMD staff on how oil/gas well operators may re-create mobile engine emission data for past projects. He stated that dust observations are due to unpaved roads and smoke is from cold starts of diesel engines. Mr. Knox also suggested that Rule 1148.2 be consistent with SB4's definitions for acidizing operations (i.e., different definitions for maintenance acidizing vs. matrix acidizing).

Board Member Lyou requested that SCAQMD staff work closely with other regulatory agencies to ensure that hazardous materials transportation safety issues are properly addressed, especially when materials such as hydrogen fluoride are involved.

ACTION ITEMS (Dr. Lyou went back to Action Items, quorum was established at 11:00 a.m. when Supervisor Nelson joined via video conferencing.)

1. **Annual RECLAIM Audit Report for Compliance Year 2012**
   Danny Luong, Senior Enforcement Manager, gave a brief description of the RECLAIM Audit Report for Compliance Year 2012, which is currently on the agenda for the Governing Board's March 7, 2014 meeting.

   The 2012 Compliance Year covers January 1, 2012 through June 30, 2013. The RECLAIM universe had a net reduction of three active facilities, bringing the total number of facilities in the program to 273 as of June 30, 2013. RECLAIM met its aggregate emission goals and the individual facility allocation compliance rates were high. Compliance Year 2012 NOx emissions were 1,879 tons (19%) below aggregate Allocations. Compliance Year 2012 SOx emissions were 1,731 tons (40%) below aggregate Allocations.

   RECLAIM also met all other performance criteria. Federal New Source Review offset ratios were met. There was no significant shift in emissions from winter to summer, and no evidence of increased health risk due to RECLAIM. The average prices for discrete year and infinite year NOx and SOx RTCs were well below thresholds for review in both Rule 2015 and the Health and Safety Code.

   Mr. Luong concluded by reiterating that RECLAIM achieved programmatic compliance during Compliance Year 2012, facility compliance rates were high (96% for NOx and 97% for SOx), RTC prices remained below program review thresholds, and RECLAIM met all performance criteria. He asked that the Stationary Source Committee recommend that the Annual RECLAIM Audit Report for 2012 Compliance Year be presented to the Board for approval.

   There were no questions or comments regarding this item from the public.

   Dr. Lyou commented that it is a delicate balance in deciding how to properly set emission goals for RECLAIM – there should not be too much or too little excess allocations compared to emissions. Mr. Mohsen Nazemi replied that even though a facility may have excess allocations, it may decide to keep the excess as a compliance margin instead of selling those excess RTCs. Dr. Wallerstein added that there is legislation that provides criteria on how to assess RECLAIM. RECLAIM is required to achieve equivalent emission reductions compared to the traditional command-and-control approach at equal or lower cost. SCAQMD conducts periodic BARCT reviews to ensure that both approaches are equivalent. There is currently an effort underway to identify further NOx reductions in the RECLAIM program.

   Moved (Benoit) seconded (Nelson), and unanimously recommended for approval.

INFORMATIONAL ITEMS

Agenda #2 & #3 were presented together.

2. **Execute Contract and Rental Agreement for Rule 1420.1 – Multi-Metals CEMS and Continuous Multi-Metals Ambient Air Monitoring Demonstration Programs**

3. **Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities**
   Susan Nakamura presented a summary of PAR 1420.1 – Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities. At the January 10, 2014, hearing to amend Rule 1420.1, the Board directed staff to work with stakeholders and return to the March 7, 2014 Public Hearing for Board action on a multi-metal Continuous Emissions Monitoring System (CEMS) demonstration program. Staff is proposing modifications to Rule 1420.1. The affected facilities would be required to provide funding and participate in a multi-metals CEMS demonstration program. Clarifying language is also being proposed that will require affected facilities to reimburse SCAQMD for funds spent to deploy independent third-party contractors who conduct investigations of unplanned shutdowns.

   In addition to PAR 1420.1, Ms. Nakamura summarized the requested Board action to approve a sole source contract with Cooper Environmental Services, LLC in an amount not to exceed $413,451 to help implement the multi-metals CEMS demonstration program. This item also includes a sole source contract with Cooper Environmental Services to provide a multi-metals ambient monitor for lease. The monitor and multi-metals CEMS would be used at the two large lead-acid battery recycling facilities for two months each.

   Duncan McKee, a member of the public spoke and indicated that he supports staff's proposal and wants to ensure that regular source testing conducted at both large lead-acid battery recycling facilities will continue to occur. Mr. McKee also commented that he supports staff lowering the lead emission rate in Rule 1420.1 as part of a rule amendment.

   Mayor Pro Tem Benoit stated that he agrees with staff's proposed approach and supports the pending contract. Dr. Barry Wallerstein recommended that Board Members not take action on the contracts since they are dependent on approval of the proposed amended rule. All Committee Members present agreed.

5. **Rule 102 – Definition of Terms**
   Naveen Berry, Planning & Rules Manager, presented a summary of the proposed amended rule, including the addition of Trans-1-chloro-3,3,3-trifluoropropene (HFO1233zd) to the definition of Exempt Compounds. In addition to its low reactivity level, HFO-1233zd has negligible ozone depletion potential, ultra low global warming potential, and is not toxic; however, staff has requested the Office of Health and Hazard Assessment to conduct an independent review of any potential health impacts. Three local precision cleaning facilities emphasized the need to expeditiously exempt HFO-1233zd for their on-going operations. Mayor Pro Tem Benoit asked staff to pursue the proposal and Dr. Joseph Lyou asked staff to further evaluate potential hydrochloric acid formation in applications where the compound may be exposed to high temperatures, since the compound currently used is going to be phased out by the end of 2014.

6. **Rule 1130 – Graphic Arts**
   Naveen Berry, Planning & Rules Manager, presented an overview of Proposed Amended Rule 1130. The proposal incorporates certain U.S. EPA Control Techniques Guideline recommendations applicable to printing operations not included in the current rule that pertain to the overall add-on control device efficiency and VOC content requirements for fountain solutions, and also includes other changes to enhance compliance, incentivize the use of low-VOC products, and make minor corrections and clarifications. Rita Loof, Radtech International, requested that the new definition in the proposed amended rule for energy curable materials be consistent with the language under development for proposed amended Rule 1168 – Adhesives and Sealant Applications, and that the criteria for low-VOC products be modified to accommodate the level of precision associated with VOC testing for energy curable materials. Further, Ms. Loof suggested that staff should consider increasing the exemption level to 20 g/l VOCs to account for the test method variability. Bill La Marr, representing the Printing Industries of America, indicated that staff has addressed the association's concern related to prohibition of sale and capture device efficiency through the last revision to the proposal.

WRITTEN REPORTS

All written reports were acknowledged by the Committee.

PUBLIC COMMENTS

There were no public comments.

NEXT MEETING DATE

It was announced that the next Stationary Source Committee meeting will be held on March 21, 2014. The meeting was adjourned at 11:55 a.m.

Attachment
Attendance Roster

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
STATIONARY SOURCE COMMITTEE
February 21, 2014
ATTENDANCE ROSTER (Voluntary)

NAME		AFFILIATION
Dr. Joseph Lyou		SCAQMD Governing Board
Mayor Pro Tem Benoit (VT)		SCAQMD Governing Board
Supervisor Shawn Nelson (VT)		SCAQMD Governing Board
Mohsen Nazemi		SCAQMD Staff
Susan Nakamura		SCAQMD Staff
Barbara Baird		SCAQMD Staff
Elaine Chang		SCAQMD Staff
Bill Wong		SCAQMD Staff
Danny Luong		SCAQMD Staff
Philip Fine		SCAQMD Staff
Naveen Berry		SCAQMD Staff
Andrew Lee		SCAQMD Staff
Rudy Eden		SCAQMD Staff
Jill Whynot		SCAQMD Staff
Kim White		SCAQMD Staff
Tina Cox		SCAQMD Staff
David Rothbart		LA County Sanitation District
Larry Kostrzewa		Edison Mission Energy (EME)
Susan Stark		Tesoro
Peter Whittingham		Curt, Pringle & Associates
Bill Pearce		Boeing
Bill Lamar		California Small Business Alliance

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 26

REPORT: California Air Resources Board Monthly Meeting

SYNOPSIS: The California Air Resources Board met on February 20, 2014 in Sacramento. The following is a summary of this meeting.

RECOMMENDED ACTION:
Receive and file.

Judith Mitchell, Member
SCAQMD Governing Board

sm

The Air Resources Board's (ARB or Board) February meeting was held on February 20 in Sacramento, at the California Environmental Protection Agency Headquarters Building. Key items presented are summarized below.

1. **2013 Annual Report from the Office of the Ombudsman**

The Board heard an update on the implementation of the business plan for the Office of the Ombudsman with emphasis on California small businesses.

2. **Public Meeting to Report to the Board on Ozone and PM2.5 Chemistry in the South Coast and San Joaquin Valley**

The Board heard a report on the latest science behind ozone and PM2.5 formation in the South Coast and San Joaquin Valley. Significant reductions in emissions of oxides of nitrogen will be critical for meeting the PM2.5 and ozone standards in both areas. Reductions in volatile organic compounds will also be important for meeting the ozone standard in the South Coast.

3. **Public Meeting to Report to the Board on the Proposed First Update to the Climate Change Scoping Plan**

The Board heard a report on the Proposed First Update to the Scoping Plan. The Update describes California's progress toward meeting 2020 emission goals, details the latest climate science, and includes recommendations for achieving the State's longer-term emission reduction goals.

Consent Item

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4. **Public Meeting to Consider Minor Updates to the Yuba City-Marysville PM2.5 Maintenance Plan and Redesignation Request**

The Board approved the consent item.

Attachment
CARB February 20, 2014 Meeting Agenda

California Environmental Protection Agency

Air Resources Board

PUBLIC MEETING AGENDA

Thursday, February 20, 2014

Webcast
Board Book

LOCATION:
Air Resources Board
Byron Sher Auditorium, Second Floor
1001 I Street
Sacramento, California 95814
http://www.calepa.ca.gov/EPAbldg/location.htm

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

February 20, 2014
9:00 a.m.

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 it.

Consent Item #

14-2-1: Public Meeting to Consider Minor Updates to Yuba City-Marysville PM2.5 Maintenance Plan and Redesignation Request

The Board will consider approval of an update to the Yuba City-Marysville PM2.5 Nonattainment Area Redesignation Request and Maintenance Plan for the 2006 24-hour PM2.5 Standard (Update). This area meets the federal standard and qualifies for redesignation to attainment. The Update provides additional information and clarifications requested by the United States Environmental Protection Agency (U.S. EPA). If approved, the Update will be submitted to U.S. EPA as a revision to the California State Implementation Plan.

More Information *Proposed Resolution*

DISCUSSION ITEMS:

Note: The following agenda items may be heard in a different order at the Board meeting.

Agenda Item #

14-2-2: Annual Report from the Office of the Ombudsman 2013

Staff will update the Board on the implementation of the business plan for the Office of the Ombudsman with emphasis on California small businesses.

More Information *Staff Presentation*

14-2-3: Public Meeting to Report to the Board on the Science of Ozone and PM2.5 Atmospheric Chemistry in the South Coast and San Joaquin Valley

Staff will present to the Board an informational item on the latest science regarding the chemistry of ozone and PM2.5 formation in the South Coast and San Joaquin Valley and the role of NOx and VOC reductions in California's control strategy to meet the federal ozone and PM2.5 standards.

More Information *Staff Presentation*

14-2-4: Public Meeting to Report to the Board on the Proposed First Update to the Climate Change Scoping Plan

Staff will present to the Board a report on the Proposed First Update to the Scoping Plan (Update). The Update presents a unified approach for ongoing action to address climate change in California, including a report on California's success to date in meeting its 2020 emission goals, information on the latest climate science, and priorities and recommendations for achieving the State's longer term emission reduction goals.

More Information *Staff Presentation*

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):

POET, LLC, et al. v. Corey, et al., Superior Court of California (Fresno County), Case No. 09CECG04850; plaintiffs' appeal, California Court of Appeal, Fifth District, Case No. F064045; California Supreme Court, Case No. S213394.

Rocky Mountain Farmers Union, et al. v. Corey, U.S. District Court (E.D. Cal. Fresno), Case No. 1:09−CV−02234−LJO−DLB; interlocutory appeal, U.S. Court of Appeals, Ninth Circuit, Case Nos. 09-CV-02234 and 10-CV-00163.

American Fuels and Petrochemical Manufacturing Associations, et al. v. Corey, et al., U.S. District Court (E.D. Cal. Fresno), Case No. 1:10-CV-00163-AWI-GSA; interlocutory appeal, U.S. Court of Appeals, Ninth Circuit, Case Nos. 09-CV-02234 and 10-CV-00163.

Association of Irritated Residents, et al. v. United States Environmental Protection Agency, 2011 WL 310357 (C.A.9), (Feb. 2, 2011).

California Dump Truck Owners Association v. Nichols, U.S. District Court (E.D. Cal. Sacramento), Case No. 2:11-CV-00384-MCE-GGH; plaintiffs' appeal, U.S. Court of Appeals, Ninth Circuit, Case No. 13-15175.

Engine Manufacturers Association v. California Air Resources Board, Sacramento Superior Court, Case No. 34-2010-00082774; defendant's appeal, California Court of Appeal, Third District, Case No. C071891.

Truck and Engine Manufacturers Association v. California Air Resources Board, Sacramento Superior Court, Case No. 34-2013-00150733.

Alliance of Automobile Manufacturers v. California Air Resources Board; Sacramento Superior Court, Case No. 34-2013-00152974.

Citizens Climate Lobby and Our Children's Earth Foundation v. California Air Resources Board, San Francisco Superior Court, Case No. CGC-12-519554, plaintiffs' appeal, California Court of Appeal, First District, Case No. A138830.

California Chamber of Commerce et al. v. California Air Resources Board, Sacramento Superior Court, Case No. 34-2012-80001313.

Morning Star Packing Company, et al. v. California Air Resources Board, et al., Sacramento Superior Court, Case No. 34-2013-800001464.

Delta Construction Company, et al. v. United States Environmental Protection Agency, U.S. Court of Appeals, District of Columbia Circuit, Case No. 11-1428.

City of Los Angeles through Department of Water and Power v. California Air Resources Board, et al., Los Angeles Superior Court, Case No. BS140620 (transferred to Sacramento Superior Court, Case No. 34-2013-80001451-CU-WM-GDS).

Alliance for California Business v. Nichols et al., Glenn County Superior Court, Case No. 13CV01232.

Dalton Trucking, Inc. v. United States Environmental Protection Agency, U.S. Court of Appeals, District of Columbia Circuit, Case No. 13-1283.

Owner-Operator Independent Drivers Association Inc. et al. v. Richard W. Corey et al., U.S. District Court, Case No. 1:13-CV-01998-LJO-SAB (Dec. 6, 2013).

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:

http://www.arb.ca.gov/lispub/comm/bclist.php

(Note: not all agenda items are available for electronic submittals of written comments.)

IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE CLERK OF THE BOARD:
1001 I Street, 23rd Floor, Sacramento, California 95814
(916) 322-5594
ARB Homepage: www.arb.ca.gov

SPECIAL ACCOMMODATION REQUEST

Consistent with California Government Code Section 7296.2, special accommodation or language needs may be provided for any of the following:

- An interpreter to be available at the hearing;
- Documents made available in an alternate format or another language;
- A disability-related reasonable accommodation.

To request these special accommodations or language needs, please contact the 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 alterno 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 envié 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.

SMOKING IS NOT PERMITTED AT MEETINGS OF THE CALIFORNIA AIR RESOURCES BOARD

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 27A

PROPOSAL: Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities

SYNOPSIS: On January 10, 2014, Rule 1420.1 was amended to, among other things, require owners or operators of large lead-acid battery recycling facilities to reduce arsenic emissions and other key toxic air contaminant emissions. At the Public Hearing, the Board removed the requirement that affected facilities conduct a multi-metals demonstration program to continuously monitor lead, arsenic, and other metals. The Board directed staff to work with stakeholders and return to the March 7, 2014 Public Hearing for Board action on the multi-metal CEMS demonstration program. Under Proposed Amended Rule (PAR) 1420.1, the affected facilities must provide funding and participate in a multi-metals CEMS demonstration program. Clarifying language is also being proposed at this time that will require affected facilities to reimburse SCAQMD for funds spent to deploy independent third-party contractors who conduct investigations of unplanned shutdowns.

COMMITTEE: Stationary Source, February 21, 2014, Reviewed.

RECOMMENDED ACTION:
Adopt the attached resolution:

1. Certifying the CEQA Notice of Exemption for Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-acid Battery Recycling Facilities; and
2. Amending Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities.

Barry R. Wallerstein, D.Env.
Executive Officer

EC:PF:SN:EE:TK

Background
Rule 1420.1 was adopted on November 5, 2010. Rule 1420.1 applies to large lead-acid battery recycling facilities that have processed more than 50,000 tons of lead a year. Currently there are two facilities subject to Rule 1420.1 in the South Coast Air Basin (Basin): Exide Technologies, Inc. located in Vernon, and Quemetco, Inc. located in the City of Industry. In addition to lead, these facilities generate other toxic air contaminants such as arsenic, benzene, and 1,3-butadiene. Health risk assessments for large lead-acid battery recycling facilities have shown that, if not adequately controlled, these facilities can have elevated cancer and non-cancer health risks.

On January 10, 2014 the SCAQMD Board adopted amendments to Rule 1420.1 presented in the final board package, with the exception of paragraphs (d)(8) and (d)(9), which required affected facilities to implement a multi-metals continuous emissions monitoring system (CEMS). Multi-metals CEMS are sampling devices that are able to monitor in-stack hazardous air pollutant metal emissions. Cooper Environmental Services LLC has developed the only commercially available multi-metals CEMS, the Xact 640, which uses reel-to-reel filter tape sampling and X-ray fluorescence (XRF) analysis to monitor hazardous metal emissions.

During the January rulemaking, affected facilities were concerned that the multi-metals CEMS demonstration requirement did not provide enough specificity and one facility expressed additional concern regarding the cost of a multi-metals CEMS demonstration program given that only one vendor is available to provide the equipment. As a result, the Board directed staff to work with stakeholders to refine rule requirements regarding the multi-metals CEMS demonstration program and to return to the March 7, 2014 Board meeting regarding a multi-metals CEMS demonstration program.

Proposal
Proposed Amended Rule 1420.1 (PAR 1420.1) would require large lead-acid battery recycling facilities to fund and participate in a multi-metals CEMS demonstration program. The purpose of the demonstration program is to gather additional emissions data and to determine if the CEMS is a feasible and effective means of continuously monitoring lead, arsenic and other toxic metals. The program would be limited to one stack and would be implemented at each facility for a total of ten months between the two sites. After the demonstration program, SCAQMD staff will assess the utility of the multi-metals CEMS for large lead-acid battery recycling facilities.

SCAQMD staff has revised the proposed demonstration program such that affected facilities will fund a multi-metals CEMS demonstration program that will be managed by SCAQMD staff. The proposed amendments would require each affected facilities to submit payment to SCAQMD for SCAQMD staff or its contractor to assemble, install, maintain, train, test, analyze, and decommission a multi-metals CEMS demonstration program according to the following amounts and schedule: $63,500 by April 1, 2014; and an additional $143,225 by September 1, 2014. The total amount that each facility is

required to pay is $206,725. PAR 1420.1 does not allow for additional money to be collected for the multi-metals demonstration program. The SCAQMD has developed an initial Work Plan that is provided in the staff report that describes key components of the program, such as a general timeline for the demonstration program, specifications for physical requirements for installation of the multi-metals CEMS, description of roles and responsibilities of the affected stakeholders, and criteria for evaluating the accuracy, reliability and potential future use of the multi-metals CEMS. Upon Board approval, SCAQMD staff will enter into a sole-source contract with Cooper Environmental Services to build, install, maintain, and subsequently decommission a multi-metals CEMS that will be used at each large lead acid battery recycling facility. This contract will be considered under a separate Board action at the Board meeting on March 7, 2014.

In addition to amendments to fund and implement a multi-metals CEMS demonstration program, PAR 1420.1 includes language to clarify that the large lead-acid battery recycling facility must reimburse the SCAQMD if a contractor is hired by the SCAQMD pursuant to subparagraph (n)(2)(B) of Rule 1420.1 to investigate the reason(s) for an unplanned shutdown of pollution control equipment.

Public Process

PAR 1420.1 was developed through a public process. The public process was initiated in September 2013 with the first stakeholder consultation meeting. A Public Consultation meeting at the SCAQMD headquarters was held on February 19, 2014, to provide an opportunity for stakeholders to discuss PAR 1420.1 in greater detail and provide input to SCAQMD staff.

Key Outstanding Issues

There are currently no known key outstanding issues related to the proposed amendments. During the rulemaking process, Exide had commented that there should be a cost limit of $12,000 if a third-party investigator is needed to determine the cause of an unplanned shutdown of pollution control equipment. PAR 1420.1 has been revised to add a cap of $12,000 to conduct the third party investigation. In addition, Quemetco requested that the SCAQMD include a workplan for the multi-metals CEMS demonstration. Staff has developed an initial workplan that is included in the Staff Report that outlines the general timeline for the demonstration program, specifications for physical requirements for installation of the multi-metals CEMS, description of roles and responsibilities of the affected stakeholders, procedures and requirements for data management and review, and criteria for evaluating the accuracy, reliability, and potential future use of multi-metals CEMS. Exide has also commented since this is a demonstration program, that data collected should not be used for enforcement action. The SCAQMD agrees that data collected from the multi-metals CEMS would not be used for compliance purposes.

California Environmental Quality Act (CEQA)
SCAQMD staff has reviewed the proposed amendments to Rule 1420.1 pursuant to CEQA Guidelines §15002(k) - Three Step Process, and CEQA Guidelines §15061(a) – Review for Exemption, and has determined that the proposed amendments are exempt from CEQA pursuant to CEQA Guidelines §15306 – Information Collection, because the multi-metal continuous emissions monitoring system and the investigation, inspection and generation of a written report to determine the cause of an unplanned shutdown of any emission control equipment subject to PAR 1420.1 would collect basic data, which would not result in a serious or major disturbance to an environmental resource. These requirements are strictly for information gathering purposes that could lead to an action which a public agency has not yet approved, adopted, or funded. CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges also applies because PAR 1420.1 would collect fees for the SCAQMD or its contractor to assemble, install, maintain, train, test, analyze and decommission a multi- metal continuous emissions monitoring system for use in the SCAQMD area of jurisdiction; and to reimburse SCAQMD for any and all expenses incurred by the independent third-party investigator in the investigation, inspection and generation of a written report. These fees would be for the purpose of recovering cost for operating expenses; and purchasing or leasing supplies, equipment or materials. The multi-metal continuous emissions monitoring system and the investigation, inspection and generation of a written report would not create any significant adverse effects on air quality or any other environmental areas. Since it can be seen with certainty that the proposed project has no potential to adversely affect air quality or any other environmental area, PAR1420.1 is also exempt from CEQA pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption.
If approved by the Board a Notice of Exemption will be prepared for the proposed project pursuant to CEQA Guidelines §15062 – Notice of Exemption.

Socioeconomic Analysis
In the "Final" Socioeconomic Analysis for the January 10, 2014 amendment for PAR 1420.1 it was estimated that the capital and installation cost for the purchase of a multi-metals CEMS for each facility to be $313,238 and annual operating and maintenance costs were estimated at $59,800. Based on the revised proposed amendments for the March 7, 2014 amendments requiring participation in a multi-metals CEMS demonstration program an updated cost estimate was conducted. Based on information from the CEMS vendor, SCAQMD staff now estimates the total cost to rent, install, and maintain the CEMS for the demonstration program to be approximately $206,725 for each facility. Potential additional costs for site requirements to support the multi-metals CEMS are $3,200 per facility.

Since third party investigations are needed only if the facility cannot identify the reason for the unplanned shutdown of pollution control equipment, it is uncertain how often this will occur. However, SCAQMD staff estimates that the costs associated with hiring a third party investigator could range from $6,000 to $12,000 per investigation, including the report submittal. The Socioeconomic Assessment for Proposed Amended

Rule 1420.1 has been updated with the aforementioned cost information and has been made available to the public.

AQMP and Legal Mandates

Pursuant to Health & Safety Code Section 40460(a), the SCAQMD is required to adopt an Air Quality Management Plan (AQMP) demonstrating compliance with all federal regulations and standards. The SCAQMD is required to adopt rules and regulations that carry out the objectives of the AQMP. PAR 1420.1 is not a control measure of the 2012 AQMP and the 2012 Lead State Implementation Plan. However, it is needed to reduce exposure and associated health risk impacts from arsenic, benzene, and 1,3-butadiene emissions from large lead-acid battery recycling facilities.

Implementation and Resource Impact

Existing SCAQMD resources will be used to implement PAR 1420.1.

Attachments

A. Summary of Proposal
B. Key Issues and Responses
C. Rule Development Process
D. Key Contacts List
E. Resolution
F. Proposed Amended Rule 1420.1 Rule Language
G. Proposed Amended Rule 1420.1 Staff Report
H. CEQA Notice of Exemption
I. Socioeconomic Analysis

ATTACHMENT A

SUMMARY OF PROPOSAL

Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities

<u>Demonstration Program for Multi-Metals Continuous Emissions Monitoring System (CEMS)</u>
• Fund and participate in a demonstration program to assess the ability to continuously monitor lead, arsenic, and other metals from a stack within the facility;
• Submit payment to the District for the District or its contractor to assemble, install, maintain, train, test, analyze, and decommission a multi-metals CEMS according to the following amounts and schedule:
  o $63,500 by April 1, 2014; and
  o $143,225 by September 1, 2014.
• Provide facility access to District personnel and its contractors to deliver, assemble, install, monitor, maintain, test, analyze and decommission a multi-metals CEMS;
• Provide the necessary location and infrastructure for the multi-metals CEMS.
 	
After the demonstration program, SCAQMD staff will assess the utility of the multi-metals CEMS for large lead-acid battery recycling facilities. Within three months of completion of the demonstration program, SCAQMD staff will report to the Stationary Source Committee on overall results of the multi-metals CEMS demonstration program, including the accuracy, comparison to traditional source tests, ease of use, operational costs, maintenance, and reliability.
 	
<u>Independent Third Party Verification of Unplanned Shutdowns</u>
• The owner or operator of a large lead-acid battery recycling facility shall be responsible for reimbursement to the District for any and all expenses incurred by the independent third-party investigator in the investigation, inspection, and generation of a written report to determine the cause of an unplanned shutdown of any emission control equipment subject to this rule, where the reason for the shutdown is not known within five days of its occurrence, as required by subparagraph (n)(2)(B). These costs are limited to $12,000 per investigation.
• The owner or operator shall reimburse the District within 30 days of notification from the Executive Officer that payment is due.

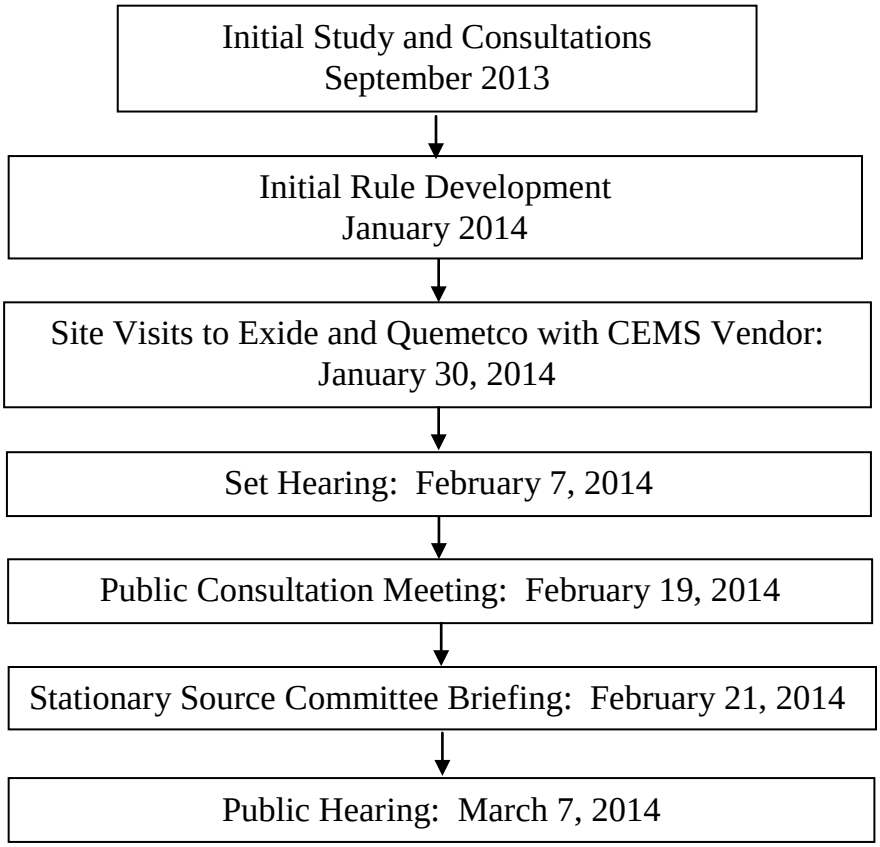
ATTACHMENT B
KEY ISSUES AND RESPONSES

Proposed Amended Rule (PAR) 1420.1 – Emissions Standards for Lead and other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities
• Multi-Metal Continuous Emission Monitoring Systems (CEMS) Program Demonstration: Quemetco requested that the SCAQMD include a workplan for the multi-metals CEMS demonstration. o Staff has developed an initial workplan that is included in the Staff Report that outlines the general timeline for the demonstration program, specifications for physical requirements for installation of the multi-metals CEMS, description of roles and responsibilities of the affected stakeholders, procedures and requirements for data management and review, and criteria for evaluating the accuracy, reliability, and potential future use of multi-metals CEMS. • Multi-Metal Continuous Emission Monitoring Systems (CEMS) Used as a Compliance Tool: Exide has also commented since this is a demonstration program, that data collected should not be used for enforcement action. o Data collected from the multi-metals CEMS during the demonstration program will not be used for a compliance tool. However, data collected by other means such as from source testing as part of the demonstration program, may be used for compliance purposes. • Third-party Investigations: During the rulemaking process, Exide had commented that there should be a cost limit of $12,000 if a third-party investigator is needed to determine the cause of an unplanned shutdown of pollution control equipment. o PAR 1420.1 has been revised to add a cap of $12,000 per investigation.

ATTACHMENT C

RULE DEVELOPMENT PROCESS

Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities



Ten (10) months spent in rule development.

ATTACHMENT D
KEY CONTACTS LIST

Cooper Environmental Services, LLC

Exide Technologies

Quemetco Incorporated

ATTACHMENT E

RESOLUTION NO. 14-_____

A Resolution of the South Coast Air Quality Management District (SCAQMD) Governing Board Adopting Proposed Amended Rule (PAR) 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities.

A Resolution of the SCAQMD Governing Board determining the Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities is exempt from the requirements of the California Environmental Quality Act (CEQA).

WHEREAS, the SCAQMD Governing Board has determined with certainty that PAR 1420.1 is a "project" pursuant to the California Environmental Quality Act (CEQA); and

WHEREAS, the SCAQMD Governing Board finds and determines that Proposed Amended Rule 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges because Proposed Amended Rule 1420.1 would collect fees to assemble, install, maintain, train, test, analyze and decommission a multi-metal continuous emissions monitoring system; and reimburse SCAQMD for any expenses incurred by the independent third-party investigator. These fees are for the purpose of meeting operating expenses, and purchasing or leasing supplies, equipment or materials; and

WHEREAS, the SCAQMD Governing Board finds and determines that Proposed Amended Rule 1420.1 is also exempt from CEQA pursuant to CEQA Guidelines §15306 – Information Collection, because the monitoring system and the investigation, inspection and generation of a written report to determine the cause of an unplanned shutdown of emission control equipment would collect basic data, which would not result in a serious or major disturbance to an environmental resource. In addition, the Proposed Amended Rule 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption because it was determined that the proposed project would not create any adverse effects on air quality or any other environmental areas, and therefore, it can be seen with certainty that there is no possibility that the proposed project may have a significant adverse effect on the environment; and

WHEREAS, the SCAQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and has conducted CEQA review and analysis pursuant to such program (Rule 110); and

WHEREAS, SCAQMD staff has prepared a Notice of Exemption (NOE) for Proposed Amended Rule 1420.1 that is exempt from CEQA pursuant to rates, tolls, fares and charges statutory exemption (CEQA Guidelines §15273), information collection categorical exemption (CEQA Guidelines §15306) and general rule exemption (CEQA Guidelines §15061(b)(3)); and

WHEREAS, a Mitigation Monitoring Plan pursuant to Public Resources Code §21081.6, has not been prepared since no mitigation measures are necessary; and

WHEREAS, Findings and a Statement of Overriding Considerations are not required because no significant adverse environmental impacts were identified as a result of implementing PAR 1420.1; and

WHEREAS, arsenic, lead, benzene, and 1,3-butadiene have been identified as toxic air contaminants by the Office of Environmental Health Hazard Assessment (OEHHA); and

WHEREAS, the SCAQMD staff conducted a Public Consultation meeting regarding PAR 1420.1 on February 19, 2014, in the City of Diamond Bar; and

WHEREAS, California Health and Safety Code §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; and

WHEREAS, the SCAQMD Governing Board has determined that a need exists to adopt Proposed Amended Rule 1420.1 because additional tools are needed to monitor on a more continuous basis, emissions from large lead-acid battery recycling facilities. In addition, it is necessary to add clarifying language to Rule 1420.1 in order for the SCAQMD to be reimbursed for third-party investigations on unplanned shutdowns at affected facilities; and

WHEREAS, the SCAQMD Governing Board obtains its authority to adopt, amend or repeal rules and regulations from sections 39002, 39650 et. seq., 40000, 40001, 40440, 40441, 40510, 40702, 40725 through 40728, 41508,

41511, 41700, 41706, 42303, 42408, 42700, 42708, and 44390 through 44394 of the Health and Safety Code; and

WHEREAS, the SCAQMD Governing Board has determined that PAR 1420.1 is written and displayed so that the meaning can be easily understood by persons directly affected by it. To ensure clarity in the proposed amended rule language, a Public Consultation meeting was conducted with input received from stakeholders from the large lead-acid battery recycling facilities in the Basin, environmental organizations, and the public at large; and

WHEREAS, the SCAQMD Governing Board has determined that PAR 1420.1 is in harmony with, and not in conflict with, or contradictory to, existing statutes, court decisions, or state or federal regulations; and

WHEREAS, the SCAQMD Governing Board has determined that PAR 1420.1 does not impose the same requirements as any existing state or federal regulations, and the proposed project is necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD; and

WHEREAS, the SCAQMD Governing Board, by adopting PAR 1420.1, will be implementing, interpreting or making specific the provisions of the California Health and Safety Code Sections 39002 & 40000 (control of emissions from non-vehicular sources), 40001 (rules to achieve and maintain ambient air quality standards), 40510 (fees for planning, enforcement, and monitoring related to permitted sources), 41511 (information regarding amount of emissions), 41700 (nuisance), 41706(b) (emission standards for lead compounds from non-vehicular sources), 42700 and 42708 (monitoring devices), and Federal Clean Air Act Section 112 (Hazardous Air Pollutants); and

WHEREAS, PAR 1420.1 is not a control measure in the 2012 Air Quality Management Plan (AQMP) or the 2012 Lead State Implementation Plan and thus, was not ranked by cost-effectiveness relative to other AQMP control measures in the 2012 AQMP. Furthermore, pursuant to Health and Safety Code §40910, cost-effectiveness in terms of dollars per ton of pollutant reduced is only applicable to rules regulating ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide and does not apply to toxic air contaminants; and

WHEREAS, Health and Safety Code §40727.2 requires the SCAQMD to prepare a written analysis of existing federal air pollution control requirements applicable to the same source type being regulated whenever it adopts, or amends a rule, and that the SCAQMD's comparative analysis of PAR 1420.1 is included in the staff report; and

WHEREAS, the SCAQMD Governing Board has determined that the Socioeconomic Impact Assessment of PAR 1420.1 is consistent with the March 17, 1989 and October 14, 1994 Governing Board Socioeconomic Resolutions for rule adoption; and

WHEREAS, the SCAQMD Governing Board has determined that PAR 1420.1 will result in increased costs to the large lead-acid battery recycling facilities, yet are considered to be reasonable, with a total annualized cost as specified in the Socioeconomic Impact Assessment; and

WHEREAS, the SCAQMD Board has actively considered the Socioeconomic Impact Assessment and has made a good faith effort to minimize such impacts; and

WHEREAS, the SCAQMD Governing Board has determined that the Socioeconomic Impact Assessment is consistent with the provisions of the California Health and Safety Code Sections 40440.8, 40728.5, 40920.6; and

WHEREAS, the SCAQMD Governing Board specifies the Director of PAR 1420.1 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, a public hearing has been properly noticed in accordance with all provisions of Health and Safety Code §40725; and

WHEREAS, the SCAQMD Governing Board has held a public hearing in accordance with all provisions of law; and

WHEREAS, the proposed amendments to Rule 1420.1 will not be submitted for inclusion into the State Implementation Plan; and

WHEREAS, the SCAQMD Governing Board adopted amendments to Rule 1420.1 on January 10, 2014 , which included a severability clause. As such, if any provision of the rule is held by judicial order to be invalid, or invalid or inapplicable to any person or circumstance, such order shall not affect the validity of the remainder of the rule, or the validity or applicability of such provision to other persons or circumstances; and

WHEREAS, emissions data collected through the multi-metals continuous emissions monitoring system during the demonstration program will

not be used for compliance with emission limits established under Rule 1420.1; and

NOW, THEREFORE, BE IT RESOLVED, that the SCAQMD Governing Board does hereby find and determine that Proposed Amended Rule 1420.1, as proposed to be amended, is exempt from CEQA requirements pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption (General Rule), §15273 - Rates, Tolls, Fares and Charges; and §15306 – Information Collection. This information was presented to the Governing Board, whose members reviewed, considered, and approved the information therein prior to acting on Proposed Amended Rule 1420.1; and

BE IT FURTHER RESOLVED, the SCAQMD Governing Board directs the Executive Officer to implement and refine, only if necessary, the work plan for the multi-metal CEMS demonstration program and the Executive Officer shall report any modifications of the work plan to the Stationary Source Committee at a public meeting; and

BE IT FURTHER RESOLVED, the SCAQMD Governing Board directs staff to report back to the Stationary Source Committee within three months of completion of the CEMS demonstration program on preliminary results; and

BE IT FURTHER RESOLVED, that the SCAQMD Governing Board does hereby amend, pursuant to the authority granted by law, Rule 1420.1 as set forth in Attachment F.

DATE: _____ _____

CLERK OF THE BOARDS

ATTACHMENT F

(Adopted November 5, 2010)(Amended January 10, 2014)
PAR 1420.1a
March 7, 2014

RULE 1420.1. EMISSION STANDARDS FOR LEAD AND OTHER TOXIC AIR CONTAMINANTS FROM LARGE LEAD-ACID BATTERY RECYCLING FACILITIES

(a) Purpose

(1) The purpose of this rule is to protect public health by reducing exposure and emissions of lead from large lead-acid battery recycling facilities, and to help ensure attainment and maintenance of the National Ambient Air Quality Standard for Lead. The purpose of this rule is to also protect public health by reducing arsenic, benzene, and 1,3-butadiene exposure and emissions from these facilities.

(b) Applicability

(1) This rule applies to all persons who own or operate a lead-acid battery recycling facility that has processed more than 50,000 tons of lead a year in any one of the five calendar years prior to November 5, 2010, or annually thereafter, hereinafter a large lead-acid battery recycling facility. Applicability shall be based on facility lead processing records required under subdivision (m) of this rule, and Rule 1420 – Emissions Standards for Lead. Compliance with this rule shall be in addition to other applicable rules such as Rules 1407 and 1420.

(c) Definitions

For the purposes of this rule, the following definitions shall apply:

(1) AGGLOMERATING FURNACE means a furnace used to melt flue dust that is collected from an emission control device, such as a baghouse, into a solid mass.

(2) AMBIENT AIR for purposes of this rule means outdoor air.

(3) ARSENIC means the oxides and other compounds of the element arsenic included in particulate matter, vapors, and aerosols.

(4) BATTERY BREAKING AREA means the plant location at which lead-acid batteries are broken, crushed, or disassembled and separated into components.

(5) BENZENE means an organic compound with chemical formula C_6H_6 and

Chemical Abstract Service number 71-43-2.

(6) 1,3-BUTADIENE means an organic compound with chemical formula C_4H_6 and Chemical Abstract Service number 106-99-0.

(7) DRYER means a chamber that is heated and that is used to remove moisture from lead-bearing materials before they are charged to a smelting furnace.

(8) DRYER TRANSITION PIECE means the junction between a dryer and the charge hopper or conveyor, or the junction between the dryer and the smelting furnace feed chute or hopper located at the ends of the dryer.

(9) DUCT SECTION means a length of duct including angles and bends which is contiguous between two or more process devices (e.g., between a furnace and heat exchanger; baghouse and scrubber; scrubber and stack; etc.).

(10) EMISSION COLLECTION SYSTEM means any equipment installed for the purpose of directing, taking in, confining, and conveying an air contaminant, and which at minimum conforms to design and operation specifications given in the most current edition of *Industrial Ventilation, Guidelines and Recommended Practices*, published by the American Conference of Government and Industrial Hygienists, at the time a complete permit application is filed with the District.

(11) EMISSION CONTROL DEVICE means any equipment installed in the ventilation system of a point source or emission collection system for the purposes of collecting and reducing emissions of arsenic, benzene, lead, 1,3-butadiene, or any other toxic air contaminant.

(12) FUGITIVE LEAD-DUST means any solid particulate matter containing lead that is in contact with ambient air and has the potential to become airborne.

(13) FURNACE AND REFINING/CASTING AREA means any area of a large lead-acid battery recycling facility in which:

(a) Smelting furnaces or agglomerating furnaces are located; or

(b) Refining operations occur; or

(c) Casting operations occur.

(14) LEAD-ACID BATTERY RECYCLING FACILITY means any facility, operation, or process in which lead-acid batteries are disassembled and recycled into elemental lead or lead alloys through smelting.

(15) LEAD means elemental lead, alloys containing elemental lead, or lead compounds, calculated as elemental lead.

(16) LEEWARD WALL means the furthest exterior wall of a total enclosure that is opposite the windward wall.

(17) MAINTENANCE ACTIVITY means any of the following activities conducted outside of a total enclosure that generates or has the potential to generate fugitive lead-dust:

(a) building construction, renovation, or demolition;

(b) replacement or repair of refractory, filter bags, or any internal or external part of equipment used to process, handle, or control lead-containing materials;

(c) replacement of any duct section used to convey lead-containing exhaust;

(d) metal cutting or welding that penetrates the metal structure of any equipment, and its associated components, used to process lead-containing material, such that lead dust within the internal structure or its components can become fugitive lead-dust; or

(e) resurfacing, repair, or removal of ground, pavement, concrete, or asphalt.

(18) MATERIALS STORAGE AND HANDLING AREA means any area of a large lead-acid battery recycling facility in which lead-containing materials including, but not limited to, broken battery components, reverberatory furnace slag, flue dust, and dross, are stored or handled between process steps. Areas may include, but are not limited to, locations in which materials are stored in piles, bins, or tubs, and areas in which material is prepared for charging to a smelting furnace.

(19) MEASURABLE PRECIPITATION means any on-site measured rain amount of greater than 0.01 inches in any complete 24-hour calendar day (i.e., midnight to midnight).

(20) PARTIAL ENCLOSURE for purposes of this rule means a structure comprised of walls or partitions on at least three sides or three-quarters of the perimeter that surrounds areas where maintenance activity is conducted, in order to prevent the generation of fugitive lead-dust.

(21) POINT SOURCE means any process, equipment, or total enclosure used in a large lead-acid battery recycling facility, including, but not limited to, agglomerating furnaces, dryers, smelting furnaces and refining kettles, whose emissions pass through a stack or vent designed to direct or control the exhaust flow prior to release into the ambient air.

(22) PROCESS means using lead or lead-containing materials in any operation including, but not limited to, the charging of lead-containing materials to

smelting furnaces, lead refining and casting operations, and lead-acid battery breaking.

(23) RENOVATION for purposes of this rule means the altering of a building or permanent structure, or the removal of one or more of its components that generates fugitive lead-dust emissions.

(24) SENSITIVE RECEPTOR means any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

(25) SLAG means the inorganic material by-product discharged, in molten state, from a lead smelting furnace that has a lower specific gravity than lead metal and contains lead compounds. This shall include, but is not limited to, lead sulfate, lead sulfide, lead oxides, and lead carbonate consisting of other constituents charged to a smelting furnace which are fused together during the pyrometallurgical process.

(26) SMELTING means the chemical reduction of lead compounds to elemental lead or lead alloys through processing in high temperatures greater than 980° C.

(27) SMELTING FURNACE means any furnace where smelting takes place including, but not limited to, blast furnaces, reverberatory furnaces, rotary furnaces, and electric furnaces.

(28) STATIC DIFFERENTIAL FURNACE PRESSURE means the difference between the absolute internal pressure of the smelting furnace (P_f, in inches water column) and the absolute atmospheric pressure in the immediate vicinity outside the smelting furnace (P_a, in inches water column) and is calculated as follows: $P_f - P_a$.

(29) TOTAL ENCLOSURE means a permanent containment building/structure, completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-off), with limited openings to allow access and egress for people and vehicles, that is free of cracks, gaps, corrosion, or other deterioration that could cause or result in fugitive lead-dust.

(30) TOXIC AIR CONTAMINANT is an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a

present or potential hazard to human health.

(31) WINDWARD WALL means the exterior wall of a total enclosure which is most impacted by the wind in its most prevailing direction determined by a wind rose using data required under paragraph (j)(5) of this rule, or other data approved by the Executive Officer.

(d) General Requirements

The owner or operator of a large lead-acid battery recycling facility shall be subject to the following requirements:

(1) Prior to January 1, 2012, emissions shall not be discharged into the atmosphere which contribute to ambient air concentrations of lead that exceed 1.50 micrograms per cubic meter ($\mu g/m^3$) pursuant to District Rule 1420.

(2) On and after January 1, 2012, emissions shall not be discharged into the atmosphere which contribute to ambient air concentrations of lead that exceed 0.150 $\mu g/m^3$ averaged over any 30 consecutive days. The ambient air concentrations of lead shall be determined by monitors pursuant to subdivision (j) or at any District-installed monitor.

(3) No later than July 1, 2011, install, maintain, and operate total enclosures pursuant to subdivision (e) and lead point source emission control devices pursuant to paragraphs (f)(1) and (f)(6) through (f)(8). The owner or operator of a large lead-acid battery recycling facility shall comply with both subparagraphs (d)(3)(A) and (d)(3)(B):

(A) Submit complete permit applications for all construction and necessary equipment within 30 days of November 5, 2010.

(B) Complete all construction within 180 days of receiving Permit to Construct approvals from the Executive Officer, or by July 1, 2011, whichever is earlier.

(C) The Executive Officer may approve a request for an extension of the compliance deadline date if the facility can demonstrate that it timely filed all complete permit applications and is unable to meet the deadline due to reasons beyond the facility's control. The request shall be submitted to the Executive Officer no less than 30 days before the compliance deadline date.

(4) On and after July 1, 2011 submit a Compliance Plan pursuant to subdivision (g) if emissions are discharged into the atmosphere which contribute to

ambient air concentrations of lead that exceed 0.120 ($\mu g/m^3$) averaged over any 30 consecutive days determined by monitors pursuant to subdivision (j) or at any District-installed monitor.

(5) The owner or operator of a large lead-acid battery recycling facility shall:

(A) Within 30 days of January 10, 2014, submit a Compliance Plan Schedule to the Executive Officer for review and approval to ensure that the facility will comply with the January 1, 2015 total facility mass emissions limits for arsenic, benzene, and 1,3-butadiene point sources specified in paragraph (f)(2). The Compliance Plan Schedule shall be subject to plan fees specified in Rule 306 and include:

(i) a list of all control measures to be implemented that includes a description of the control technology, the equipment that will be affected, the affected pollutants, the anticipated reductions, and the dates the measures will be implemented; and

(ii) a schedule that identifies dates for completion of engineering design(s), equipment procurement, construction, demolition (if any), equipment installation, and testing for each control measure described pursuant to clause (d)(5)(A)(i).

(B) Submit complete permit applications for all equipment specified in the Compliance Plan Schedule that requires a District permit within 90 days of January 10, 2014.

(C) Complete all construction within 180 days of receiving Permit to Construct approvals from the Executive Officer.

(D) The owner or operator of a large lead-acid battery recycling facility shall not be subject to requirements of subparagraphs (d)(5)(A) through (d)(5)(C) if the most recent District-approved source tests, conducted no earlier than January 1, 2011, show that the facility is meeting all of the emission limits specified in paragraph (f)(2).

(6) On and after February 1, 2014, the owner or operator of a large lead-acid battery recycling facility shall not allow emissions to be discharged into the atmosphere which contribute to an ambient air concentration of arsenic that exceeds 10.0 nanograms per cubic meter (ng/m^3) averaged over a 24-hour time period as determined by monitors pursuant to subdivision (j) or by any District-installed monitor. An exceedance of 10.0 ng/m^3 averaged over a

24-hour period shall be based on the average of the analysis of two sample results on the same filter. A second analysis is required if the first sample exceeds 10.0 ng/m^3.

(7) If the ambient air concentration of arsenic is determined to exceed 10.0 ng/m^3 averaged over a 24-hour time period as calculated pursuant to paragraph (d)(6), then the owner or operator shall:

(A) Notify the Executive Officer in writing within 72 hours of when the facility knew or should have known it exceeded the ambient air arsenic concentration of 10.0 ng/m^3 averaged over a 24-hour time period; and

(B) Comply with the monitoring and sampling requirements in paragraph (j)(10).

(8) The owner or operator of a large lead-acid battery recycling facility shall fund and participate in a multi-metal continuous emissions monitoring system (CEMS) demonstration program to continuously monitor lead, arsenic, and other metals emitted from a stack within its facility for a period specified by the District. Participation and funding of the multi-metals CEMS demonstration program shall require the owner or operator to:

(A) Submit payment to the District for District personnel or its contractor to assemble, install, maintain, train, test, analyze, and decommission a multi-metals CEMS demonstration program ~~according~~ not to exceed the following amounts and schedule:

(i) $63,500 by April 1, 2014; and an additional

(ii) $143,225 by September 1, 2014

(B) Provide continuous facility access to District personnel and its contractors to deliver, assemble, install, monitor, maintain, test, analyze and decommission a multi-metals CEMS;

(C) Provide the necessary location and infrastructure for the multi-metals CEMS including:

(i) siting location with sufficient spacing, clearance, and structural support;

(ii) electric power circuits;

(iii) compressed air;

(iv) sampling port(s);

(v) access to wireless modem connection ~~to data unit and computer instrument~~ for data retrieval;

(vi) any necessary moving or lifting equipment and personnel to operate such equipment in order to install the system; and

(vii) day to day instrument and equipment operation.

(e) Total Enclosures

(1) Enclosure Areas

The owner or operator of a large lead-acid battery recycling facility shall enclose within a total enclosure the following areas in groups or individually:

(A) Battery breaking areas;

(B) Materials storage and handling areas, excluding areas where unbroken lead-acid batteries and finished lead products are stored;

(C) Dryer and dryer areas including transition pieces, charging hoppers, chutes, and skip hoists conveying any lead-containing material;

(D) Smelting furnaces and smelting furnace areas charging any lead-containing material;

(E) Agglomerating furnaces and agglomerating furnace areas charging any lead-containing material; and

(F) Refining and casting areas.

(2) Total Enclosure Emissions Control

The owner or operator of a large lead-acid battery recycling facility shall vent each total enclosure to an emission collection system that ducts the entire gas stream which may contain lead to a lead emission control device and the entire gas stream which may contain arsenic to an arsenic emission control device, respectively, pursuant to subdivision (f).

(3) Total Enclosure Ventilation

Ventilation of the total enclosure at any opening including, but not limited to, vents, windows, passages, doorways, bay doors, and roll-ups shall continuously be maintained at a negative pressure of at least 0.02 mm of Hg (0.011 inches H_2O) measured pursuant to paragraph (e)(4).

(4) Digital Differential Pressure Monitoring Systems

The owner or operator of a large lead-acid battery recycling facility shall install, operate, and maintain a digital differential pressure monitoring system for each total enclosure as follows:

(A) A minimum of one building digital differential pressure monitoring system shall be installed and maintained at each of the following

three walls in each total enclosure having a total ground surface area of 10,000 square feet or more:

(i) The leeward wall;

(ii) The windward wall; and

(iii) An exterior wall that connects the leeward and windward wall at a location defined by the intersection of a perpendicular line between a point on the connecting wall and a point on its furthest opposite exterior wall, and intersecting within plus or minus ten ($\pm$10) meters of the midpoint of a straight line between the two other monitors specified in clauses (e)(4)(A)(i) and (e)(4)(A)(ii). The midpoint monitor shall not be located on the same wall as either of the other two monitors described in clauses (e)(4)(A)(i) or (e)(4)(A)(ii).

(B) A minimum of one building digital differential pressure monitoring system shall be installed and maintained at the leeward wall of each total enclosure that has a total ground surface area of less than 10,000 square feet.

(C) Digital differential pressure monitoring systems shall be certified by the manufacturer to be capable of measuring and displaying negative pressure in the range of 0.01 to 0.2 mm Hg (0.005 to 0.11 inches H_2O) with a minimum increment of measurement of plus or minus 0.001 mm Hg (0.0005 inches H_2O).

(D) Digital differential pressure monitoring systems shall be equipped with a continuous strip chart recorder or electronic recorder approved by the Executive Officer. If an electronic recorder is used, the recorder shall be capable of writing data on a medium that is secure and tamper-proof. The recorded data shall be readily accessible upon request by the Executive Officer. If software is required to access the recorded data that is not readily available to the Executive Officer, a copy of the software, and all subsequent revisions, shall be provided to the Executive Officer at no cost. If a device is required to retrieve and provide a copy of such recorded data, the device shall be maintained and operated at the facility.

(E) Digital differential pressure monitoring systems shall be calibrated in accordance with manufacturer's specifications at least once every 12

calendar months or more frequently if recommended by the manufacturer.

(F) Digital differential pressure monitoring systems shall be equipped with a backup, uninterruptible power supply to ensure continuous operation of the monitoring system during a power outage.

(5) In-draft Velocity

The in-draft velocity of the total enclosure shall be maintained at $\geq$ 300 feet per minute at any opening including, but not limited to, vents, windows, passages, doorways, bay doors, and roll-ups. In-draft velocities for each total enclosure shall be determined by placing an anemometer, or an equivalent device approved by the Executive Officer, at the center of the plane of any opening of the total enclosure.

(f) Point Source Emissions Controls

The owner or operator of a large lead-acid battery recycling facility shall vent emissions from each lead, arsenic, benzene, and 1,3-butadiene point source to a lead, arsenic, benzene, and 1,3-butadiene emission control device, respectively, that meets the requirements of this subdivision and is approved in writing by the Executive Officer.

(1) The owner or operator of a large lead-acid battery recycling facility shall:

(A) Meet a total facility mass lead emissions from all lead point sources not to exceed 0.045 pounds of lead per hour. The maximum emission rate for any single lead point source shall not exceed 0.010 pounds of lead per hour. The total facility and maximum emission rates shall be determined using the most recent approved source tests conducted on behalf of the facility or the District; and

(B) Install a secondary lead emission control device that controls lead emissions from the exhaust of the primary lead emission control device used for a dryer. The secondary lead emission control device shall be fitted with dry filter media, and the secondary lead control device shall only be used to vent the primary lead emission control device used for the dryer. An alternative secondary lead control method that is equally or more effective for the control of lead emissions may be used if a complete application is submitted as part of the permit application required under paragraph (d)(3) and approved by the Executive Officer.

(2) The mass emissions from all arsenic, benzene, and 1,3-butadiene point sources at a large lead-acid battery recycling facility shall meet the following hourly emissions thresholds for the dates specified:

(A) No later than 60 days after January 10, 2014, the total facility emission rate for a large lead-acid battery recycling facility from all point sources shall not exceed 0.00285 pound of arsenic per hour.

(B) No later than January 1, 2015, the total facility emission rate for a large lead-acid battery recycling facility from all point sources shall not exceed 0.00114 pound of arsenic per hour.

(C) No later than January 1, 2015, the total emission rate for a large lead-acid battery recycling facility from all point sources excluding point sources from emission control devices on total enclosures shall not exceed the following:

(i) 0.0514 pound of benzene per hour; and

(ii) 0.00342 pound of 1,3-butadiene per hour.

(D) The point source mass emission rates shall be determined based on the average of triplicate samples, using the most recent District-approved source tests conducted by the facility or the District, pursuant to subdivision (k).

(E) For purposes of this rule, only point sources that have a source test result of greater than 1 part per billion shall be included in determining the total facility mass emission rates for benzene and 1,3-butadiene.

(3) No later than 90 days after January 10, 2014, the owner or operator of a large lead-acid battery recycling facility shall, for each smelting furnace, install, calibrate, operate and maintain a monitoring device that has been approved by the Executive Officer pursuant to paragraph (f)(4). The monitoring device shall measure and record the static differential furnace pressure in inches water column. Each smelting furnace shall be operated such that static differential furnace pressure, in inches of water column averaged over 30 minutes, is maintained at a value -0.02 or more negative. A reverberatory furnace may be operated at an alternative static differential furnace pressure if the owner or operator can demonstrate that it can achieve emission reductions that are equivalent to or better than those achieved when operating at a pressure of -0.02 or more negative. Demonstration shall be based on source test protocols and source tests conducted pursuant to the

requirements of subdivision (k) and approved by the Executive Officer. The alternative static differential furnace pressure shall not exceed 0.4 inches water column and must be approved by the Executive Officer in the Continuous Furnace Pressure Monitoring Plan of paragraph (f)(4). For the purposes of this requirement, the owner or operator shall ensure that the monitoring device:

(A) Continuously measures the instantaneous static differential furnace pressure;

(B) Has a resolution of at least 0.01 inches water column;

(C) Has an increment of measurement of 0.01 inches water column;

(D) Has a range from -10 inches to +10 inches water column for the measuring device;

(E) Is equipped with ports to allow for periodic calibration in accordance with manufacturer's specifications;

(F) Is calibrated according to manufacturer's specifications at a frequency of not less than twice every calendar year;

(G) Is equipped with a continuous data acquisition system (DAS). The DAS shall record the data output from the monitoring device at a frequency of not less than once every sixty (60) seconds;

(H) Generates a data file from the computer system interfaced with each DAS each calendar day. The data file shall be saved in electronic ASCII character format, Microsoft Excel (xls or xlsx) format, PDF format, or other format as approved by the Executive Officer. The file shall contain a table of chronological date and time and the corresponding data output value from the monitoring device in inches of water column. The operator shall prepare a separate data file each day showing the 30-minute average pressure readings recorded by this device each calendar day; and

(I) Is maintained in accordance with manufacturer's specifications.

(4) No later than 30 days after January 10, 2014, the owner or operator of a large lead-acid battery recycling facility shall submit to the Executive Officer for approval an application for a Continuous Furnace Pressure Monitoring (CFPM) Plan for the monitoring device required in paragraph (f)(3). The CFPM Plan shall contain the information identified in Appendix 3 of this rule and is subject to the fees specified in Rule 306.

(5) The Executive Officer shall notify the owner or operator in writing whether

the CFPM Plan is approved or disapproved. Determination of approval status shall be based on, at a minimum, submittal of information that satisfies the criteria set forth in paragraph (f)(4). If the CFPM Plan is disapproved, the owner or operator shall resubmit the CFPM Plan, subject to plan fees specified in Rule 306, within 30 calendar days after notification of disapproval of the CFPM Plan. The resubmitted CFPM Plan shall include any information necessary to address deficiencies identified in the disapproval letter. It is a violation of the rule for a facility not to have an approved CFPM Plan after the second denial. If the resubmitted CFPM Plan is denied, the operator or owner may appeal the denial by the Executive Officer to the Hearing Board pursuant to Rule 216 – Appeals and Rule 221 - Plans.

(6) For any emission control device that uses filter media other than a filter bag(s), including, but not limited to, HEPA and cartridge-type filters, the filter(s) used shall be rated by the manufacturer to achieve a minimum of 99.97% capture efficiency for 0.3 micron particles.

(7) For any emission control device that uses a filter bag(s), the filter bag(s) used shall be polytetrafluoroethylene membrane-type, or any other material that is equally or more effective for the control of lead emissions, and approved for use by the Executive Officer.

(8) Each emission collection system and emission control device subject to this subdivision shall, at minimum, be inspected, maintained, and operated in accordance with the manufacturer's specifications.

(9) The owner or operator of a large lead-acid battery recycling facility shall comply with the curtailment requirements in subdivision (p) if the total facility mass lead emissions from all lead point sources exceeds the limits specified in subparagraph (f)(1)(A), and/or the total facility emission rate from all arsenic point sources exceeds the limits specified in subparagraph (f)(2)(A) or (f)(2)(B).

(g) Compliance Plan

On and after July 1, 2011, the owner or operator of a large lead-acid battery recycling facility shall submit a Compliance Plan if emissions are discharged into the atmosphere which contribute to ambient air concentrations of lead that exceed 0.120 $\mu g/m^3$ averaged over any 30 consecutive days, or on and after February 1, 2014, an ambient air concentration of arsenic that exceeds 8.0 ng/m^3 averaged over

a 24-hour time period pursuant to paragraph (g)(7), as determined by monitors pursuant to subdivision (j) or at any District-installed monitor, and shall:

(1) Notify the Executive Officer in writing within 72 hours of when the facility knew or should have known it exceeded an ambient air concentration of lead of 0.120 $\mu g/m^3$ averaged over any 30 consecutive days, or an ambient air concentration of arsenic of 8.0 ng/m^3 averaged over a 24-hour time period as determined in paragraph (g)(7). Notification shall only be required the first time the ambient air concentration of lead of 0.120 $\mu g/m^3$ or an ambient air concentration of arsenic of 8.0 ng/m^3 is exceeded for each monitor;

(2) Submit, within 30 calendar days of exceeding an ambient air concentration of lead of 0.120 $\mu g/m^3$ averaged over any 30 consecutive days, or exceeding an ambient air concentration of arsenic of 8.0 ng/m^3 averaged over a 24-hour time period as determined in paragraph (g)(7), a complete Compliance Plan to the Executive Officer for review and approval, subject to plan fees as specified in Rule 306. The Compliance Plan shall, at a minimum, include the following:

(A) A description of additional lead and/or arsenic emission reduction measures to achieve the ambient air concentration of lead of 0.150 $\mu g/m^3$ averaged over any 30 consecutive days, or the ambient air concentration of arsenic of 10.0 ng/m^3 averaged over a 24-hour time period, as required under paragraph (d)(2) and (d)(6), including, but not limited to, requirements for the following:

(i) Housekeeping, inspection, and maintenance activities;

(ii) Additional total enclosures;

(iii) Modifications to lead and arsenic emission control devices;

(iv) Installation of multi-stage lead and arsenic emission control devices;

(v) Process changes including reduced throughput limits;

(vi) Conditional curtailments including, at a minimum, information specifying the curtailed processes, process amounts, and length of curtailment; and

(vii) Identification of lead and/or arsenic reduction measures to be implemented relative to increasing ranges of exceedance levels of the ambient air concentration limits.

(B) The locations within the facility and method(s) of implementation for

each lead and/or arsenic reduction measure of subparagraph (g)(2)(A); and

(C) An implementation schedule for each lead and/or arsenic emission reduction measure of subparagraph (g)(2)(A) to be implemented if lead and/or arsenic emissions discharged from the facility contribute to ambient air concentrations of lead that exceed 0.150 $\mu g/m^3$ averaged over any 30 consecutive days, or ambient air concentrations of arsenic that exceed 10.0 ng/m^3 averaged over a 24-hour time period, measured at any monitor pursuant to subdivision (j) or at any District-installed monitor. The schedule shall also include a list of the lead and/or arsenic reduction measures of subparagraph (g)(2)(A) that can be implemented immediately, prior to plan approval.

(3) The Executive Officer shall notify the owner or operator in writing whether the Compliance Plan is approved or disapproved. Determination of approval status shall be based on, at a minimum, submittal of information that satisfies the criteria set forth in paragraph (g)(2), and whether the plan is likely to lead to avoiding future exceedances of the ambient air concentration levels set forth in paragraph (g)(1). If the Compliance Plan is disapproved, the owner or operator shall resubmit the Compliance Plan, subject to plan fees specified in Rule 306, within 30 calendar days after notification of disapproval of the Compliance Plan. The resubmitted Compliance Plan shall include any information necessary to address deficiencies identified in the disapproval letter. It is a violation of the rule for a facility not to have an approved Compliance Plan after the second denial. If the resubmitted Compliance Plan is denied, the operator or owner may appeal the denial by the Executive Officer to the Hearing Board under Rule 216 – Appeals and Rule 221 - Plans.

(4) The owner or operator shall implement measures based on the schedule in the approved Compliance Plan if lead emissions discharged from the facility contribute to ambient air concentrations of lead to exceed 0.150 $\mu g/m^3$ averaged over any 30 consecutive days, or an ambient air concentration of arsenic of 10.0 ng/m^3 averaged over a 24-hour time period as determined in paragraph (d)(6), measured at any monitor pursuant to subdivision (j) or at any District-installed monitor.

(5) The owner or operator may make a request to the Executive Officer to modify or update an approved Compliance Plan.

(6) The owner or operator shall update the Compliance Plan 12 months from January 10, 2014 and annually thereafter, in order to update measures that have been implemented and to identify any new measures that can be implemented.

(7) An exceedance of an ambient air concentration of arsenic of 8.0 ng/m^3 averaged over a 24-hour period shall be based on the average of the analysis of two sample results on the same filter. A second analysis is required if the first sample exceeds 8.0 ng/m^3.

(h) Housekeeping Requirements

No later than 30 days after November 5, 2010, the owner or operator of a large lead-acid battery recycling facility shall control fugitive lead-dust by conducting all of the following housekeeping practices:

(1) Clean by wet wash or a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles in a manner that does not generate fugitive lead-dust, the following areas at the specified frequencies, unless located within a total enclosure vented to a lead emission control device. Days of measurable precipitation in the following areas occurring within the timeframe of a required cleaning frequency may be counted as a cleaning:

(A) Monthly cleanings of roof tops on structures $\leq$ 45 feet in height that house areas associated with the storage, handling or processing of lead-containing materials; and

(B) Quarterly cleanings, no more than 3 calendar months apart, of roof tops on structures > 45 feet in height that house areas associated with the storage, handling or processing of lead-containing materials; and

(C) Weekly cleanings of all areas where lead-containing wastes generated from housekeeping activities are stored, disposed of, recovered or recycled.

(D) Initiate immediate cleaning, no later than one hour, after any maintenance activity or event including, but not limited to, accidents, process upsets, or equipment malfunction, that causes deposition of fugitive lead-dust onto areas specified in subparagraph (h)(1)(A) through (h)(1)(C). Immediate cleanings of roof tops shall be completed within 72 hours if the facility can demonstrate that delays were due to safety or timing issues associated with obtaining

equipment required to implement this requirement.

(2) Inspect all total enclosures and facility structures that house, contain or control any lead point source or fugitive lead-dust emissions at least once a month. Any gaps, breaks, separations, leak points or other possible routes for emissions of lead or fugitive lead-dust to ambient air shall be permanently repaired within 72 hours of discovery. The Executive Officer may approve a request for an extension beyond the 72-hour limit if the request is submitted before the limit is exceeded.

(3) Upon receipt, any lead-acid battery that is cracked or leaking shall be immediately sent to the battery breaking area for processing or stored pursuant to paragraph (h)(6).

(4) Pave, concrete, asphalt, or otherwise encapsulate all facility grounds as approved by the Executive Officer. Facility grounds used for plant life that are less than a total surface area of 100 square feet shall not be subject to encapsulation. Facility grounds requiring removal of existing pavement, concrete, asphalt or other forms of encapsulation, necessary for maintenance purposes shall not require encapsulation while undergoing work, and shall be re-encapsulated immediately after all required work is completed. All work shall be conducted in accordance with subdivision (i).

(5) Remove any weather cap installed on any stack that is a source of lead emissions.

(6) Store all materials capable of generating any amount of fugitive lead-dust including, but not limited to, slag and any other lead-containing waste generated from housekeeping requirements of subdivision (h) and maintenance activities of subdivision (i), in sealed, leak-proof containers, unless located within a total enclosure.

(7) Transport all materials capable of generating any amount of fugitive lead-dust including, but not limited to, slag and any other waste generated from housekeeping requirements of subdivision (h), within closed conveyor systems or in sealed, leak-proof containers, unless located within a total enclosure.

(8) Initiate removal of any lead-containing material, including sludge, from the entire surface area of any surface impoundment pond or reservoir holding storm water runoff or spent water from housekeeping activities within 1 hour after the water level is $\leq$ 1 inch above the bottom of the pond or reservoir. Removal of lead-containing material is required to be completed

as soon as possible, and no later than six calendar days after the time initiation of the removal was required. Thereafter, surfaces shall be washed down weekly in a manner that does not generate fugitive lead-dust until the pond or reservoir is used again for holding water.

(9) Maintain and Use an Onsite Mobile Vacuum Sweeper or Vacuum

The owner or operator of a large lead-acid battery recycling facility shall maintain an onsite mobile vacuum sweeper that is in compliance with District Rule 1186, or a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles to conduct the following sweeping activities:

(A) Vacuum sweep all paved, concreted or asphalted facility areas subject to vehicular or foot traffic three times per day and occurring at least once per operating shift with each event not less than four hours apart, unless located within a total enclosure vented to a lead control device.

(B) Immediately vacuum sweep any area specified in subparagraph (h)(9)(A), no later than one hour after any maintenance activity or event including accidents, process upsets, or equipment malfunction that results in the deposition of fugitive lead-dust.

(C) Vacuum sweeping activities specified in paragraph (h)(9) shall not be required during days of measurable precipitation.

(i) Maintenance Activity

(1) Beginning November 5, 2010, the owner or operator of a large lead-acid battery recycling facility shall conduct any maintenance activity in a negative air containment enclosure, vented to a permitted negative air machine equipped with a filter(s) rated by the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles, that encloses all affected areas where fugitive lead-dust generation potential exists, unless located within a total enclosure or approved by the Executive Officer. Any maintenance activity that cannot be conducted in a negative air containment enclosure due to physical constraints, limited accessibility, or safety issues when constructing or operating the enclosure shall be conducted:

(A) In a partial enclosure, barring conditions posing physical constraints, limited accessibility, or safety issues;

(B) Using wet suppression or a vacuum equipped with a filter(s) rated by

the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles, at locations where the potential to generate fugitive lead-dust exists prior to conducting and upon completion of the maintenance activity. Wet suppression or vacuuming shall also be conducted during the maintenance activity barring safety issues;

(C) While collecting 24-hour samples at monitors for every day that maintenance activity is occurring notwithstanding paragraph (j)(2); and

(D) Shall be stopped immediately when instantaneous wind speeds are $\geq$ 25 mph. Maintenance work may be continued if it is necessary to prevent the release of lead emissions.

(2) Store or clean by wet wash or a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles, all lead-contaminated equipment and materials used for any maintenance activity immediately after completion of work in a manner that does not generate fugitive lead-dust.

(j) Ambient Air Monitoring and Sampling Requirements

Prior to January 1, 2011, ambient air monitoring and sampling shall be conducted pursuant to District Rule 1420. No later than January 1, 2011, the owner or operator of a large lead-acid battery recycling facility shall conduct ambient air monitoring and sampling as follows:

(1) Collect samples from a minimum of four sampling sites. Locations for sampling sites shall be approved by the Executive Officer.

(A) Locations for sampling sites shall be based on maximum expected ground level lead and/or arsenic concentrations, at or beyond the property line, as determined by Executive Officer-approved air dispersion modeling calculations and emission estimates from all lead and arsenic point sources and fugitive lead-dust and arsenic-dust sources, and other factors including, but not limited to, population exposure and seasonal meteorology.

(B) The Executive Officer may require one or more of the four sampling sites to be at locations that are not based on maximum ground level lead and/or arsenic concentrations, and that are instead at locations at or beyond the property line that are representative of upwind or background concentrations.

(C) Sampling sites at the property line may be located just inside the fence line on facility property if logistical constraints preclude placement outside the fence line at the point of maximum expected ground level lead and/or arsenic concentrations.

(2) Collect ambient lead and arsenic samples as follows:

(A) Lead samples shall be collected as 24-hour, midnight-to-midnight, samples at all sites for 30 consecutive days from the date of initial sampling, followed by one 24-hour, midnight-to-midnight, sample collected at least once every three calendar days, on a schedule approved by the Executive Officer.

(B) Arsenic samples shall be collected as 24-hour, midnight-to-midnight, samples collected at least once every three calendar days, on a schedule approved by the Executive Officer.

(3) Submit samples collected pursuant to paragraphs (j)(1) and (j)(2) to a laboratory approved under the SCAQMD Laboratory Approval Program for analysis within three calendar days of collection and calculate ambient lead and arsenic concentrations for individual 24-hour samples within 15 calendar days of the end of the calendar month in which the samples were collected. Duplicate samples shall be made available and submitted to the District upon request by the Executive Officer.

(4) Sample collection for lead and/or arsenic shall be conducted using Title 40, CFR 50 Appendix B - *Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)*, or U.S. EPA-approved equivalent methods, and sample analysis for lead shall be conducted using Title 40, CFR 50 Appendix G - *Reference Method for the Determination of Lead in Suspended Particulate Matter Collected from Ambient Air*, or U.S. EPA-approved equivalent methods. Sample analysis for arsenic shall be conducted using U.S. EPA Compendium Method IO-3.5 - *Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS); EPA Compendium Method IO-3.5; In IO Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air*. Alternatively, sample analysis for arsenic may be conducted using the District's *Standard Operating Procedure for The Determination of Metals in Ambient Particulate Matter by Inductively Coupled Plasma Mass Spectrometry (ICP-MS).*

(5) Continuously record wind speed and direction data at all times using

equipment approved by the Executive Officer at a minimum of one location and placement approved by the Executive Officer.

(6) Ambient air quality monitoring shall be conducted by persons approved by the Executive Officer and sampling equipment shall be operated and maintained in accordance with U.S. EPA-referenced methods.

(7) All ambient air quality monitoring systems required by this subdivision shall be equipped with a backup, uninterruptible power supply to ensure continuous operation of the monitoring system during a power outage.

(8) Cleaning activities including, but not limited to, wet washing and misting, that result in damage or biases to samples collected shall not be conducted within 10 meters of any sampling site required under this subdivision.

(9) On and after January 1, 2012, if the owner or operator of a large lead-acid battery recycling facility exceeds an ambient air lead concentration 0.150 $\mu g/m^3$ measured pursuant to paragraph (d)(2), the owner or operator shall:

(A) Begin daily ambient air monitoring and sampling no later than three calendar days of the time the facility knew or should have known of the exceedance. Conduct daily ambient air monitoring and sampling for sixty (60) consecutive days at each sampling site that measured an exceedance with paragraph (d)(2).

(B) The 60 consecutive-day period shall be restarted for any subsequent exceedance.

(C) Comply with the curtailment requirements of subdivision (p).

(10) On and after February 1, 2014, if a large lead-acid battery recycling facility exceeds an ambient air concentration of arsenic of 10.0 ng/m^3 pursuant to paragraph (d)(6), the owner or operator shall:

(A) Begin daily ambient air monitoring and sampling no later than three calendar days from the time the facility knew or should have known of the exceedance. Conduct daily ambient air monitoring and sampling for sixty (60) consecutive days at each sampling site that measured an exceedance pursuant to paragraph (d)(6).

(B) Restart the 60-day consecutive period for any subsequent exceedance.

(C) Comply with the curtailment requirements of subdivision (p).

(k) Source Tests

(1) The owner or operator of a large lead-acid battery recycling facility shall

conduct a source test of all lead point sources at least annually to demonstrate compliance with the mass emissions standards specified in subdivision (f). If the results of the most recent source test for a lead point source demonstrating compliance with the lead emission standard of subdivision (f) demonstrate emissions of 0.0025 pounds of lead per hour or less, the next test for that lead point source shall be performed no later than 24 months after the date of the most recent test.

(2) Beginning January 10, 2014, the owner or operator of a large lead-acid battery recycling facility shall conduct a source test for all arsenic point sources, and all benzene and 1,3-butadiene point sources, excluding emission control devices on total enclosures, at least annually to demonstrate compliance with the mass emissions standards specified in subdivision (f). If the results of the most recent source test demonstrating compliance with the arsenic, benzene, and 1,3-butadiene mass emissions standards of subdivision (f) are below the emission rates specified in subparagraphs (k)(2)(A) through (k)(2)(C), the next source test for those point sources shall be performed no later than 24 months after the date of the most recent source test.

(A) 0.000860 pound of arsenic per hour;

(B) 0.0386 pound of benzene per hour; and

(C) 0.00257 pound of 1,3-butadiene per hour.

(3) The owner or operator of a large lead-acid battery recycling facility with an existing lead emission control device in operation before November 5, 2010 shall conduct a source test for it no later than January 1, 2011. The owner or operator of a large lead-acid battery recycling facility with a new or modified lead control device with initial start-up on or after November 5, 2010 shall conduct the initial source test for it within 60 calendar days after initial start-up.

(4) Prior to conducting a source test pursuant to paragraph (k)(1), (k)(2), (k)(3), or (k)(13), the owner or operator of a large lead-acid battery recycling facility shall submit a pre-test protocol to the Executive Officer for approval at least 60 calendar days prior to conducting the source test. The pre-test protocol shall include the source test criteria of the end user and all assumptions, required data, and calculated targets for testing the following:

(A) Target arsenic, benzene, lead, or 1,3-butadiene mass emission standard;

(B) Preliminary target pollutant analytical data;

(C) Planned sampling parameters; and

(D) Information on equipment, logistics, personnel, and other resources necessary for an efficient and coordinated test.

(5) The owner or operator of a large lead-acid battery recycling facility shall notify the Executive Officer in writing one week prior to conducting any source test required by paragraph (k)(1), (k)(2), (k)(3), or (k)(13).

(6) The owner or operator of a large lead-acid battery recycling facility shall notify the Executive Officer within three business days, including Mondays, of when the facility knew or should have known of any source test result that exceeds any of the emission standards specified in subdivision (f). Notifications shall be made to 1-800-CUT-SMOG and followed up in writing with the results of the source tests within seven (7) days of notification.

(7) Source tests shall be conducted while operating at a minimum of 80% of equipment permitted capacity and in accordance with any of the following applicable test methods:

(A) SCAQMD Method 12.1 - *Determination of Inorganic Lead Emissions from Stationary Sources Using a Wet Impingement Train*

(B) ARB Method 12 – *Determination of Inorganic Lead Emissions from Stationary Sources*

(C) EPA Method 12 – *Determination of Inorganic Lead Emissions from Stationary Sources*

(D) ARB Method 436 – *Determination of Multiple Metal Emissions from Stationary Sources*

(E) EPA Method TO-15 – *Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS)*

(F) CARB Method 410A – *Determination of Benzene from Stationary Sources (Low Concentration Gas Chromatographic Technique)*

(G) CARB Method 422.102 – *Determination of Volatile Organic Compounds (VOCs) in Emissions from Stationary Sources*

(8) The average of triplicate samples, obtained according to approved test methods specified in paragraph (k)(7), shall be used to determine compliance or to report source test results required under paragraph (k)(13).

(9) The operator may use alternative or equivalent source test methods as defined in U.S. EPA 40 CFR 60.2, approved in writing by the Executive Officer, the Air Resources Board, and the U.S. EPA.

(10) The operator shall use a test laboratory approved under the SCAQMD Laboratory Approval Program for the source test methods cited in this subdivision. If there is no approved laboratory, then approval of the testing procedures used by the laboratory shall be granted by the Executive Officer on a case-by-case basis based on SCAQMD protocols and procedures.

(11) When more than one source test method or set of source test methods are specified for any testing, the application of these source test methods to a specific set of test conditions is subject to approval by the Executive Officer. In addition, a violation established by any one of the specified source test methods or set of source test methods shall constitute a violation of the rule.

(12) An existing source test conducted on or after January 1, 2009 for lead emission control devices existing before November 5, 2010 may be used as the initial source test specified in paragraph (k)(1) to demonstrate compliance with the control standard of subdivision (f) upon Executive Officer approval. The source test shall meet, at a minimum, the following criteria:

(A) The test is the most recent conducted since January 1, 2009;

(B) The test demonstrated compliance with the control standard of subdivision (f); and

(C) The test is representative of the method to control emissions currently in use; and

(D) The test was conducted using applicable and approved test methods specified in paragraphs (k)(7), (k)(9), or (k)(10).

(13) Beginning January 10, 2014, the owner or operator of a large lead-acid battery recycling facility shall conduct two source tests for benzene and 1,3-butadiene emissions from all emission control devices on total enclosures as follows:

(A) First source test conducted no later than March 1, 2014.

(B) Second source test conducted no later than September 1, 2014.

(C) Source tests on all emission control devices on total enclosures must be completed within a time period of 72 hours or less.

(14) Testing conducted by the facility, by the District, or by a contractor acting on behalf of the District or the facility to determine compliance with this

rule shall be performed according to the most recent District-approved test protocol for the same purpose or compounds.

(l) New Facilities

The owner or operator of a large lead-acid battery recycling facility beginning construction or operations on or after November 5, 2010 shall:

(1) Demonstrate to the satisfaction of the Executive Officer that the facility is not located in an area that is zoned for residential or mixed use; and

(2) Demonstrate to the satisfaction of the Executive Officer that the facility is not located within 1,000 feet from the property line of a sensitive receptor, a school under construction, park, or any area that is zoned for residential or mixed use. The distance shall be measured from the property line of the new facility to the property line of the sensitive receptor.

(3) Submit complete permit applications for all equipment required by this rule prior to beginning construction or operations, and otherwise on or before the time required by District rules.

(m) Recordkeeping

(1) The owner or operator of a large lead-acid battery recycling facility shall keep records of the following:

(A) Daily records indicating amounts of lead-containing material processed, including, but not limited to, purchase records, usage records, results of analysis, or other District-approved verification to indicate processing amounts;

(B) Results of all ambient air lead and arsenic monitoring, meteorological monitoring, and other data specified by subdivision (j); and

(C) Records of housekeeping activities completed as required by subdivision (h), maintenance activities of subdivision (i), and emission control device inspection and maintenance requirements of paragraph (f)(8), including the name of the person performing the activity, and the dates and times on which specific activities were completed.

(D) Records of unplanned shutdowns of any smelting furnace including the date and time of the shutdown, description of the corrective measures taken, and the re-start date and time.

(2) The owner or operator of a large lead-acid battery recycling facility shall maintain all records for five years, at least two years onsite.

(n) Reporting

(1) Ambient Air Monitoring Reports

(A) Beginning no later than January 1, 2011, the owner or operator of a large lead-acid battery recycling facility shall report by the 15th of each month to the Executive Officer, the results of all ambient air lead and wind monitoring for each preceding month, or more frequently if determined necessary by the Executive Officer. The report shall include the results of individual 24-hour samples and 30-day rolling averages for each day within the reporting period.

(B) Beginning no later than March 15, 2014, the owner or operator of a large lead-acid battery recycling facility shall report by the 15th of each month to the Executive Officer, the results of all ambient air arsenic and wind monitoring for each preceding month, or more frequently if determined necessary by the Executive Officer and the owner or operator is notified in writing of the required frequency.

(C) Any exceedances of ambient air concentrations specified in paragraphs (d)(2) and (d)(6) shall be reported with a notification made to the 1-800-CUT-SMOG within 24 hours of receipt of the completed sample analysis required in paragraph (j)(3), followed by a written report to the Executive Officer no later than three calendar days after the notification. The written report shall include the causes of the exceedance and the specific corrective actions implemented.

(2) Shutdown, Turnaround, and Maintenance Activity Notification

The owner or operator of a large lead-acid battery recycling facility shall:

(A) Notify the Executive Officer and the public within one hour after an unplanned shutdown of any emission control device has occurred. If the unplanned shutdown involves a breakdown pursuant to Rule 430, the breakdown notification report required by Rule 430 shall serve in lieu of this notification to the Executive Officer. The notification shall include the following information:

(i) Date and time the unplanned shutdown of the emission control device(s) occurred;

(ii) Description of the shutdown emission control device and the processes and/or equipment vented by the emission control device;

(iii) Description of when the processes and/or equipment vented by the emission control device were shutdown, including expected shutdown time;

(iv) Reason why the emission control device was shutdown;

(v) Total duration of the unplanned shutdown, if known; and

(vi) Facility contact name and phone number for further information regarding the unplanned shutdown.

(B) Beginning May 1, 2014, if an unplanned shutdown of any emission control device occurs, and the reason for the unplanned shutdown cannot be determined within the one-hour reporting period under subparagraph (n)(2)(A), the owner or operator shall investigate the reason for the unplanned shutdown and notify the Executive Officer of the reason for the unplanned shutdown within 5 business days of the event. If the reason for the unplanned shutdown is still not known within 5 business days of the event, the owner or operator shall notify the Executive Officer within 5 business days of the event and:

(i) Use an independent third party approved by the Executive Officer to conduct an investigation at the facility to determine the reason for the unplanned shutdown of any emission control device subject to this rule, which includes but is not limited to:

(I) Physically inspecting the control equipment and surrounding portions of the facility which may provide information to understand the reason for the unplanned shutdown of emission control equipment; and

(II) Reviewing equipment maintenance and operation records, logs, and other documentation which may provide information to understand the reason for the unplanned shutdown of emission control equipment;

(ii) Use an independent third party approved by the Executive Officer to inspect all equipment repaired or replaced in

response to the unplanned shutdown of emission control equipment, to ensure affected control equipment can operate properly; and

(iii) Within 30 calendar days of the reported unplanned shutdown, provide a written report to the Executive Officer and the Director of the California Department of Toxic Substances Control. The owner or operator shall notify the Executive Officer if an approved independent third party is not available for use, or the list of approved independent third parties has not yet been developed by the Executive Officer, and shall submit the written report 30 days from when an approved third party is available. The written report shall include the following information:

(I) Date of the unplanned shutdown of emission control equipment;

(II) Reason for the unplanned shutdown of emission control equipment;

(III) List of all equipment repaired or replaced in response to the unplanned shutdown and corrective actions taken to prevent recurrence of the unplanned shutdown of emission control equipment; and

(IV) Written verification that the affected emission control equipment is operational. If the affected equipment is not operational, provide an approximate date the subject equipment is expected to be operational.

(iv) The owner or operator shall be responsible for reimbursement to the District for any and all expenses incurred by the independent third-party investigator in the investigation, inspection, and generation of a written report to determine the cause of an unplanned shutdown of any emission control equipment subject to this rule, as required by subparagraph (n)(2)(B). The owner or operator shall reimburse the District within 30 days of notification from the Executive Officer that payment is due.

(v) The reimbursement specified in clause (n)(2)(B)(iv) shall not exceed $12,000 per third-party investigation.

(C) Notify the Executive Officer and the public at least ten calendar days prior to a planned turnaround or shutdown of any smelting furnace, battery breaker, or emission control device subject to this rule that results in arsenic, benzene, 1,3-butadiene, or lead emissions. The notification shall specify the subject equipment and the start and end date of the turnaround or shutdown period.

(D Notify the Executive Officer at least ten calendar days prior to the beginning of maintenance activity, as defined in paragraph (c)(17), that is conducted routinely on a monthly or less frequent basis. The notification and report required under subparagraph (n)(2)(F) shall include, at a minimum, the following:

(i) Dates, times, and locations of activities to be conducted;

(ii) Description of activities;

(iii) Name of person(s)/company conducting the activities;

(iv) Lead abatement procedures, including those specified in subdivision (i), to be used to minimize fugitive lead-dust emissions; and

(v) Date of expected re-start of equipment.

(E) Notify the public at least ten calendar days prior to the beginning of building construction, renovation, or demolition, and resurfacing, repair, or removal of ground pavement, concrete or asphalt if such activities are conducted outside of a total enclosure and generate fugitive lead-dust. The notification shall include, at a minimum, the following:

(i) Dates, times, and locations of activities to be conducted;

(ii) Description of activities;

(iii) Date of expected re-start of equipment.

(F) Provide the notification to the Executive Officer required under subparagraphs (n)(2)(A), (n)(2)(C), and (n)(2)(D) to 1-800-CUT-SMOG followed by a written notification report to the Executive Officer no later than three business days, including Mondays, after the unplanned shutdown occurred.

(G) Provide notification to the public required under subparagraphs (n)(2)(A), (n)(2)(C), and (n)(2)(E) through a facility contact or pre-recorded notification center that is accessible 24 hours a day, 7 days a week, and through electronic mail using a list of recipients

provided by the Executive Officer. Another method of notification to the public may be used provided it is approved by the Executive Officer.

(H) Install a sign indicating the phone number for the facility contact or pre-recorded notification center that meets the following requirements, unless otherwise approved in writing by the Executive Officer:

(i) Installed within 50 feet of the main entrance of the facility and in a location that is visible to the public;

(ii) Measures at least 48 inches wide by 48 inches tall;

(iii) Displays lettering at least 4 inches tall with text contrasting with the sign background; and

(iv) Located between 6 and 8 feet above grade from the bottom of the sign.

(3) Initial Facility Status Report

(A) Initial Facility Status Report Due Date

The owner or operator of a large lead-acid battery recycling facility existing before November 5, 2010 shall submit an initial facility status report to the Executive Officer no later than January 1, 2011. Large lead-acid battery recycling facilities beginning construction or initial operations after November 5, 2010 shall submit the initial compliance status report upon start-up.

(B) The initial facility status report shall contain the information identified in Appendix 1.

(4) Ongoing Facility Status Report

The owner or operator of a large lead-acid battery recycling facility shall submit a summary report to the Executive Officer to document the ongoing facility status.

(A) Frequency of Ongoing Facility Status Reports

The report shall be submitted annually on or before February 1 for all sources and shall include information covering the preceding calendar year.

(B) The content of ongoing facility status reports shall contain the information identified in Appendix 2.

(5) Adjustments to the Timeline for Submittal and Format of Reports

The Executive Officer may adjust the timeline for submittal of periodic

reports, allow consolidation of multiple reports into a single report, establish a common schedule for submittal of reports, or accept reports prepared to comply with other state or local requirements. Adjustments shall provide the same information and shall not alter the overall frequency of reporting.

(o) Lead Emission Rate Feasibility Study

On and after July 1, 2011, the first time emissions are discharged into the atmosphere which contribute to ambient air concentrations of lead that exceed 0.120 $\mu g/m^3$, averaged over any 30 consecutive days, determined by monitors pursuant to subdivision (j) or at any District-installed monitor, the owner or operator of a large lead-acid battery recycling facility shall submit a study addressing the technical, economic and physical feasibility of achieving a total facility mass lead emission rate of 0.003 pounds per hour from all lead point sources. The study shall be submitted within 30 calendar days after exceeding 0.120 $\mu g/m^3$, averaged over any 30 consecutive days. Subsequent exceedances of ambient air concentrations of lead of 0.120 $\mu g/m^3$ do not trigger another feasibility study.

(p) Curtailment Requirements

(1) On and after February 1, 2014, the owner or operator of a large lead-acid battery recycling facility shall implement the following mandatory daily process curtailments if emissions are discharged into the atmosphere which contribute to monitored ambient air concentrations of lead, as determined pursuant to paragraph (d)(2), and/or ambient air concentrations of arsenic, as determined pursuant to paragraph (d)(6), that exceed the thresholds listed below in Table 1:

Table 1 – Process Curtailments Based on Ambient Air Concentrations of Lead and/or Arsenic

Air Contaminant	Monitored Ambient Air Concentration	Reduction in Feedstock Charged to Reverberatory Furnace
Lead	>0.150 – 0.230 $\mu g/m^3$	15%
	>0.230 – 0.300 $\mu g/m^3$	25%
	>0.300 – 0.375 $\mu g/m^3$	50%
	>0.375 $\mu g/m^3$	75%
Arsenic	>10.0 – 15.0 ng/m^3	15%
	>15.0 – 20.0 ng/m^3	25%
	>20.0 – 25.0 ng/m^3	50%

	>25.0 ng/m^3	75%

(A) The process curtailments for exceedances of the ambient air concentration of lead thresholds in Table 1 shall remain in effect until the monitoring results at each affected monitoring station are at or below 0.150 µg/m^3 of lead averaged over any 30 consecutive days, for a period of 30 consecutive days, or the monitoring results at each affected monitoring station are at or below 0.120 µg/m^3 for at least 10 consecutive days and no other monitor exceeds the thresholds specified in subdivision (d); and

(B) The process curtailments for exceedances of the ambient air concentration of arsenic thresholds in Table 1 shall remain in effect until the monitoring results at each affected monitoring station are at or below 10.0 ng/m^3 of arsenic averaged over a 24-hour time period, for a period of at least 30 consecutive days.

(2) The owner or operator of a large lead-acid battery recycling facility shall implement the following mandatory daily process curtailments if the total facility mass emissions from all lead and/or arsenic point sources exceed the thresholds listed below in Table 2:

Table 2 – Process Curtailments Based on Total Facility Mass Lead and/or Arsenic Emissions From All Point Sources

Effective Date	Air Contaminant	Total Facility Mass Emission Rate (lbs/hour)	Reduction in Feedstock Charged to Reverberatory Furnace
On and after January 10, 2014	Lead	>0.045 – 0.0675	15%
		>0.0675 – 0.09	25%
		>0.09 – 0.1125	50%
		>0.1125	75%
No later than 60 days after January 10, 2014 to December 31, 2014	Arsenic	>0.00285 – 0.00428	15%
		>0.00428 – 0.00570	25%
		>0.00570 – 0.00713	50%
		>0.00713	75%
On and after January 1, 2015	Arsenic	>0.00114 – 0.00171	15%
		>0.00171 – 0.00228	25%
		>0.00228 – 0.00285	50%

		>0.00285	75%

(A) The process curtailments in Table 2 shall remain in effect until the facility demonstrates compliance using the most recent District-approved source tests conducted by the facility or the District, pursuant to subdivision (k).

(3) Reductions in feedstock charged to the reverberatory furnace required by paragraphs (p)(1) or (p)(2) shall be based on the daily average of materials charged to the reverberatory furnace over the previous 90 days of operation prior to when the facility knew or should have known of the exceedance;

(4) The process curtailments in Table 1 and Table 2 shall begin within 48 hours of the time when the owner or operator receives sampling results indicating an exceedance of any lead and/or arsenic threshold listed in Table 1 or Table 2; and

(5) The owner or operator of a large lead-acid battery recycling facility may temporarily exceed the mandatory process curtailments specified in Table 1 of paragraph (p)(1) and Table 2 of paragraph (p)(2), only for the period of time required to perform source tests to demonstrate compliance with this rule.

(q) Severability

If any provision of this rule is held by judicial order to be invalid, or invalid or inapplicable to any person or circumstance, such order shall not affect the validity of the remainder of this rule, or the validity or applicability of such provision to other persons or circumstances.

Appendix 1 – Content of Initial Facility Status Reports

Initial compliance status reports shall contain, at a minimum, the following information:

1. Facility name, District Facility ID number, facility address, owner/operator name, and telephone number.
2. The distance from the property line of the facility to the property line of the nearest commercial/industrial building and sensitive receptor.
3. Worker and sensitive receptor locations, if they are located within one-quarter mile from the center of the facility.
4. Building parameters
    - Stack heights in feet (point sources); or
    - Building area in square feet (volume sources).
5. A description of the types of lead processes performed at the facility.
6. The following information shall be provided for each of the last five calendar years prior to November 5, 2010:
    - Annual amount of lead-containing material processed;
    - The maximum and average daily and monthly operating schedules;
    - The maximum and average daily and monthly lead-processing rates for all equipment and processes;
    - The maximum and average daily and annual emissions of lead from all emission points and fugitive lead-dust sources.
7. The approximate date of intended source tests for all lead emission control devices, as required by subdivision (k) of this rule.
8. Engineering drawings, calculations or other methodology to demonstrate compliance with paragraphs (d)(1) through (d)(3) and (k).
9. Air dispersion modeling calculations using procedures approved by the Executive Officer to determine the location of sampling sites as required by subdivision (j).
10. All information necessary to demonstrate means of compliance with subdivision (j).
11. The name, title, and signature of the responsible official certifying the accuracy of the report, attesting to whether the source has complied with the provisions of this rule.
12. The date of the report.

Appendix 2 – Content of Ongoing Facility Status Reports

Ongoing facility status reports shall, at a minimum, contain the following information:

1. Facility name, District Facility ID number, facility address, owner/operator name, and telephone number.
2. The beginning and ending dates of the calendar year for the reporting period.
3. The following information shall be provided for each of the last 12 calendar months of the reporting period:
    - Annual amounts of lead-containing material processed;
    - The maximum and average daily and monthly lead-processing rates for all equipment and processes;
    - The maximum and average daily and annual emissions of lead from all emission points and fugitive lead-dust sources.
4. Worker and sensitive receptor distances, if they are located within ¼ of mile from the center of the facility and facility maximum operating schedule, if changed since submittal of the initial compliance status report or prior year's ongoing compliance status and emission reports.
5. A description of any changes in monitoring, processes, or controls since the last reporting period.
6. The name, title, and signature of the responsible official certifying the accuracy of the report.
7. The date of the report.

Appendix 3 – Continuous Furnace Pressure Monitoring (CFPM) Plan

The CFPM Plan shall, at a minimum, contain the following information:

1. A description of the type and design of the differential pressure monitoring device(s).
2. The specifications of the resolution, increment of measurement, and range of the differential pressure monitoring device(s).
3. A drawing and description of the exact location where each differential pressure monitoring device is to be located.
4. If differential pressure monitoring device(s) are already installed, all available recorded data of the static differential furnace pressure(s) as requested by the Executive Officer.
5. If applicable, the maximum alternative static differential furnace pressure in inches water column that the owner or operator will operate the reverberatory furnace at, and a demonstration that it can achieve emission reductions that are equivalent to or better than those achieved when operating at a pressure of -0.02 or more negative. The alternative static differential furnace pressure shall not exceed 0.4 inches water column.

ATTACHMENT G

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

~~Draft~~ Staff Report
Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities

~~February~~ March 2014

Deputy Executive Officer
Planning, Rule Development, and Area Sources
Elaine Chang, DrPH

Assistant Deputy Executive Officer
Planning, Rule Development, and Area Sources
Philip Fine, Ph.D.

Director of Strategic Initiatives
Planning, Rule Development, and Area Sources
Susan Nakamura

Authors:	Tim Kobata – Air Quality Specialist
Contributors:	Dipankar Sarkar – Program Supervisor
	Michael Garibay – Supervising Air Quality Engineer
	Jason Aspell – Air Quality Engineer II
Reviewed by:	Barbara Baird – Chief Deputy Counsel
	Megan Lorenz – Senior Deputy District Counsel
	Ed Eckerle – Program Supervisor

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
GOVERNING BOARD

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Supervisor, Fourth District
County of Riverside

JOE BUSCAINO
Councilmember, 15th District
City of Los Angeles Representative

MICHAEL A. CACCIOTTI
Councilmember, South Pasadena
Cities of Los Angeles County/Eastern Region

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County of San Bernardino

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Governor's Appointee

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Mayor, Rolling Hills Estates
Cities of Los Angeles County/Western Region

SHAWN NELSON
Supervisor, Fourth District
County of Orange

DR. CLARK E. PARKER, SR.
Senate Rules Appointee

MIGUEL A. PULIDO
Mayor, Santa Ana
Cities of Orange County

EXECUTIVE OFFICER:

BARRY R. WALLERSTEIN, D.Env.

TABLE OF CONTENTS

EXECUTIVE SUMMARY
BACKGROUND ES-1
PUBLIC PROCESS ES-1
AFFECTED INDUSTRIES ES-1
PROPOSED AMENDED RULE 1420.1 ES-1
IMPACT ASSESSMENT ES-2

CHAPTER 1: BACKGROUND
INTRODUCTION 1-1
REGULATORY HISTORY 1-1
PUBLIC PROCESS 1-2
AFFECTED INDUSTRIES 1-2
MULTI-METALS CEMS 1-2

CHAPTER 2: SUMMARY OF PROPOSED AMENDED RULE 1420.1
OVERVIEW 2-1
PROPOSED AMENDED RULE 1420.1 2-1

CHAPTER 3: IMPACT ASSESSMENT
IMPACT ASSESSMENT FOR PROPOSED AMENDED RULE 1420.1 3-1
CALIFORNIA ENVIRONMENTAL QUALITY ACT 3-1
SOCIOECONOMIC ASSESSMENT 3-1
FINDINGS UNDER CALIFORNIA HEALTH
AND SAFETY CODE SECTION 40727 3-3

REFERENCES

APPENDIX A: COMMENTS AND RESPONSES
APPENDIX B: MULTI-METALS CEMS DEMONSTRATION PROGRAM WORK PLAN
APPENDIX C: MULTI-METALS CEMS QUOTE

TABLES

Table 3-1: Multi-Metals CEMS Demonstration Program Costs 3-3
Table 3-2: Comparative Analysis 3-4

LIST OF ACRYNOMS

CEMS = Continuous Emissions Monitoring System

CEQA = California Environmental Quality Act

NAAQS = National Ambient Air Quality Standards

NESHAPS = National Emissions Standards for Hazardous Air Pollutants

ng/m^3 = nanogram per cubic meter

$\mu g/m^3$ = microgram per cubic meter

EXECUTIVE SUMMARY

BACKGROUND

PUBLIC PROCESS

AFFECTED INDUSTRIES

PROPOSED AMENDED RULE 1420.1

IMPACT ASSESSMENT

BACKGROUND

Rule 1420.1 was adopted on November 5, 2010 and applies to large lead-acid battery recycling facilities that have processed more than 50,000 tons of lead a year. The purpose of Rule 1420.1 is to protect public health by reducing exposure to emissions of lead from these facilities and to help to ensure attainment of the National Ambient Air Quality Standard for lead. On January 10, 2014, Rule 1420.1 was amended to address arsenic, benzene, and 1,3-butadiene, at large lead-acid battery recycling facilities. These amendments to Rule 1420.1 further protect~~s~~ public health by addressing arsenic, benzene, and 1,3-butadiene emissions which are the primary contributors to the elevated health risks caused by large lead-acid battery recycling facilities.

At the January 10, 2014 Governing Board meeting, Proposed Amended Rule 1420.1 included provisions for operators to implement a multi-metals continuous emissions monitoring system (CEMS) demonstration program. However, Staff recommended that this provision be excluded from the January amendments to allow additional time for staff to work with the manufacturer of the multi-metal CEMS, affected facilities, and environmental and community groups. Staff has worked with these stakeholders and is proposing amendments to Rule 1420.1 to implement a multi-metals CEMS demonstration program.

The proposed amended rule also adds some clarifying language that requires the affected facilities to reimburse SCAQMD for funds spent to deploy independent third-party contractors who conduct investigations of unplanned shutdowns.

PUBLIC PROCESS

The SCAQMD staff worked with stakeholders on this proposed amendment. The proposed amendment has focused on implementation of a CEMS demonstration and providing funding for independent third-party investigations. A public ~~workshop~~ consultation meeting for PAR 1420.1 ~~will be~~ was held on February 19, 2014 at the SCAQMD Headquarters in Diamond Bar.

AFFECTED INDUSTRIES

Rule 1420.1 applies to lead-acid battery recycling facilities that process more than 50,000 tons of lead annually. Currently there are only two facilities subject to Rule 1420.1 in the Basin: Exide Technologies located in Vernon, and Quemetco Inc. located in the City of Industry.

PROPOSED AMENDED RULE 1420.1

The objective of Proposed Amended Rule 1420.1 (PAR 1420.1) is to continue to ensure attainment of the National Ambient Air Quality Standards for lead and to reduce arsenic, benzene, and 1,3 butadiene emissions from large lead-acid battery recycling facilities. PAR 1420.1 requires affected facilities to fund and participate in a multi-metals Continuous Emissions Monitoring System (CEMS) demonstration program that will be managed by SCAQMD staff. This will entail managing the contract, maintaining the equipment, conducting data downloading and analysis, and reporting. Upon Governing Board approval, the SCAQMD staff will enter into a sole-source contract with Cooper Environmental Services to build, install, maintain, and

decommission a multi-metals CEMS that will be used at each large lead acid battery recycling facility. PAR 1420.1 requires that each affected facility:

- Submit to the Executive Officer monies in the following amounts to fund a multi-metals CEMS demonstration program:
  - $63,500 by April 1, 2014; and
  - $143,225 by September 1, 2014
- Provide the following elements within their site: the appropriate number of grounded circuits, compressed air, wireless modem connection for data retrieval ~~to data and instrument computers~~, and the necessary personnel to install this equipment; and
- Allow SCAQMD staff and its contractor Cooper Environmental Services access to monitoring instruments and auxiliary equipment associated with monitoring instruments.

PAR 1420.1 also clarifies that operators are required to reimburse the SCAQMD within 30 days if the SCAQMD hires a third party consultant to investigate the reason for an unplanned shutdown. The proposed amended rule also specifies that the cost associated with reimbursement to the District for each investigation shall not exceed $12,000.

IMPACT ASSESSMENT

A socioeconomic assessment has been conducted to analyze the costs associated with compliance under PAR 1420.1. A revised draft of the socioeconomic analysis was prepared and made available to the public 30 days before the March 7, 2014 Public Hearing.

SCAQMD staff has reviewed the proposed amendments to Rule 1420.1 pursuant to CEQA Guidelines §15002(k) - Three Step Process, and CEQA Guidelines §15061(a) – Review for Exemption, and has determined that the proposed amendments are exempt from CEQA pursuant to CEQA Guidelines §15306 – Information Collection, because the multi-metal continuous emissions monitoring system and the investigation, inspection and generation of a written report to determine the cause of an unplanned shutdown of any emission control equipment subject to PAR 1420.1 would collect basic data, which would not result in a serious or major disturbance to an environmental resource. These requirements are strictly for information gathering purposes that could lead to an action which a public agency has not yet approved, adopted, or funded. CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges also applies because PAR 1420.1 would collect fees for the SCAQMD or its contractor to assemble, install, maintain, train, test, analyze and decommission a multi- metal continuous emissions monitoring system for use in the SCAQMD area of jurisdiction; and to reimburse SCAQMD for any and all expenses incurred by the independent third-party investigator in the investigation, inspection and generation of a written report. These fees would be for the purpose of recovering cost for operating expenses; and purchasing or leasing supplies, equipment or materials. The multi-metal continuous emissions monitoring system and the investigation, inspection and generation of a written report would not create any significant adverse effects on air quality or any other environmental areas. Since it can be seen with certainty that the proposed project has no potential to adversely affect air quality or any other environmental area, PAR1420.1 is also exempt from CEQA pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption.

CHAPTER 1: BACKGROUND

INTRODUCTION
REGULATORY HISTORY
PUBLIC PROCESS
AFFECTED INDUSTRIES
MULTI-METAL CONTINUOUS EMISSIONS MONITORING SYSTEMS

INTRODUCTION

Rule 1420.1 was adopted on November 5, 2010 and applies to large lead-acid battery recycling facilities that have processed more than 50,000 tons of lead a year. The purpose of Rule 1420.1 ~~is~~ as initially adopted was to protect public health by reducing exposure to emissions of lead from these facilities and to help to ensure attainment of the National Ambient Air Quality Standard for lead. On January 10, 2014, Rule 1420.1 was amended to address arsenic, benzene, and 1,3-butadiene, at large lead-acid battery recycling facilities. Amendments to Rule 1420.1 further protect~~s~~ public health by addressing arsenic, benzene, and 1,3-butadiene emissions which are the primary contributors to the elevated health risks from large lead-acid battery recycling facilities.

At the January 10, 2014 Governing Board meeting, Rule 1420.1 included provisions for operators to implement a multi-metals continuous emissions monitoring system (CEMS) demonstration program. Staff recommended that this provision be excluded from the January amendment to allow additional time for staff to work with the manufacturer of the multi-metal CEMS, affected facilities, and environmental and community groups. The SCAQMD Staff has worked with these stakeholders and is proposing amendments to Rule 1420.1 to implement a multi-metals CEMS demonstration program.

REGULATORY HISTORY

Lead-acid battery recyclers have been subject to regulation for more than two decades. Below is a chronology of regulatory activity:

- November 1970, CARB set the state ambient air quality standard for lead at 1.5 $\mu g/m^3$ averaged over 30 days.
- October 1978, the U.S. EPA adopted the NAAQS for lead requiring attainment with a lead ambient concentration of 1.5 $\mu g/m^3$ averaged over a calendar quarter.
- September 1992, the SCAQMD adopted Rule 1420 – Emissions Standard for Lead. The rule incorporated the state ambient air quality standard and required control devices on lead emission points, control efficiency requirements for lead control devices, housekeeping, and monitoring or modeling of ambient air quality.
- October 1992, OEHHA classified lead as a carcinogenic toxic air contaminant and assigned to it a cancer potency factor and a cancer unit risk factor.
- April 8, 1994, SCAQMD adopted Rule 1402 – Control of Toxic Air Contaminants from Existing Sources
- July 1994, the SCAQMD adopted Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Ferrous Metal Melting Operations. The rule reduces emissions of arsenic, cadmium, and nickel from industries such as primary and secondary smelters, foundries, die-casters, and coating processes through requirements for installation of particulate control devices, control efficiency standards, and fugitive emission control.
- June 1997, the U.S. EPA adopted the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) from Secondary Lead Smelting. The federal regulation required

lead emission concentration limits of lead control devices, control of process fugitive emissions, monitoring, recordkeeping, and reporting.

- October 15, 2008, the U.S. EPA promulgated an amended NAAQS for lead of 0.15 $\mu g/m^3$.
- November 5, 2010, the SCAQMD adopted Rule 1420.1 – Emissions Standard for Lead from Large Lead-acid Battery Recycling Facilities. The rule established requirements for total enclosures of areas used in the lead-acid battery recycling operation, ambient air quality concentration standards, ambient air monitoring, and housekeeping practices.
- January 10, 2014, the SCAQMD amended Rule 1420.1 to establish emission limits for arsenic, benzene, and 1,3-butadiene. Amendments also included requirements for an arsenic ambient concentration limit, additional reporting requirements, and requirements to maintain negative pressure for smelting furnaces.

PUBLIC PROCESS

The SCAQMD staff worked with stakeholders for this proposed amendment. The ~~P~~proposed amendment was focused on implementation of a CEMS demonstration program. A public ~~workshop~~ consultation meeting for PAR 1420.1 was held on February 19, 2014 at the SCAQMD Headquarters in Diamond Bar.

AFFECTED INDUSTRIES

PAR 1420.1 applies to large lead-acid battery recycling facilities that process more than 50,000 tons of lead annually. Currently there are only two facilities subject to Rule 1420.1 in the Basin: Exide Technologies located in Vernon, and Quemetco Inc. located in the City of Industry. Both facilities are currently permitted to process approximately 600 tons of lead per day through a combination of smelting furnaces.

MULTI-METAL CONTINUOUS EMISSIONS MONITORING SYSTEMS

Multi-metals continuous emissions monitoring systems (CEMS) are sampling devices that are able to monitor in-stack hazardous air pollutant metal emissions. Cooper Environmental Services LLC has developed the Xact 640 which is a multi-metals CEMS that uses reel to reel filter tape sampling and X-ray fluorescence (XRF) analysis to monitor stack hazardous metal emissions. Vapor phase and particulate matter are deposited on the filter tape. The deposit is automatically advanced and analyzed by XRF for selected metals as the next sample is being collected. Sampling and analysis are performed continuously and simultaneously. The Xact 640 is capable of sampling more than 20 key air toxic metals. The Xact 640 is the only multi-metal CEMS commercially available.

CHAPTER 2: SUMMARY OF PROPOSED AMENDED RULE 1420.1

OVERVIEW

PROPOSED AMENDED RULE 1420.1

OVERVIEW

PAR 1420.1 will require large lead-acid battery recycling facilities to participate in a multi-metals CEMS demonstration program. The proposed amended rule also adds some clarifying language that requires the affected facilities to reimburse SCAQMD for funds spent to deploy independent third-party contractors who conduct investigations of unplanned shutdowns.

PROPOSED AMENDED RULE 1420.1

Proposed amendments to Rule 1420.1 are focused on two areas: subdivision d and n. Subdivision (d) deals with general requirements and subdivision (n) specifies reporting requirements. There are no other proposed changes to any of the other subdivisions of Rule 1420.1.

Subdivision (d) – Requirements

Demonstration Program for Continuous Monitoring of Multi-Metals

PAR 1420.1 includes a provision ~~for~~ that the owner or operator of a large lead-acid battery recycling facility shall fund and participate in a multi-metal CEMS demonstration program to continuously monitor lead, arsenic, and other metals emitted from a stack within its facility for a time period specified by the District. During the rulemaking process for the January amendment to Rule 1420.1, the SCAQMD staff received comments that more specificity was needed to implement a multi-metals CEMS demonstration program. The SCAQMD staff also received comments that because there is only one provider of a multi-metals CEMS, Cooper Environmental Services, that there could be an increase in the cost to implement such a program.

The SCAQMD staff has revised the proposed demonstration program such that affected facilities will fund a multi-metals CEMS demonstration program that will be managed by SCAQMD staff. Upon Governing Board approval, the SCAQMD staff will enter into a sole-source contract with Cooper Environmental Services to build, install, maintain, and subsequently decommission a multi-metals CEMS that will be used at each large lead acid battery recycling facility. The SCAQMD staff will rent an Xact 640 Multi-Metals Continuous Emissions Monitor that will be built by Cooper Environmental. The Xact 640 is capable of monitoring 23 metals, which includes lead, arsenic, cadmium, nickel, and chromium. Xact 640 will reside at each facility for a period of time specified by the SCAQMD, but will not exceed a combined total of ten months at both faculties. It is anticipated that the duration of time at each facility will be five months. However, the SCAQMD staff may specify different times at each facility if needed. During demonstration, the SCAQMD staff will conduct parallel emissions testing to compare results from the Xact 640 with actual source testing. The purpose of the demonstration program will be to gather additional emissions data and assess ~~if the Xact can be used as an additional compliance tool to verify emissions from large lead-acid battery recycling on a more continuous basis~~ the utility of the multi-metals CEMS for large lead-acid battery recycling facilities.

PAR 1420.1 requires that each affected facility:

- Submit payment to the District for the District or its contractor to assemble, install, maintain, train, test, analyze, and decommission a multi-metals CEMS demonstration program according to the following amounts and schedule:
    - $63,500 by April 1, 2014; and an additional
    - $143,225 by September 1, 2014
- Provide ~~continuous~~ facility access to District personnel and its contractors to deliver, assemble, install, monitor, maintain, test, analyze and decommission a multi-metals CEMS;
- Provide the necessary location and infrastructure for the multi-metals CEMS including:
    - siting location with sufficient spacing and clearance and structural support
    - electric power circuits;
    - compressed air;
    - sampling port(s);
    - wireless modem connection to data unit and instrument PC;
    - any necessary moving, lifting equipment and personnel to operate such equipment in order to install system;
    - personnel to conduct routine maintenance of unit; and
    - day to day instrument operation.

The SCAQMD will a~~cc~~ssess the ~~viability~~ utility of the Xact 640 ~~to be used as a compliance tool for Rule 1420.1 facilities~~ for large lead-acid battery recycling facilities. The SCAQMD staff will report to the Stationary Source Committee within ~~six~~ three months of completion of the demonstration program on preliminary~~overall~~ results of the multi-metals CEMS demonstration program, including the accuracy of the Xact 640 compared to traditional source test~~ed emissions~~, ease of use, cost, maintenance, and reliability.

The SCAQMD staff has developed a work plan for the multi-metals CEMS demonstration program (see Appendix B). The multi-metals CEMS demonstration program work plan includes, but is not limited to, the following components:

- A general timeline for the demonstration program, including key milestones, such as CEMS deployment, data review, data sharing, and facility input and comments;
- Specifications for physical requirements for installation of the multi-metals CEMS;
- Description of roles and responsibilities of the affected stakeholders;
- Procedures and requirements for data management and review; and
- Criteria for evaluating the accuracy, reliability and potential future use of multi-metals CEMS.

Reporting – Subdivision (n)

Independent Third Party Verification

In order to help prevent recurring unplanned shutdowns of emission control devices, Rule 1420.1 paragraph (n)(2)(B) requires the "use of an independent third party approved by the Executive Officer to inspect all equipment repaired or replaced in response to the unplanned shutdown of emission control equipment, to ensure affected control equipment can operate properly." To implement this provision, the SCAQMD will develop a list approved contractors that must be

used to conduct these investigations. The SCAQMD staff will contract with the approved contractors and will pay the contractors directly. PAR 1420.1 is being modified to clarify that the large lead-acid battery recycling facility must reimburse the SCAQMD in the event a contractor is hired to conduct an investigation of why an unplanned shutdown of pollution control equipment occurred.

The owner or operator shall be responsible for reimbursement to the District for any and all expenses incurred by the independent third-party investigator in the investigation, inspection, and generation of a written report to determine the cause of an unplanned shutdown of any emission control equipment subject to this rule, as required by subparagraph (n)(2)(B). The proposed amended rule also specifies that the cost associated with reimbursement to the District for each investigation shall not exceed $12,000. The owner or operator shall reimburse the District within 30 days of notification from the Executive Officer that payment is due.

CHAPTER 3: IMPACT ASSESSMENT

IMPACT ASSESSMENT FOR PROPOSED AMENDMENT RULE 1420.1

CALIFORNIA ENVIRONMENTAL QUALITY ACT

SOCIOECONOMIC ASSESSMENT

FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727

COMPARATIVE ANALYSIS

IMPACT ASSESSMENT FOR PROPOSED AMENDED RULE 1420.1

A technical analysis of the impacts of requirements for facilities subject to PAR 1420.1 has been conducted to evaluate potential economic and environmental impacts of PAR 1420.1. The impact analysis is based on funding and participation in the multi-metals CEMS demonstration program. Implementation of the multi-metals CEMS demonstration program will not result in emission reductions, but if successful may be used in the future as a compliance tool to monitor on a more continuous basis emissions from large lead-acid battery recycling facilities. The cost impacts of requiring facilities to reimburse the SCAQMD for the costs to conduct independent third-party investigations are also estimated.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

SCAQMD staff has reviewed the proposed amendments to Rule 1420.1 pursuant to CEQA Guidelines §15002(k) - Three Step Process, and CEQA Guidelines §15061(a) – Review for Exemption, and has determined that the proposed amendments are exempt from CEQA pursuant to CEQA Guidelines §15306 – Information Collection, because the multi-metal continuous emissions monitoring system and the investigation, inspection and generation of a written report to determine the cause of an unplanned shutdown of any emission control equipment subject to PAR 1420.1 would collect basic data, which would not result in a serious or major disturbance to an environmental resource. These requirements are strictly for information gathering purposes that could lead to an action which a public agency has not yet approved, adopted, or funded. CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges also applies because PAR 1420.1 would collect fees for the SCAQMD or its contractor to assemble, install, maintain, train, test, analyze and decommission a multi- metal continuous emissions monitoring system for use in the SCAQMD area of jurisdiction; and to reimburse SCAQMD for any and all expenses incurred by the independent third-party investigator in the investigation, inspection and generation of a written report. These fees would be for the purpose of recovering cost for operating expenses; and purchasing or leasing supplies, equipment or materials. The multi-metal continuous emissions monitoring system and the investigation, inspection and generation of a written report would not create any significant adverse effects on air quality or any other environmental areas. Since it can be seen with certainty that the proposed project has no potential to adversely affect air quality or any other environmental area, PAR1420.1 is also exempt from CEQA pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption.

SOCIOECONOMIC ASSESSMENT

A socioeconomic analysis was conducted to assess the impacts of the proposed amendments to Rule (PAR) 1420.1—Emissions Standard for Lead and Other Toxic Contaminants from Large Lead-Acid Battery Recycling Facilities. The Final Socioeconomic Analysis for the January 10, 2014 amendments included analysis of the costs associated with submittal of a compliance schedule and permit applications, additional source testing, additional ambient air monitoring, installation of control equipment and pressure monitoring devices, and implementation of a multi-metals continuous emissions monitoring system (CEMS) demonstration program. In the January Socioeconomic Analysis, SCAQMD staff estimated the capital and installation cost for the purchase of a multi-metals CEMS to be $313,238 and annual operating and maintenance cost were estimated at $59,800. At the January 10, 2014 Governing Board meeting, SCAQMD staff

recommended that the multi-metals CEMS provision be excluded from the amendments in order to allow staff additional time to work with stakeholders to further refine the CEMS requirements. SCAQMD staff has worked with affected stakeholders, including the multi-metals CEMS manufacturer, the affected facilities, environmental groups, and community groups, to develop the proposed amendments regarding implementation of a multi-metals CEMS demonstration program. This socioeconomic analysis updates the Final Socioeconomic Analysis for amendments to Rule 1420.1 adopted on January 10, 2014, based on the revised proposed amendments requiring implementation of a multi-metals CEMS demonstration program and updated cost information from the CEMS vendor.

The proposed amendments apply to lead-acid battery recycling facilities that process more than 50,000 tons of lead annually. Currently there are only two facilities subject to Rule 1420.1 in the SCAQMD. Exide Technologies is located in Vernon (Los Angeles County) and Quemetco, Inc. is located in the City of Industry (Los Angeles County). These two facilities belong to the industry of secondary lead smelting, refining, and alloying of nonferrous metal [North American Industrial Classification System (NAICS) 331492] where spent lead-acid batteries, mostly automotive, and other lead-bearing materials are received from various sources and processed to recover lead, plastics, and acids. The process mainly involves the sorting, melting, and refining of lead from lead-acid batteries, which ultimately produces lead ingots that are then sold to other entities or used by the company in manufacturing batteries.

The proposed amendments would require the affected facilities to participate in and fund a multi-metals continuous emissions monitoring system (CEMS) demonstration program. Under PAR 1420.1, the owner or operator of a large lead-acid battery recycling facility must participate in a demonstration program to continuously monitor lead, arsenic, and other metals from a single stack within their facility. The proposed demonstration program is anticipated to take place over a period of five months at each facility and would be initiated by the SCAQMD. However, staff may vary the time required at each facility if deemed necessary. Upon Governing Board approval, the SCAQMD staff will enter into a sole-source contract with Cooper Environmental Services to build, install, maintain, and decommission a multi-metals CEMS that will be used at each large lead acid battery recycling facility. The SCAQMD staff will rent an Xact 640 Multi-Metals Continous Emissions Monitor that will be built by Cooper Environmental. Although the proposed demonstration program would be implemented by SCAQMD staff, the affected facilities would be responsible to fund the multi-metals CEMS demonstration program. Each affected facility would be required to submit monies in the amounts of $63,500 by April 1, 2014 and $143,225 by September 1, 2014, to the Executive Officer for District and/or its contractor to build, install, maintain, test, provide training, and decommission the multi-metals CEMS. PAR 1420.1 requires additional requirements of the facility such as providing electrical circuits, testing ports, and compressed air. If a contractor is needed, it is estimated that four days, at eight hours per day would be needed to complete the work. The estimated cost for a contractor is not expected to exceed $100 per hour. The total additional cost for site requirements to support the multi-metals CEMS is $3,200 per facility. A summary of cost data is provided in Table 3-1. A compete quote of costs provided by the CEMS vendor is included in Appendix C.

Table 3-1
Multi-Metals CEMS Demonstration Program Costs

Cost Category	Cost
Multi-Metals CEMS rental (5 months at each site)	$191,250
One-time Fixed Equipment Costs	$81,209
Installation, Project Commissioning, and Training	$101,820
Annual Maintenance	$15,402
Project Decommissioning	$23,770
Total Project Cost	**$413,451**

PAR 1420.1 would also require the affected facilities to bear responsibility for any expenses incurred when a third party investigator is retained to investigate and report on the reasons for an unplanned shutdown of air pollution control equipment, as required under subparagraph (n)(2)(B). This provision requires the "use of an independent third party approved by the Executive Officer to inspect all equipment repaired or replaced in response to the unplanned shutdown of emission control equipment, to ensure affected control equipment can operate properly." To implement this provision, the SCAQMD will develop a list of approved contractors that must be used to conduct these investigations. The SCAQMD staff will contract with the approved contractors and will pay the contractors directly. The proposed amendments clarify that the large lead-acid battery recycling facility must reimburse the SCAQMD in the event a contractor is hired to conduct an investigation of why an unplanned shutdown of pollution control equipment occurred. The third party investigation is needed only if the facility cannot identify the reason for the unplanned shutdown of pollution control equipment, so it is uncertain how often this will occur. SCAQMD staff estimates that the costs associated with hiring a third party investigator could range from $6,000 to $12,000 per investigation, including the report submittal. This cost range is based on an hourly wage rate of $150/hour for consultant services and assumed labor of 40 to 80 hours per investigation and report submittal. The proposed amended rule includes a cost ceiling of $12,000 per investigation. The owner or operator shall reimburse the District within 30 days of notification from the Executive that payment is due.

FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727

Requirements to Make Findings

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.

Necessity
The SCAQMD Governing Board finds and determines that a need exists to adopt Proposed Amended Rule 1420.1 because additional tools are needed to monitor on a more continuous basis emissions from large lead-acid battery recycling facilities. In addition, it is necessary to add clarifying language to Rule 1420.1 in order for the SCAQMD to be reimbursed for third-party investigations on unplanned shutdowns at affected facilities.

Authority
The SCAQMD Governing Board has authority to adopt Proposed Amended Rule 1420.1 pursuant to the California Health and Safety Code Sections 39002, 39650 et. seq., 40000, 40001, 40440, 40441, 40510, 40702, 40725 through 40728, 41508, 41511, 41700, 41706, 42303, 42408, 42700, 42708, and 44390 through 44394.

Clarity
PAR 1420.1 is written or displayed so that its meaning can be easily understood by the persons directly affected by it.

Consistency
PAR 1420.1 is in harmony with and not in conflict with or contradictory to, existing statutes, court decisions or state or federal regulations.

Non-Duplication
PAR 1420.1 will not impose the same requirements as any existing state or federal regulations. The proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD.

Reference
By adopting PAR 1420.1, the SCAQMD Governing Board will be implementing, interpreting or making specific the provisions of the California Health and Safety Code Sections 39002 & 40000 (control of emissions from non-vehicular sources), 40001 (rules to achieve and maintain ambient air quality standards), 40510 (fees for planning, enforcement, and monitoring related to permitted sources), 41511 (information regarding amount of emissions), 41700 (nuisance), 41706(b) (emission standards for lead compounds from non-vehicular sources), 42700 and 42708 (monitoring devices), and Federal Clean Air Act Section 112 (Hazardous Air Pollutants).

COMPARATIVE ANALYSIS
Health and Safety Code section 40727.2 requires a comparative analysis of the new provisions of the proposed amended rule with any rules and regulations applicable to the same source.

Table 3-2: Comparison of PAR 1420.1 with SCAQMD Rule 1420 & 1407, and the NESHAP for Secondary Lead Smelters

Rule Element	PAR 1420.1	SCAQMD Rule 1420	SCAQMD Rule 1407	NESHAP from Secondary Lead Smelting
Multi-metals Demonstration	On or before July 1, 2014, the owner or operator shall	None	None	None

Rule Element	PAR 1420.1	SCAQMD Rule 1420	SCAQMD Rule 1407	NESHAP from Secondary Lead Smelting
Program	fund and participate in a multi-metals continuous emissions monitoring demonstration program.			
Independent Third Party Investigation of Unplanned Shutdown of Emission Control Devices	The owner or operator shall reimburse the SCAQMD if the SCAQMD contracts with an independent third party to conduct an investigation of any unplanned shutdown of any emission control device that the owner or operator does not know the cause.	None	None	None

REFERENCES

REFERENCES

"Air Toxics Hot Spots Risk Assessment Guidelines Technical Support Document For the Derivation of Noncancer Reference Exposure Levels," Office of Environmental Health Hazard Assessment, California Environmental Protection Agency, 2008.

ATSDR, 2007. "Toxicological Profile for Arsenic," U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, September 2012.

ATSDR, 2012. Toxicological Profile For 1,3-Butadiene. U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry

"Annual Report on AB 2588 Air Toxics "Hot Spots" Program," South Coast Air Quality Management District, April 2010.

NTP. 2011. Report on Carcinogens, Twelfth Edition. Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program.

OEHHA 2008a. Inorganic Arsenic Reference Exposure Levels, Technical Support Document for the Derivation of Noncancer Reference Exposure Levels Appendix D1: Summaries Using This Version of the Hot Spots Risk Assessment Guidelines. Office of Environmental Health Hazard Assessment, California Environmental Protection Agency.

OEHHA 2008b. Acute Toxicity Summary, Benzene, Technical Support Document for the Derivation of Noncancer Reference Exposure Levels Appendix D2: Acute RELs and Toxicity Summaries Using the Previous Version Of The Hot Spots Risk Assessment Guidelines. Office of Environmental Health Hazard Assessment, California Environmental Protection Agency.

"Public Notification Procedures for Phase I and II Facilities under the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB2588)," South Coast Air Quality Management District, July 1994.

"Secondary Lead Smelter eTool," United States Department of Labor, Occupational Safety and Health Administration, *(http://www.osha.gov/SLTC/etools/leadsmelter/index.html).*

"Staff Report for Proposed Rule 1420.1: Emissions Standard for Lead from Large Lead-acid Battery Recycling Facilities," South Coast Air Quality Management District, November 2010.

"Source Test Report 13-307 and 13-308; Exide Technologies; Multiple Metals and Toxic Organic Emissions from the Hard and Soft Lead Baghouse Exhaust Stacks," South Coast Air Quality Management District, August/September 2013.

"Source Test ID R12445; Exide Technologies, Hard Lead Baghouse & Neptune Scrubber Source Test Report," South Coast Air Quality Management District, May-June 2012.

"Source Test ID PR10312; Exide Technologies, Secondary Lead Smelting Source Test Report," South Coast Air Quality Management District, November-December 2010; January, March, September 2011.

"Source Test Report 13-309; Quemetco Inc.; Arsenic, Lead, Benzene, and 1,3-Butadiene Emissions from the Wet Electrostatic Precipitator (WESP) and Room Ventilator Baghouse Exhaust Stacks of a Battery Recycling Facility," South Coast Air Quality Management District, October/November 2013.

"Source Test ID 13031; Quemetco Inc., WESP Air Toxics Testing," South Coast Air Quality Management District, October 2012.

"Source Test ID R11078; Quemetco Inc. WESP Air Toxics Testing," South Coast Air Quality Management District, November 2010.

"Source Test ID PR08413; Quemetco Inc. WESP Air Toxics Testing," South Coast Air Quality Management District, November 2008/March 2009.

"Source Test ID R10010; Quemetco Inc. WESP Air Toxics Testing," South Coast Air Quality Management District, October 2008.

"Source Test ID R13502; Quemetco Inc., Baghouses Source Test Report," South Coast Air Quality Management District, April 2013.

"Source Test ID R12478; Quemetco Inc., Busch Units Source Test Report," South Coast Air Quality Management District, February 2012.

"Source Test ID R11534; Quemetco Inc. Busch Units Source Test Report," South Coast Air Quality Management District, April 2011.

"Source Test ID R10192; Quemetco Inc., Busch Units Source Test Report," South Coast Air Quality Management District, February 2010.

"Source Test ID PR09105; Quemetco Inc., Busch Units Source Test Report," South Coast Air Quality Management District, April/May 2009.

Xact 640 Multi-Metals Continuous Emission Monitor Rental Quote," Estimate # SCAQMD02052014, Cooper Environmental Services, LLC., February 5, 2014.

APPENDIX A: COMMENTS AND RESPONSES

Response to Comments

1) **Comment:** The commenter asked for clarification regarding the timeframes for the metals sampling.

Response: The multi-metals CEMS will collect samples on a continuous basis at 15-minute intervals. Staff will analyze the preliminary sampling results and may modify the sampling interval to 30 minutes, if deemed necessary.

2) **Comment:** The commenter expressed concerns regarding potential "open ended" costs for the third party investigations of unplanned shutdowns. The commenter suggested that the rule incorporate a "ceiling" for costs for the inspections and that the rule should include language stating that the affected facilities only pay for "reasonable expenses" associated with the inspections.

Response: The amendments adopted on January 10, 2014 provide a detailed listing of responsibilities that each contractor has to incorporate into their investigation, such as physical inspection of the control equipment and surrounding portions of the facility; review of equipment maintenance and operation records, logs, and other documentation which may provide information to understand the reason(s) for the unplanned shutdown; inspection of all equipment repaired or replaced in response to the unplanned shutdown; and submission of a written report. Therefore, the contractor duties are self limiting. However, the SCAQMD staff has incorporated language in PAR 1420.1 that limits the reimbursement costs to $12,000 per investigation.

3) **Comment:** The District should also add language that allows the affected facility to object and withhold payment as to any amount above $12,000, and/or the third-party investigator should have to justify the cost above $12,000. The District estimates that the cost for any given investigation may be between $6,000 to $12,000. It is therefore fair and appropriate to set a cost parameter on that basis.

Response: SCAQMD staff estimates that the costs associated with hiring a third party investigator could range from $6,000 to $12,000 per investigation, including the report submittal. This cost range is based on an hourly wage rate of $150/hour for consultant services and assumed labor of 40 to 80 hours per investigation and report submittal. The commenter is also referred to the response to comment #2.

4) **Comment:** The commenter asked if the SCAQMD will be considering amendment of the Rule 1420.1 point source emission limit for lead.

Response: The current proposed amendments to Rule 1420.1 focus only on the multi-metals CEMS demonstration program and the third party inspections of

unplanned shutdowns. SCAQMD staff will initiate a separate rulemaking effort to evaluate the feasibility of amending the Rule 1420.1 point source emission rate limit for lead and/or the ambient concentration limit for lead.

5) **Comment:** The commenter asked if the multi-metals CEMS would be capable of measuring gaseous arsenic emissions.

Response: The multi-metals CEMS vendor has indicated that the instrument has features which would enable the measurement of some gaseous forms of arsenic and other metals. The purpose of the demonstration program is for SCAQMD staff to evaluate the efficacy of the multi-metals CEMS. During the demonstration program, SCAQMD will conduct concurrent source testing to compare results from the CEMS with actual source testing.

6) **Comment:** The District imposes a fee on each facility, but provides no calculations, data, vendor quotations or other support for the proposed fee. This information should be provided. Exide has the following specific questions: Does the fee cover the entire demonstration program (estimated in the staff report to last 5 months at each facility)? Exide submits that the fee should cover any stack testing to confirm and validate the CEMS, and any other fees incurred by Cooper or the District. It is not clear from Table 3-1 of the Draft Staff Report supporting this PAR that the cost of the testing (by District staff or a District-retained contractor) is included in the program cost or fees assessed on the facilities, yet inclusion of "test" is explicitly stated on Page 3-2 of the Draft Staff Report. Can all or part of the fee be used towards the purchase of the Xact 640 System? If not, Exide submits that the fee is excessive for a demonstration program.

Response: Table 3-1 of the staff report summarizes the costs of the demonstration program. However, the SCAQMD staff has included a complete quote of costs provided by the CEMS vendor in Appendix C. PAR 1420.1 includes a provision that the total cost to each facility is not to exceed $206,725. This amount is paid in two installments: one on or before April 1, 2014 in the amount of $63,500 and one no later than September 1, 2014 in the amount $143,225. The first amount is meant to cover the District's expenses related to initiating the building of the CEMS unit, while the remaining amount will cover the District's costs to lease, operate and maintain the unit at each facility. In-kind services such as parallel source testing conducted by SCAQMD staff to verify the accuracy of the CEMS is not part of the not-to-exceed dollar amount and as such, the facilities are not expected to pay for this analysis. However, if the facilities wish to perform their own source testing in tandem with SCAQMD source testing, then those costs would be the responsibility of each facility.

In regards to whether the program participation fee can be used towards the purchase of the CEMS unit, the CEMS vendor has also provided lease to own

costs as well and shown in the quote in Appendix C. If at the end of the demonstration, one of the facilities wants to purchase the Xact 640 we would work to pass the savings to both facilities.

7) **Comment:** The District set a 2/21/14 deadline for public comments, yet in the 2/19/14 working group meeting the District referenced that a Guidance Document would be released next week after the comment period ends. The PowerPoint provided by the District also states that a "work plan" will be included in the Staff Report (it is not clear if this "work plan" is the same as the forthcoming "Guidance Document"). Exide specifically reserves its right to comment on any "work plan" or "Guidance Document" that is presented after the comment deadline, especially if such a document will have relevant details on the CEMS and the emissions to be monitored. If the affected facilities will be mandated to pay over $200,000, then the affected facilities have a right to know what they are buying before the comment period ends.

Response: The Commenter is correct in that the SCAQMD developed an initial Multi-Metal CEMS Work Plan. This document is included as an appendix to the PAR 1420.1 Staff Report and covers the basic deliverables, timelines, responsibilities, and evaluation criteria for the multi-metals CEMS demonstration program. The two documents that the commenter references are one in the same (i.e., Work Plan). While comments on PAR 1420.1 and accompanying draft documents are due on February 21, 2014, affected facilities and interested parties may continue to provide comments through the Clerk of the Board's office as part of the public hearing commenting process up to and on the day of the Public Hearing.

8) **Comment:** District staff indicated at the working group meeting that the CEMS may only monitor particulate phase emissions but not gaseous phase emissions. The demonstration program, given its stated cost, should be able to measure both particulate and gaseous phase emissions, otherwise Exide questions the value of the exercise. We point out specifically that the DSR states at page 1-2 that "vapor phase and particulate matter are deposited on the filter tape." It is important to study arsenic in the unfilterable fraction and this demonstration program must involve monitoring technology addressing that phenomenon.

Response: The multi-metals CEMS demonstration program will evaluate the effectiveness of the in-stack CEMS unit in detecting and measuring certain metals in both the vapor (gaseous) and particulate phase. The SCAQMD staff agrees with the commenter that this is an important feature of the demonstration program and it will be evaluated.

9) **Comment:** Please confirm that, since this is a pilot program, data from the demonstration will not be used in enforcement action against the affected facilities.

Response: The purpose of the demonstration program will be to gather additional emissions data and assess the utility of the multi-metals CEMS for large lead-acid battery recycling facilities. Data collected from the multi-metals CEMS during the demonstration program will not be used for a compliance tool. However, data collected by other means such as from source testing as part of the demonstration program, may be used for compliance purposes.

APPENDIX B: MULTI-METALS CEMS DEMONSTRATION PROGRAM WORK PLAN

Work Plan
Multi-Metals Continuous Emissions Monitoring System (CEMS) Demonstration Program

Background

This work plan has been developed to summarize the responsibilities, commitments, and evaluation process of the multi-metals continuous emissions monitoring system (CEMS) demonstration program at large lead-acid battery recycling facilities as required under Proposed Amended Rule (PAR) 1420.1. PAR 1420.1 would require large lead-acid battery recycling facilities to fund and participate in a multi-metals CEMS demonstration program. The goal of the demonstration project is to gather additional emissions data and determine if the CEMS is a feasible and effective means of continuously monitoring lead, arsenic and other toxic metals.

The instrument that will be evaluated is the Xact 640 multi-metals continuous emissions monitoring system (CEMS) built by Cooper Environmental Services, LLC ("Cooper"). The District will contract with Cooper to build, transport, install, maintain, and remove the Xact 640. The instrument will be installed at each of the two large lead-acid battery recycling facilities (Exide Technologies, Inc. and Quemetco, Inc.) for a total of ten months at both locations. The monitor will reside at each location for approximately five months; however, staff may vary the time required at each facility if deemed necessary.

Anticipated Project Timeline, Key Deliverables, and Responsibilities

The following is an anticipated timeline with key deliverables and responsibilities for the SCAQMD, Cooper Environmental, and the affected large lead-acid battery recycling facilities. The overall timeline is contingent on the approval of amendments to Rule 1420.1. In addition, the timeline may shift based on the actual date the contract is signed and the date the SCAQMD receives funds from the large lead-acid battery recycling facilities. Other dates may also shift depending on the timeframe for building and installing the multi-metals CEMS. The date sprovided below are general estimates based on information provided to the SCAQMD by Cooper Environmental Services, LLC.

March 7, 2014

PAR 1420.1 will be presented to the SCAQMD Governing Board for approval on March 7, 2014. Contingent on approval of PAR 1420.1, staff will recommend that the Governing Board approve a contract with Cooper Environmental Services, LLC to conduct a multi-metals CEMS demonstration program.

April 1, 2014

Initial payment of funds, as required by Rule 1420.1 (d)(8)(A)(i).

- Exide Technologies, Inc. and Quemetco, Inc. shall each remit payment of $63,500 to reimburse the District and its contractor to assemble, install, maintain, train, test, analyze, and decommission a multi-metals CEMS for use in a demonstration program.

- SCAQMD will remit payment in the amount of $126,209 (i.e., "down payment") to Cooper Environmental Services, LLC to initiate fabrication of one Xact 640 multi-metals CEMS unit. This will represent the initial step to begin implementation of the multi-metals CEMS demonstration program.

Demonstration Program Phase I - April – September 2014

Fabrication and assembly of one Cooper Environmental Xact 640 multi-metals CEMS unit.

- Cooper Environmental Services, LLC will provide the SCAQMD with written specifications for the siting, installation, and operational needs for each facility to accommodate the CEMS unit, including:
    - Siting location needs, such as spacing, clearance, and structural support
    - Electric power requirements
    - Compressed air requirements
    - Sampling port specifications
    - Wireless modem connection requirements
    - Personnel and equipment required for installation

- Upon receipt of the final siting, installation, and operational specifications for the CEMS installation, the SCAQMD will convey this information to Exide Technologies, Inc. and Quemetco, Inc.

- Exide Technologies, Inc. and Quemetco, Inc. shall be responsible for providing the necessary location, infrastructure, and equipment for the installation of the multi-metals CEMS, including:
    - Siting location with sufficient spacing, clearance, and structural support
    - Electric power circuits
    - Compressed air
    - Sampling port(s)
    - Access to wireless modem connection to data unit and instrument computer
    - Equipment and labor to lift instrument into position

- Prior to installation of the multi-metals CEMS, Cooper and SCAQMD staff will schedule a "Kickoff Meeting" and site visit at each facility to discuss topics including, but not limited to:
    - Status of location, infrastructure, equipment, and labor necessary for the installation of the CEMS.

- Preliminary schedule and logistics for the CEMS installation, including the sequence of which large lead acid battery recycling facility will be "Site 1" and Site 2."
- Establishment of training schedule for personnel to be involved in the operation of the multi-metals CEMS.

Demonstration Program Phase II – September 2014

Final payment and installation of one Cooper Environmental Xact 640 multi-metals CEMS unit at Site #1.

- Exide Technologies, Inc. and Quemetco, Inc. shall each remit final payment of $143,225 to the SCAQMD in order to fund the multi-metals demonstration program.

- Exide Technologies, Inc. and Quemetco, Inc. shall provide facility access to District personnel and its contractors to deliver, assemble, monitor, maintain, test, and analyze the multi-metals CEMS.

- Cooper Environmental Services, LLC shall provide the equipment and labor (excluding any moving or lifting equipment and personnel necessary to operate such equipment in order to install the system) to deliver, install, and maintain one Xact 640 multi-metals CEMS and all necessary accessories at Site #1.

- Cooper Environmental Services, LLC shall provide the equipment and labor to calibrate, adjust, or repair the multi-metals CEMS at Site #1, including Quantitative Aerosol Generator (QAG) testing or other assessments.

- Following installation of the Xact 640 at Site #1, Cooper will provide training for personnel involved in the operation of the CEMS unit.

- SCAQMD staff will oversee the multi-metals CEMS demonstration program and will conduct the necessary data retrieval, analysis, and concurrent source testing.

- SCAQMD staff will perform tasks necessary for normal operation of the multi-metals CEMS, including periodic replacement of filter tape.

- Exide Technologies, Inc. and Quemetco, Inc. will be responsible for providing, upon adequate notification by SCAQMD staff, assistance with day-to-day instrument operation.

Demonstration Program Phase III – February 2015

Decommissioning Site #1 and transfer of CEMS to Site #2.

- Exide Technologies, Inc. and Quemetco, Inc. shall provide facility access to District personnel and its contractors to deliver, assemble, install, monitor, maintain, test, analyze, and decommission the multi-metals CEMS.

- Cooper Environmental Services, LLC will provide the equipment and labor (excluding any moving or lifting equipment and personnel necessary to operate such equipment in order to decommission or install the system) to decommission the CEMS at Site #1 and deliver, install, and maintain the CEMS at Site #2.

- Cooper Environmental Services, LLC shall provide the equipment and labor to calibrate, adjust, or repair the multi-metals CEMS at Site #2, including Quantitative Aerosol Generator (QAG) testing or other assessments.

- Following installation of the Xact 640 at Site #2, Cooper will provide training for personnel involved in the operation of the CEMS unit.

- SCAQMD staff will oversee the multi-metals CEMS demonstration program and will conduct the necessary data retrieval, analysis, and concurrent source testing.

- SCAQMD staff will perform tasks necessary for normal operation of the multi-metals CEMS, including replacement of filter tape.

- Exide Technologies, Inc. and Quemetco, Inc. will be responsible for providing, upon adequate notification by SCAQMD staff, assistance with day-to-day instrument operation.

Demonstration Program Phase IV – June 2015

Decommissioning Site #2 and final performance determination.

- Cooper Environmental Services, LLC will provide the equipment and labor (excluding any moving or lifting equipment and personnel necessary to operate such equipment in order to decommission the system) to decommission the CEMS at Site #2.

Criteria for Evaluating the Accuracy, Reliability and Performance of Multi-Metals CEMS

Instrument performance parameters to be evaluated will include, but not be limited to, accuracy, reliability, detection limits (as a function of sample duration, e.g. 15 and 30 minutes), drift, ease of use, adequacy of QA/QC procedures, and maintenance and operational needs.

The following are the methods that will be used to evaluate the Xact 640 performance:

- Accuracy: Accuracy will be determined in two ways. At least once at each facility, particulates of known metal concentrations will be generated and introduced into the instrument sampling line. The particulates will be generated using liquid solutions that will

be provided by both Cooper Environmental Services, LLC and SCAQMD. The SCAQMD solution will be provided to Cooper Environmental Services, LLC staff that will generate the particulate stream which will challenge the instrument, but the concentration of the SCAQMD solution will be blind to Cooper Environmental Services, LLC staff. The facilities will also have the opportunity to provide blind solutions to challenge the CEMS. Accuracy will be assessed in terms of measured concentrations for various metals, with emphasis on lead and arsenic, over each of the sampling times (15 and 30 minutes) for different generated particles. SCAQMD staff will also conduct source tests using traditional, time-integrated methods in parallel with the operation of the Xact 640 to further determine accuracy. These source tests will be conducted in triplicate over a 4 to 8 hour period and will be compared to data generated by the instrument over the same time frame.

- Reliability (Data Capture): Reliability will be measured as the time useful data is captured as compared to total time that the instrument should have been generating data, expressed as a percentage.

- Detection Limits: The evaluation goal for this category is to determine the highest time resolution possible while still generating reliable data that is well within the analytical range of the instrument. The Xact 640 has the ability to collect samples in 15, 30 and 60 minute intervals before analysis. Better detection levels are achieved with increased sampling time, but this sacrifices the information that is provided by higher time resolution.

- Drift: The instrument's drift will be determined over a seven day period relative to its lower detection limit. Specific types of drift that will be evaluated are flow drift and upscale and zero drift.
  - Flow Drift: the sample flow as measured by the Xact's flow sensor is checked automatically once per day against an internal standard flow sensor calibrated with the NIST-traceable DryCal®. The deviation between these two sensors will be evaluated.
  - Upscale and Zero Drift Checks: the Xact's mass measurement component is checked automatically once each day during testing using blank tape and an internal QC standard. During the zero drift check, the XRF sensor analyzes a section of blank filter tape (i.e. tape that does not have any sample on it). During the upscale drift check, the XRF sensor analyzes a standard containing known masses of different measured metals.

- Automated Quality Control/Quality Assurance (QA/QC) functions: The evaluation shall include whether the instrument successfully performs a series of drift checks automatically. For each day of operation, the Xact must pass the following three checks to ensure the data from that day is valid. The three checks are the zero drift, upscale drift, and flow drift checks previously described.

- Ease of use: Parameters to judge ease of use will include training requirements, level of expertise needed, data retrieval procedures, sampling tape change out procedures, instrument parameter changes, and completeness of documentation and users manuals.

- Maintenance and operational needs: In addition to the objective quantitative criteria listed above, the SCAQMD will evaluate the maintenance and operational needs of the CEMS. This evaluation criteria will be based on the frequency and level of non-routine maintenance, breakdowns and repairs needed for the continued successful operation of the CEMS instrumentation throughout the deployment period at each facility.

APPENDIX C: MULTI-METALS CEMS QUOTE

COOPER ENVIRONMENTAL SERVICES, LLC
10180 S. W. Nimbus Ave. Suite J6
Portland, OR 97223 U.S.A
Phone (503) 670-9215 Fax (503) 624-2120
www.cooperenvironmental.com

Quote

DATE	2/5/2014
Estimate #	SCAQMD02052014
CUSTOMER ID	SCAQMD
VALID UNTIL:	5/6/2014

Quote Prepared For:
Contact: Philip Fine
Address: 21865 Copley Drive, Dimond Bar, CA 91765
Phone: 310-486-4295
Email: pfine@aqmd.gov
End User: Quemetco and Exide

Prepared By: KAP

Lead Time: 8 Months from receipt of down-payment

Description	Unit Cost	Qty.	Total Price
Item 1. Xact 640 Multi-Metals Continuous Emission Monitor Rental	$22,500	4	$90,000
a. Per month with a two month minimum at each site[a] b. Instrument rental rate for months beyond 4 months[b]	$16,875	6	$101,250
Item 2. Probe and Transport			
a. Fixed Cost (Probe, Heater Controllers, Flow measurement, etc)	$19,325	1	$19,325
b. Transport line	$469	20	$9,388
Item 3. Filter Tape			
a. 15 minute sampling intervals (10 months supply approximately 1 week tape change interval)	$780	44	$34,320
Item 4. Site Visit for Instrument Placement	NC	1	NC
Item 5. Site Visit for Kickoff Meeting	NC	1	NC
Item 6. Installation and Training Site 1[c]	$26,855	1	$26,855
Item 7. Installation and Training Site 2[c]	$26,855	1	$26,855
Item 8. Decomissioning Site 1	$11,885	1	$11,885
Item 9. Decomissioning Site 2	$11,885	1	$11,885
Item 10. Shipping	$7,000	1	$7,000
Item 11. QAG Testing Site 1	$20,555	1	$20,555
Item 12. QAG Testing Site 2	$20,555	1	$20,555
Item 13. Full Suite of standards (23 Analytes and interfering elements)	$241	36	$8,676
Item 14. Annual Maintenance (Includes tube)	$7,412	1	$7,412
Item 15. Annual Maintenance Labor (All maintenance including running standards for XRF recalibration)	$7,990	1	$7,990
Item 16. Remote Control Package	$9,500	1	$9,500
Total			**$413,451**

NC = No Charge

Exide, Quemetco or SCAQMD responsible for day to day instrument operation

A 1.5% finance charge is automatically applied to the contract balance once it becomes 30 days or more deliquent.

a. Rental is for operating time - rent is not charged during set up or during any maintenance events should they occur- Month is defined at 30 da

b. Lease to own - ownership achieved in 14 months. Alternatively the difference to $259,000 could be paid in full at any time

c. Please see site requirements below

PAYMENT TERMS: Net 30

DOWN PAYMENT: Fixed Equipment Costs and first and last months rent at signing	**$126,209.00**
Remaining Payments: Rental and Labor (training, installation billed monthly)	

Site Requirements

Infrastructure as necessary including power, compressed air, appropriate sample port, crane and labor to lift instrument into position, and labor for regular instrument operation (e.g. tape changes)

ATTACHMENT H

South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

SUBJECT: **NOTICE OF EXEMPTION FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT**

PROJECT TITLE: **PROPOSED AMENDED RULE (PAR) 1420.1 - EMISSIONS STANDARD FOR LEAD AND OTHER TOXIC AIR CONTAMINANTS FROM LARGE LEAD-ACID BATTERY RECYCLING FACILITIES**

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, the South Coast Air Quality Management District (SCAQMD) is the Lead Agency and will prepare a Notice of Exemption for the project identified above.

PAR 1420.1 requires owners or operators of large lead-acid battery recycling facilities to provide funding and participate in a demonstration program of a multi-metals continuous emissions monitoring system (CEMS) to monitor lead, arsenic, and other metals. PAR 1420.1 would collect fees for the SCAQMD or its contractor to assemble, install, maintain, train, test, analyze and decommission a multi- metal CEMS for use in the SCAQMD area of jurisdiction; and would reimburse SCAQMD for any and all expenses incurred by the independent third-party investigator in the investigation, inspection and generation of a written report.

PAR 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15306 – Information Collection, because the CEMS would collect basic data which would not result in a serious or major disturbance to an environmental resource. In addition, PAR 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges because the collection of fees to assemble, install, maintain, train, test, analyze and decommission a multi- metal CEMS; and reimbursement for any expenses incurred by the independent third-party investigator is for the purpose of meeting operating expenses, and purchasing or leasing supplies, equipment or materials. Finally, because it was determined that the proposed project would not create any adverse effects on air quality or any other environmental areas, and it can be seen with certainty that there is no possibility that the proposed project may have a significant adverse effect on the environment, PAR 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption. Upon adoption, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside and San Bernardino counties.

Any questions regarding this Notice of Exemption should be sent to James Koizumi (c/o Planning, Rule Development & Area Sources) at the above address. Mr. Koizumi can also be reached at (909) 396-3234.

Date: February 14, 2014 **Signature:** Michael Krause

Michael Krause
CEQA Program Supervisor
Planning, Rule Development &
Area Sources

Reference: California Code of Regulations, Title 14

NOTICE OF EXEMPTION

To:	County Clerks of Los Angeles, Orange, Riverside, San Bernardino	**From:**	South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765

Project Title:

Proposed Amended Rule (PAR) 1420.1 - Emissions Standard for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities

Project Location:

South Coast Air Quality Management District (SCAQMD) area of jurisdiction 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 and the Mojave Desert Air Basin.

Description of Nature, Purpose, and Beneficiaries of Project:

PAR 1420.1 requires owners or operators of large lead-acid battery recycling facilities to provide funding and participate in a demonstration program of a multi-metals continuous emissions monitoring system (CEMS) to monitor lead, arsenic, and other metals. PAR 1420.1 would collect fees for the SCAQMD or its contractor to assemble, install, maintain, train, test, analyze and decommission a multi- metal CEMS for use in the SCAQMD area of jurisdiction; and would reimburse SCAQMD for any and all expenses incurred by the independent third-party investigator in the investigation, inspection and generation of a written report.

Public Agency Approving Project:	**Agency Carrying Out Project:**
South Coast Air Quality Management District	South Coast Air Quality Management District

Exempt Status:

General Concepts [CEQA Guidelines §15002 (k)(1)]; and
CEQA Guidelines §15306 – Information Collection
CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges
General Rule Exemption [CEQA Guidelines §15061 (b)(3)]

Reasons why project is exempt:

SCAQMD staff has reviewed the proposed amendments to Rule 1420.1 in accordance with CEQA Guidelines §15002(k) - Three Step Process, and CEQA Guidelines §15061(a) – Review for Exemption, and has determined that the proposed amendments are exempt from CEQA pursuant to CEQA Guidelines §15306 – Information Collection, because the CEMS would collect basic data which would not result in a serious or major disturbance to an environmental resource. In addition, PAR 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges because the collection of fees to assemble, install, maintain, train, test, analyze and decommission a multi- metal CEMS; and reimbursement for any expenses incurred by the independent third-party investigator is for the purpose of meeting operating expenses, and purchasing or leasing supplies, equipment or materials. Finally, because it was determined that the proposed project would not create any adverse effects on air quality or any other environmental areas, and it can be seen with certainty that there is no possibility that the proposed project may have a significant adverse effect on the environment, PAR 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption.

Approval Date:

SCAQMD Governing Board Hearing: March 7, 2014, 9:00 a.m.; SCAQMD Headquarters

CEQA Contact Person:	**Phone Number:**	**Fax Number:**	**Email:**
Mr. James Koizumi	(909) 396-3234	(909) 396-3324	<jkoizumi@aqmd.gov>
Rule Contact Person:	**Phone Number:**	**Fax Number:**	**Email:**
Mr. Ed Eckerle	(909) 396-3128	(909) 396-3324	<eeckerle@aqmd.gov>

Date Received for Filing_____ Signature_____*Signed upon adoption*_____

Michael Krause
CEQA Program Supervisor
Planning, Rule Development
and Area Sources

ATTACHMENT I

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Socioeconomic Assessment for Proposed Amended Rule 1420.1—Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities

February 2014

Deputy Executive Officer
Planning, Rule Development & Area Sources
Elaine Chang, DrPH

Assistant Deputy Executive Officer
Planning, Rule Development & Area Sources
Philip Fine, Ph.D.

Director of Strategic Initiatives
Planning, Rule Development & Area Sources
Susan Nakamura

Author: Shah Dabirian, Ph.D., Air Quality Specialist

Reviewed By: Joe Cassmassi, Planning and Rules Manager
Ed Eckerle, Program Supervisor
Nancy Feldman, Principal Deputy District Counsel
Barbara Baird, Chief Deputy Counsel

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
GOVERNING BOARD

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Cities of Los Angeles County, Western Region

SHAWN NELSON
Supervisor, Fourth District
Orange County Representative

DR. CLARK E. PARKER, SR.
Senate Rules Committee Appointee

MIGUEL A. PULIDO
Mayor, City of Santa Ana
Cities Representative, Orange County

EXECUTIVE OFFICER:
BARRY R. WALLERSTEIN, D.Env.

FOREWORD

Since the adoption of Proposed Amended Rule 1420.1 on January 10, 2014, SCAQMD staff has worked with affected stakeholders, including the multi-metals CEMS manufacturer, the affected facilities, environmental groups, and community groups, to revise proposed amendments regarding implementation of a multi-metals CEMS demonstration program. The "Final" Socioeconomic Analysis estimated the capital and installation cost for the purchase of a multi-metals CEMS for each facility to be $313,238 and annual operating and maintenance costs were estimated at $59,800. Based on revised proposed amendments requiring participation in a multi-metals CEMS demonstration program and updated cost information from the CEMS vendor, SCAQMD staff now estimates the total cost to rent, install, and maintain the CEMS at both facilities for the demonstration program to be $413,451 which is approximately $206,725 for each facility. PAR 1420.1 requires additional requirements of the facility such as providing electrical circuits, testing ports, and compressed air. If a contractor is needed, it is estimated that four days, at eight hours per day would be needed to complete the work. The estimated cost for a contractor is not expected to exceed $100 per hour. The total additional cost for site requirements to support the multi-metals CEMS is $3,200 per facility. Since the total cost based on the current proposed amendments is less than the costs analyzed in the January Socioeconomic Analysis, no additional cost impacts are anticipated for the affected facilities. PAR 1420.1 would also require the affected facilities to bear responsibility for any expenses incurred when a third party investigator is retained to investigate and report on the reasons for an unplanned shutdown of air pollution control equipment, as required under subparagraph (n)(2)(B). The third party investigation is needed only if the facility cannot identify the reason for the unplanned shutdown of pollution control equipment, so it is uncertain how often this will occur. SCAQMD staff estimates that the costs associated with hiring a third party investigator could range from $6,000 to $12,000 per investigation, including the report submittal. This cost range is based on an hourly wage rate of $150/hour for consultant services and assumed labor of 40 to 80 hours per investigation and report submittal. For additional details regarding the costs associated with the proposed amendments, please refer to the PAR 1420.1 Draft Staff Report.

PREFACE

This preface explains additional analysis performed since preparation of the attached "Final" Socioeconomic Analysis. Quemetco has shown over multiple source tests conducted over years 2009-2013 that they can meet the arsenic, benzene, and 1,3-butadiene emission limits. In October/November 2013, the SCAQMD staff conducted source tests at Quemetco. Arsenic, benzene, and 1,3-butadiene emissions were more than three times the levels of previous source tests. Possible explanations are changes in the feedstock and operation and maintenance of the equipment. The SCAQMD staff views the results as an anomaly.

Nevertheless, this socioeconomic analysis examined some possible measures that Quemetco could implement to reduce the detected emissions with its current control equipment to reduce arsenic, benzene, and 1,3-butadiene in order to meet the proposed rule limits. The SCAQMD staff analyzed the following costs: 1) Increasing operation of the existing cells used in the WESP from 4 to 5 cells, 2) Increasing the voltage in the WESP from 27 to 35 kV, 3) Changing the sump water more frequently, and 4) Decreasing the temperature in the feed dryer. Items 1 through 3 are expected to reduce arsenic emissions and item 4 is expected to reduce benzene and 1,3-butadiene emissions. The additional electricity usage to continuously operate 5 cells at a voltage of 35 kV from 27 kV is estimated to be 5 to 13 kW and the additional electricity cost is estimated to be $7,000 to $17,600 per year based on a rate of $0.15/kWhr. The cost of additional water usage for changing the sump water out from twice to three times a year is estimated to be an additional 28.1 hundred cubic feet (HCF), and the additional cost would be $60 per year based on the La Puente Valley Water District Zone 4 Commercial water usage rate of $2.10/HCF. Operating the rotary dryer at a lower temperature is not expected to result in additional costs.

The above additional cost has not been incorporated in the regional modeling analysis which forecasts job impacts because it is so small any impact would be within the "noise" of the model. Based on the worst case scenario, the total cost from these additional operations would not exceed $18,000 per year and have very few if any job impacts.

EXECUTIVE SUMMARY

A socioeconomic analysis was conducted to assess the impacts of the proposed amendments to Rule (PAR) 1420.1—Emissions Standard for Lead and Other Toxic Contaminants from Large Lead-Acid Battery Recycling Facilities. A summary of the analysis and findings is presented below. This socioeconomic analysis updates the November 2013 Socioeconomic Analysis for PAR 1420.1 to reflect revisions to PAR 1420.1.

Elements of Proposed Amendments	The proposed amendments to Rule 1420.1 would reduce the health risk and emissions of toxic air contaminants (i.e., arsenic, benzene, 1, 3-butadiene) from large lead-acid battery recycling facilities. The major requirements of PAR 1420.1 include submittal of a compliance schedule and permit applications, installation of control equipment and pressure monitor devices, and additional source testing. PAR 1420.1 would also require additional ambient air monitoring, and recordkeeping to ensure continuous compliance with the proposed emission limits. Finally, operation curtailments are required if proposed standard limits are not met.
Affected Facilities and Industries	The proposed amendments affect two facilities that process greater than 50,000 tons of lead annually. These two facilities belong to the industry of secondary lead smelting, refining, and alloying of nonferrous metal [North American Industrial Classification System (NAICS) 331492].
Assumptions of Analysis	To comply with the emission performance standards of the proposed amendments, it is assumed that one affected facility would install a wet scrubber, a Regenerative Thermal Oxidizer (RTO), and two pressure monitoring devices. It is assumed that one affected facility would submit a compliance schedule and permit applications. It is also assumed that both affected facilities would install Continuous Emission Monitoring System (CEMS) and conduct additional source tests to ensure continuous compliance of required emission reductions. No additional cost is expected for ambient air monitoring and sampling requirements.
Compliance Costs	The total compliance cost from the proposed amendments is estimated to be $1.83 million annually. The total annual cost is slightly higher in 2014 ($2.1 million) because of the one-time cost of a compliance schedule, compliance plan development and permits, and additional source test cost for the first year. Of the $1.83 million compliance cost, $1.5 million is the cost of scrubber, RTO, and CEMS. The total annualized cost of pressure monitor devices is estimated to be $6,318. The total

	cost of the source testing is estimated to be $508,500 for the first year and $268,500 for the second year and after.
Job Impacts	The proposed amendments are expected to result in an annual average of 29 jobs forgone in the four-county area from 2014 to 2030. This represents less than 0.0003 percent of the total employment in the four-county region. The sectors of wholesale trade and professional and technical services are expected to gain jobs from additional spending on equipment installation and maintenance as well as expenditures made to file a compliance schedule and permits. The sector of primary metal manufacturing, where the two affected facilities belong, would have five jobs forgone, on average, between 2014 and 2030.
Competitiveness	It is projected that the sector of primary metal manufacturing, where the two affected facilities belong, would experience a rise in its relative cost of services by 0.022 percent and a rise in its delivered price by 0.011 percent in 2020 from the implementation of the proposed amendments.

INTRODUCTION

Proposed Amended Rule (PAR) 1420.1—Emissions Standard for Lead and Other Toxic Contaminants from Large Lead-Acid Battery Recycling Facilities—would require that large lead-acid battery recycling facilities submit a compliance schedule and permit applications, install control equipment and pressure monitoring devices, and conduct additional source testing. PAR 1420.1 would also require additional ambient air monitoring and recordkeeping of arsenic, benzene, and 1, 3-butadiene emissions. Affected facilities would have to curtail operation if proposed standard limits are not met. This socioeconomic analysis updates the November 2013 Socioeconomic Analysis for PAR 1420.1 to reflect revisions to PAR 1420.1. Specifically, changes in source testing requirements for benzene and 1,3-butdiene emissions from emission control devices on total enclosures.

AFFECTED FACILITIES

The proposed amendments apply to lead-acid battery recycling facilities that process more than 50,000 tons of lead annually. Currently there are only two facilities subject to Rule 1420.1 in the SCAQMD. Exide Technologies is located in Vernon (Los Angeles County) and Quemetco, Inc. is located in the City of Industry (Los Angeles County). These two facilities belong to the industry of secondary lead smelting, refining, and alloying of nonferrous metal [North American Industrial Classification System (NAICS) 331492] where spent lead-acid batteries, mostly automotive, and other lead-bearing materials are received from various sources and processed to recover lead, plastics, and acids. The process mainly involves the sorting, melting, and refining of lead-acid batteries, which ultimately produces lead ingots that are then sold to other entities.

Small Businesses

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 Small Business Administration (SBA), the federal Clean Air Act Amendments (CAAA) of 1990, and the California Department of Health Services (DHS) also provide definitions of a small business.

The SBA's definition of a small business uses the criteria of gross annual receipts (ranging from $0.5 million to $25 million), number of employees (ranging from 100 to 1,500), megawatt hours generated (4 million), or assets ($150 million), depending on industry type. The SBA definitions of small businesses vary by 6-digit North American Industrial Classification System (NAICS) code. A business in the industry of secondary lead smelting, refining, and alloying of nonferrous metal (NAICS 331492) with fewer than 750 employees is considered a small business by SBA.
The CAAA classifies a facility 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 NOx, and (3) is a small business as defined by SBA.

Exide Technologies has operations in 80 countries with 10,000 employees and net sales of approximately $3.1 billion for fiscal year 2012.[1] Quemetco (RSR-Quemetco) based in Indianapolis, Indiana, has operations in a few states. It has over 150 employees at the location in the City of Industry, Los Angeles. Neither facility is a small business based on the Rule 102 criteria. Exide is not a small business under the U.S. SBA definition. Corporate employment information on Quemetco is not available, as such it is unknown whether it is a small business under the U.S. SBA definition. Neither facility is a small business under the CAAA definition because both emit more than 10 tons of VOC or NOx annually.

COMPLIANCE COST

The proposed amendments would require both affected facilities to collect a 24-hour ambient air arsenic sample at least once every three days from a minimum of four sampling sites. No additional costs are expected for this requirement since this task can be conducted within the scope of the existing rule requirements for lead. Other requirements of the proposed amendments that have cost impacts include submittal of compliance schedule and permit applications, installation of control equipment and pressure monitor devices, and additional source testing.

The annual total cost to comply with the PAR 1420.1 is estimated to be $1.83 million, on average, from 2014 to 2030. The cost is slightly higher in 2014 ($2.1 million) because of the one-time cost of a compliance schedule and permits, and higher cost of source testing in that year. Table 1 presents average annual compliance cost of the PAR 1420.1 by requirement categories.

Table 1
Annual Compliance Cost of PAR 1420.1 by Category

Cost Category	Average Annual (2014-2030)
Preparation of Compliance Schedule and Permits*	$2,878
SCAQMD Fees*	$2,602
Scrubber, RTO, and CEMS	$1,534,954
Pressure Monitor Devices	$6,318
Source Test	$282,618
Total	**$1,829,370**

*Cost is annualized over 10 years
RTO= Regenerative Thermal Oxidizer

Compliance Schedule and Permit Fees

The proposed amendments require one of the two affected facilities to submit a compliance schedule for the final performance standards of arsenic, benzene, and 1, 3-butadiene by January 1, 2015. The same facility is also required to submit complete permit applications for all construction and necessary equipment specified in the compliance schedule which would include a scrubber and an RTO. Based on the staff assumption, the affected facility could spend about 160 hours to prepare a compliance schedule and 360 hours to prepare permit applications. The

[1] Exide 2012 Annual Report. Retrieved October 10, 2013 from http://ir.exide.com/.

estimated hourly wage to complete these tasks is assumed to be $45.[2] In addition, the affected facility is required to pay plan fees for pressure monitors and plan review fees for Continuous Emission Monitoring System (CEMS). The total one-time compliance cost is estimated to be $44,556, as shown in Table 2.

Table 2
Compliance Schedule and Permit Application Fees

Compliance Schedule and Permit Fees	One-time Cost
Compliance Schedule and Permit Application for Equipment	$23,400
Permit Fees Paid to SCAQMD for Scrubber	$7,264
Permit Fees Paid to SCAQMD for RTO	$7,264
Plan Fees to SCAQMD for Pressure Monitors	$2,428
Plan Review Fees to SCAQMD for CEMS	$4,200
Total	**$44,556**

Scrubber, RTO, and CEMS

Based on its recent source test results, one of the two affected facilities is already in compliance with the point source performance standards. The other facility is expected to install one wet scrubber and one RTO to vent emissions from arsenic, benzene, and 1, 3-butadiene. Based on EPA's air pollution fact sheet for scrubbers (EPA-452/F-03-012), the capital and installation cost of a wet scrubber is estimated to be $800,822. Based on the 20-year equipment life and a real interest rate of four percent, the total annualized capital cost of the scrubber is estimated at $59,261. The annual operating and maintenance cost of the scrubber is estimated to be $855,456, out of which 63 percent is for additional utility (electricity and water) and the remaining 37 percent is for the scrubber's maintenance.

Based on 2012 Risk Reduction Plan submitted by Exide, one-time capital and installation cost of a RTO is estimated to be $1,170,020. Assuming a 20-year equipment life and a real interest rate of four percent, the total annualized cost of the RTO is estimated at $86,581. The annual operating and maintenance cost of the RTO is estimated to be $336,700, out of which 80 percent is for the cost of additional utilities (natural gas and electricity) and the remaining 20 percent is for RTO's maintenance.

The proposed amendments would also require each affected facility to purchase a multimetal CEMS. One-time capital and installation cost of a CEMS is estimated to be $313,238. Assuming a 10-year equipment life and a real interest rate of four percent, the total annualized cost for two CEMS is estimated at $77,057. The annual operating and maintenance cost of a CEMS is estimated to be $59,800. Information on the operating and maintenance costs of scrubber RTO, and CEMS was obtained from affected facilities and air pollution control vendors. The total annualized cost of scrubber, RTO, and CEMS is expected to be $1.5 million.

[2] Hourly wages are based on median hourly wages for environmental engineers in the BLS 2012 California State Occupational Employment and Wage Estimates.
(Retrieved October 3, 2013 from http://www.bls.gov/oes/current/oes_ca.htm#17-0000).

Differential Pressure Monitoring Devices

PAR 1420.1 would require affected facilities to install differential pressure monitoring devices on each smelting furnaces that measure and record the differential pressure between the internal furnace pressure and the external atmospheric pressure. It is assumed that one of the affected facilities would purchase two monitors at a unit cost of $14,300 (including installation). Assuming a lifespan of ten years for each monitor and four percent real interest rate, the total annualized cost of two monitors is estimated to be $3,518. The maintenance cost of each monitor is estimated to be 1,400 per year.

Source Tests

Both affected facilities are required to conduct annual source tests for metals from all point sources, and organics from all point sources excluding emission control devices for total enclosures. In 2014, both facilities are required to conduct source tests twice for organics from emission control devices for total enclosures. Based on discussions with the local source testing vendors, the cost of the source testing is estimated to be $508,500 in 2014 and $268,500 for 2015 and every year after.

MACROECONOMIC IMPACTS ON REGIONAL ECONOMY

The REMI model (PI+ v1.5.2) is used to assess the total socioeconomic impacts of a policy change (i.e., the proposed amendments). The model links the economic activities in the counties of Los Angeles, Orange, Riverside, and San Bernardino. The REMI model for each county is comprised of a five block structure that includes (1) output and demand, (2) labor and capital, (3) population and labor force, (4) wages, prices and costs, and (5) market shares. These five blocks are interrelated. Within each county, producers are made up of 66 private non-farm industries, three government sectors, and a farm sector. Trade flows are captured between sectors as well as across the four counties and the rest of U.S. Market shares of industries are dependent upon their product prices, access to production inputs, and local infrastructure. The demographic/migration component has 160 ages/gender/race/ethnicity cohorts and captures population changes in births, deaths, and migration.

The assessment herein is performed relative to a baseline where the proposed amendments would not be implemented. Direct effects of the policy change (proposed amendments) have to be estimated and used as inputs to the REMI model in order for the model to assess secondary and induced impacts for all the actors in the four-county economy on an annual basis and across a user-defined horizon (2014 to 2030). Direct effects of the proposed amendments include additional costs to the affected entities and additional sales, by local vendors, of equipment, devices, or services that would meet the proposed requirements.

Purchases of wet scrubber, RTO, differential pressure monitors, and CEMS by the affected facilities will increase the sales of the wholesale trade sector (NAICS 423). Installation and maintenance of the aforementioned equipment as well as services rendered for a compliance schedule, compliance plan development, and source testing would result in an increase in sales of the professional and technical services sector (NAICS 541). The utility sector (NAICS 22) will benefit from the sales of additional water, electricity, and natural gas for the operation of wet scrubber and RTO. Fees received from the affected facilities would be additional revenue to the

SCAQMD. All the expenditures that are incurred by the two facilities will increase their cost of doing business.

The proposed amendments are expected to result in an annual average of 29 jobs forgone in the four-county area from 2014 to 2030. This represents less than 0.0003 percent of the total employment in the four-county region. The number of jobs forgone is within the range of recently adopted rules with similar cost estimates. Table 3 presents the estimated job impact by industry for the proposed amendments. In 2014, 27 additional jobs could be created in the overall economy. Positive job impacts in the sector of wholesale trade are due to additional purchases of equipment by the affected facilities. The sector of professional and technical services are projected to have job gains from additional demand for equipment installation and maintenance as well as expenditures made by the two affected facilities to file compliance plans and permits. In earlier years, positive job impacts from the expenditures made by the affected facilities would more than offset the jobs forgone from the additional cost of doing business.

The sector of primary metal manufacturing, where the two affected facilities belong, would have five jobs forgone, on average, between 2014 and 2030 due to the additional cost of doing business incurred by them. The remaining sectors would incur minor jobs forgone from secondary and induced impacts of the proposed amendments.

Table 3
Job Impacts of Proposed Amendments

Industries (NAICS)	2014	2020	2030	Average Annual (2014-2030)
Construction (23)	1	-3	-3	-3
Primary metal manufacturing (331)	-2	-6	-6	-5
Fabricated metal product manufacturing (332)	0	-1	-1	-1
Wholesale trade (42)	7	-3	-3	-2
Retail trade (44-45)	-1	-4	-4	-4
Professional and technical services (54)	14	3	2	3
Administrative and support services (561)	2	-3	-3	-2
Ambulatory health care services (621)	1	-2	-2	-1
Food services and drinking places (722)	1	-2	-2	-1
Government (92)	2	-3	-3	-2
Other Industries	2	-12	-12	-10
Total	**27**	**-35**	**-36**	**-29**

Competitiveness

The additional cost brought on by the proposed amendments would increase the cost of services rendered by the affected industries in the region. The magnitude of the impact depends on the size and diversification of, and infrastructure in a local economy as well as interactions among industries. A large, diversified, and resourceful economy would absorb the impact with relative ease.

Changes in production/service costs will affect prices of goods produced locally. The relative delivered price of a good is based on its production cost and the transportation cost of delivering

the good to where it is consumed or used. The average price of a good at the place of use reflects prices of the good produced locally and imported elsewhere.

It is projected that the sector of primary metal manufacturing, where the two affected facilities belong, would experience a rise in its relative cost of services by 0.022 percent and a rise in its delivered price by 0.011 percent in 2020 from the implementation of the proposed amendments.

RULE ADOPTION RELATIVE TO THE COST EFFECTIVENESS SCHEDULE

On October 14, 1994, the Governing Board adopted a resolution that requires staff to address whether rules being proposed for adoption are considered in the order of cost-effectiveness. The 2012 Air Quality Management Plan (AQMP) ranked, in the order of cost-effectiveness, all of the control measures for which costs were quantified. It is generally recommended that the most cost-effective actions be taken first. PAR 1420.1 is not a control measure in the 2012 Air Quality Management Plan (AQMP), and thus was not ranked by cost-effectiveness relative to other AQMP control measures in the 2012 AQMP. Furthermore, PAR 1420.1 will not be submitted for inclusion into the Lead State Implementation Plan.

REFERENCES

Bureau of Labor Statistics. California State Occupational Employment and Wage Estimates. (2012). Retrieved October 3, 2013, from http://www.bls.gov/oes/current/oes_ca.htm#17-0000).

Dun & Bradstreet Enterprise Database. 2013.

Exide 2012 Annual Report. Retrieved October 10, 2013, from http://ir.exide.com/.

Regional Economic Modeling Inc. (REMI). Policy Insight® for the South Coast Area (70 sector model). Version PI+ v.1.5.2.

South Coast Air Quality Management District. Preliminary Draft Staff Report Proposed Amended Rule 1420.1—Emissions Standard for Lead and Other Toxic Air Contaminant from Large Lead-Acid Battery Recycling Facilities. Diamond Bar, CA. October 2013.

U.S. Small Business Administration. Table of Small Business Size Standards. Washington. DC. 2013.

ERRATA SHEET FOR AGENDA ITEM # 27A

Amend Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-acid Battery Recycling Facilities

Modify the Resolution by adding the ***bold italic single underlined*** language as follows:

BE IT FURTHER RESOLVED, the SCAQMD Governing Board directs staff to ***provide data collected from the multi-metals CEMS to each facility as it becomes available, and as preliminary results regarding the efficacy of the CEMS becomes available, to provide this information to each facility and other stakeholders, and to*** report back to the Stationary Source Committee within three months of completion of the CEMS demonstration program on preliminary results; and

March 7, 2014

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 27B

PROPOSAL: Execute Contract and Rental Agreement for Rule 1420.1 Multi-Metals CEMS and Continuous Multi-Metals Ambient Air Monitoring Demonstration Programs

SYNOPSIS: On January 10, 2014, the Board deferred the multi-metals continuous emission monitoring system (CEMS) provision of Amended Rule 1420.1 to the March 7, 2014 Board meeting. Subject to Board adoption of this provision, this action is to execute a contract with Cooper Environmental Services, LLC in an amount not to exceed $413,451 from the Rule 1420.1 Special Revenue Fund for the multi-metals CEMS demonstration project. Furthermore, this action is to execute a rental agreement to demonstrate a continuous multi-metals ambient air monitoring system with Cooper Environmental Services, LLC for an amount not to exceed $71,000 from the Science and Technology Advancement Budget.

COMMITTEE: Stationary Source, February 21, 2014; Recommended for Approval

RECOMMENDED ACTIONS:

1. Establish a Rule 1420.1 Special Revenue Fund;

2. Recognize upon receipt up to $413,451 from Exide Technologies and Quemetco, Inc., into the Rule 1420.1 Special Revenue Fund;

3. Authorize the Chairman to execute a contract with Cooper Environmental Services, LLC to conduct a demonstration program for a multi-metals CEMS in an amount not to exceed $413,451 from the Rule 1420.1 Special Revenue Fund;

4. Transfer $71,000 from the Salaries Account, Salaries and Employee Benefits Major Object to the Rents and Leases Equipment Account, Services and Supplies Major Object in the FY 2013-14 Science and Technology Advancement Adopted Budget; and

5. Authorize the Chairman to execute a rental agreement to demonstrate a continuous multi-metals ambient air monitoring system with Cooper Environmental Services, LLC for an amount not to exceed $71,000 from the Science and Technology Advancement Budget.

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:PF:RE:JL:DS

Background

On January 10, 2014, the Board approved amendments to Rule 1420.1, but deferred the provision that affected facilities must implement a multi-metals CEMS demonstration project to the March 7, 2014 Board meeting. The additional time allowed staff to work with the affected facilities, the manufacturer of the multi-metals CEMS, and other stakeholders. SCAQMD staff initiated discussions with Cooper Environmental Services, LLC (Cooper), the only vendor of multi-metals monitoring technology, regarding cost and implementation of a demonstration program. SCAQMD and Cooper conducted site visits at both affected facilities, Exide Technologies and Quemetco, Inc., to determine the locations on the exhaust stacks to place the CEMS and other infrastructure requirements. Staff has also conducted site visits at both facilities to determine locations for fence-line continuous ambient air monitoring multi-metals monitoring systems. Based on the site visits, Cooper has provided price quotes for the multi-metals CEMS and the ambient air monitoring system demonstration programs.

The Cooper Xact 640 CEMS for stack monitoring and Xact 625 system for ambient air monitoring use reel-to-reel filter tape sampling and non-destructive X-ray fluorescence (XRF) analysis to monitor metal emissions. In one specific installation, U.S. EPA approved the Xact 640 system as an alternative method for monitoring emissions at stationary sources. In 2011, U.S. EPA evaluated the Xact 625 continuous ambient monitoring system through its Environmental Technology Verification Program, and it has been used in numerous research applications.

Proposal

<u>Rule 1420.1 Multi-Metals CEMS</u>

Subject to Board adoption of the Proposed Amended Rule 1420.1 multi-metals CEMS demonstration program provision, large lead-acid battery recycling facilities would be required to fund and participate in a multi-metals CEMS demonstration program that the SCAQMD staff proposes to implement. The Xact 640 CEMS and all necessary accessories will be delivered, installed, and maintained by Cooper A single CEMS unit

will be deployed and collect data for up to ten months where it will be used at Exide Technologies and Quemetco, Inc., in succession.

This program will include traditional source tests conducted concurrently to evaluate the performance of the multi-metals CEMS technology. The complete demonstration program, including up to two months of equipment set-up, testing, decommissioning, and transfer from one facility to the other, is estimated to last for a period of twelve months. This demonstration program will allow for a better understanding of the capabilities of this technology in monitoring multi-metals on a continuous basis, and will not be used for compliance purposes. SCAQMD staff will oversee the multi-metals CEMS demonstration program and will conduct the necessary data retrieval, analysis, and concurrent source testing. If Proposed Amended Rule 1420.1 is adopted, the funding for this CEMS demonstration program will be provided by Exide and Quemetco, with in-kind support from SCAQMD for oversight, testing and data analysis.

Multi-Metals Ambient Air Monitoring System

Staff proposes to conduct a demonstration of a continuous multi-metals ambient air monitoring system near Exide Technologies and Quemetco, Inc. For this program, the Xact 625 system will be deployed at each facility for approximately two months in succession. The delivery, installation and training for the multi-metals ambient air monitoring system will be conducted by Cooper. SCAQMD staff will operate the multi-metals ambient air monitoring system and will conduct the necessary data retrieval, analysis and reporting. If the demonstration program is successful, staff will return to the Board with a recommendation for deployment on a more permanent basis.

Benefits to SCAQMD

The multi-metals CEMS demonstration program at Exide Technologies and Quemetco, Inc., will satisfy the provision of Proposed Amended Rule 1420.1. Additional compliance tools are needed to monitor emissions from large-lead acid battery recycling facilities on a continuous basis. This program is necessary to understand and evaluate the capabilities of this technology in monitoring metals emissions on a continuous basis from metal emitting facilities. Likewise, the continuous multi-metals ambient air monitoring system demonstration program will provide an evaluation of the capabilities of this technology in monitoring ambient air metal concentrations, including metals derived from fugitive emissions.

Sole Source Justification

For the Amended Rule 1420.1 multi-metals stack CEMS and the ambient air monitoring multi-metals systems, 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 to Cooper is made under provision B.2.c.(1): the unique experience and capabilities of the proposed contractor or contractor team, B.2.c.(2) the

project involves the use of proprietary technology, and B.2.c.(3) the contractor has ownership of key assets required for project performance.

Cooper is the original equipment manufacturer of the Xact 640 stack monitoring multi-metals CEMS and Xact 625 ambient air monitoring system, and has obtained U.S. patents for this technology. They produce the only commercially available continuous metals monitoring instruments for stack or ambient applications. Cooper has extensive expertise in the development and continued use of this technology and instrumentation to monitor multiple metals on a continuous basis.

Resource Impacts

The total cost for the Xact 640 CEMS demonstration program, which will not exceed $413,451, will be provided by Exide Technologies and Quemetco, Inc., in accordance with Proposed Amended Rule 1420.1. Sufficient funding is available for the total cost for the continuous multi-metals ambient monitor demonstration, not to exceed $71,000, from cost savings realized in Science and Technology Advancement's Fiscal Year 2013-14 Salaries account.

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 28

REPORT: Annual RECLAIM Audit Report for 2012 Compliance Year

SYNOPSIS: 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 nineteenth 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 2012 Compliance Year is included with the report.

COMMITTEE: Stationary Source, February 21, 2014, Reviewed

RECOMMENDED ACTION:
Approve the attached annual report.

Barry R. Wallerstein, D.Env.
Executive Officer

MN:JW:DL

Background

The Board adopted the RECLAIM program on October 15, 1993 to provide a more flexible compliance program than command-and-control for specific facilities, which represent SCAQMD's largest emitters of NOx and SOx. 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 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 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 SCAQMD to conduct annual program audits to assess various aspects of the program and to verify that program objectives are met. SCAQMD staff has completed audits of facility records and completed the annual audit of the RECLAIM program for Compliance Year 2012 (which extends from January 1, 2012, start of Cycle 1, through June 30, 2013, end of Cycle 2). Based on audited emissions in this report and previous annual reports, SCAQMD staff has determined that RECLAIM met its emissions goals for Compliance Year 2012, as well as for all previous compliance years with the only exception of NOx emissions in Compliance Year 2000. For that year, NOx emissions exceeded programmatic allocations (by 11%) primarily due to emissions from electric generating facilities during the California energy crisis. For Compliance Year 2012, audited NOx emissions were 19% less than programmatic NOx allocations and audited SOx emissions were 40% less than programmatic SOx allocations.

Audit Findings

The audit of the RECLAIM Program's Compliance Year 2012 and trades of RTCs that occurred during calendar year 2013 show that:

- ***Overall Compliance*** – Audited NOx and SOx emissions from RECLAIM facilities were significantly below programmatic allocations.

- ***Universe*** – The RECLAIM universe consisted of 276 facilities as of June 30, 2012. Two facilities were included, no facility was excluded, and five facilities shut down in the RECLAIM universe between July 1, 2012 and the end of Compliance Year 2012. Thus, 273 facilities were in the RECLAIM universe on June 30, 2013, the end of the Compliance Year 2012. Of the two newly included facilities, one facility elected to enter the RECLAIM program, whereas the other facility was created through the partial change of operator of an existing RECLAIM facility. Of the five shutdown facilities, two facilities consolidated their operations with two other existing RECLAIM facilities within the SCAQMD. The third facility shut down as air quality mitigation for the start-up of a new power plant located in the SCAQMD. The fourth facility shut down their operation, sold the property to a university, and became RECLAIM exempt and categorically excluded from RECLAIM. The last facility moved its operation to a new plant in a different state.

- ***Facility Compliance*** – The vast majority of RECLAIM facilities complied with their allocations during the 2012 compliance year (96% of NOx facilities and 97% of SOx facilities). Twelve facilities (4% of total facilities) exceeded their NOx allocations and one of the 12 facilities also exceeded its SOx allocation during Compliance Year 2012. These 12 NOx facilities had total NOx emissions of 832 tons and did not have adequate allocations to offset 125.9 of those tons. The exceedances represent 15.1% of the sum of the NOx emissions from the 12 facilities and 1.3% of total RECLAIM NOx allocations. One facility had SOx emissions that exceeded its SOx allocations by only three pounds. Pursuant to Rule 2010(b)(1)(A), all 12 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 2012 allocations.

- ***Job Impacts*** – Based on a survey of the RECLAIM facilities, the RECLAIM program had minimal impact on employment during the 2012 compliance year, which is consistent with previous years. RECLAIM facilities reported an overall net gain of 2,026 jobs, representing 2% of their total employment. All of the facilities that reported job losses and job gains cited factors other than RECLAIM as the reasons for these job losses and job gains. None of the five RECLAIM facilities listed as shutdown during Compliance Year 2012 cited RECLAIM as a contributing factor to the decision to shut down. The job loss and job gain data are compiled strictly from reports submitted by RECLAIM facilities, and SCAQMD staff is not able to verify the accuracy of the reported data.

- ***Trading Activity*** – The RTC trading market activity during calendar year 2013 was comparable in terms of number of trades, but substantially higher in total value (by 62%) and volume (by 42%) compared to calendar year 2012. A total of over $1.05 billion in RTCs has been traded since the adoption of RECLAIM, of which $30.4 million occurred in calendar year 2013 (compared to $18.8 million in calendar year 2012), excluding swaps.

  The average annual prices of infinite-year block and all compliance years' discrete-year NOx and SOx RTCs traded in calendar year 2013 were below the applicable review thresholds for average RTC prices. The average annual prices of RTCs traded during calendar years 2012 and 2013 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 2012 and 2013

	Average Price ($/ton)				Review Thresholds ($/ton)	
Year Traded	**2011 NOx RTC**	**2012 NOx RTC**	**2013 NOx RTC**	**2014 NOx RTC**	**Rule 2015(b)(6)**	**Health and Safety Code §39616(f)**
2012	$578	$1,162	$4,053	None traded	$15,000	$40,067
2013		$549	$1,080	$1,881		
Year Traded	**2011 SOx RTC**	**2012 SOx RTC**	**2013 SOx RTC**	**2014 SOx RTC**	**Rule 2015(b)(6)**	**Health and Safety Code §39616(f)**
2012	$450	$759	None traded	None traded	$15,000	$28,848
2013		$291	$485	None traded		

Table 2 – Average Prices for IYB RTCs Traded during Calendar Years 2012 and 2013

RTCs	Average Price ($/ton)		Review Threshold ($/ton) [Health and Safety Code §39616(f)]
	Traded in 2012	**Traded in 2013**	
NOx	$48,146	$45,914	$601,010
SOx	$125,860	$181,653	$432,727

- ***Role of Investors*** – Investors were active in the RTC market. Based on both overall trading values and volume of trades with price, investors' involvement in 2013 was relatively less when compared to calendar year 2012. Investors were involved in 133 of the 223 discrete NOx trades with price and 1 of the 6 discrete SOx trades with price. With respect to IYB trades, investors' participation was significant and they were involved with 16 of 17 IYB NOx trades with price, and 3 of the 4 IYB SOx trades with price. Excluding sales due to a change of operator, investors were involved in 100% of the IYB NOx and SOx trades with price. Compared to calendar year 2012, investor RTC holdings of total IYB NOx and SOx RTCs remained unchanged at 4.9% for IYB NOx RTCs and increased slightly from 0.7% to 0.9% for IYB SOx RTCs at the end of calendar year 2013.

- ***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 toxic emissions.

Attachment
Annual RECLAIM Audit Report for 2012 Compliance Year

ERRATA SHEET FOR AGENDA ITEM # 27A

Amend Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-acid Battery Recycling Facilities

Modify the Resolution by adding the ***bold italic single underlined*** language as follows:

BE IT FURTHER RESOLVED, the SCAQMD Governing Board directs staff to ***provide data collected from the multi-metals CEMS to each facility as it becomes available, and as preliminary results regarding the efficacy of the CEMS becomes available, to provide this information to each facility and other stakeholders, and to*** report back to the Stationary Source Committee within three months of completion of the CEMS demonstration program on preliminary results; and

March 7, 2014

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Annual RECLAIM Audit Report for 2012 Compliance Year

March 4, 2014

Executive Officer
Barry R. Wallerstein, D.Env.

Deputy Executive Officer
Engineering & Compliance
Mohsen Nazemi, P.E.

Assistant Deputy Executive Officer
Engineering & Compliance
Jill Whynot

Senior Enforcement Manager
RECLAIM Administration
Danny Luong, P.E.

Authors: Mitch Haimov, M.S., Air Quality Analysis and Compliance Supervisor
Don Nguyen, Senior Air Quality Engineer
Fortune Chen, Air Quality Specialist
Chris Hynes, Air Quality Specialist
Kyu-Kyu Leong Remillard, Air Quality Engineer II
Sandys Thomas, Air Quality Engineer II
Susan Tsai, Air Quality Engineer II
Shannon Lee, Air Quality Engineer II

Contributors: Tom Chico, Program Supervisor
Mark Bassett, Air Quality Specialist
Mark Coleman, Air Quality Specialist
Tom Lee, Air Quality Engineer II

Reviewed by: Mohsen Nazemi, P.E., Deputy Executive Officer
Jill Whynot, 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

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EXECUTIVE OFFICER
Barry R. Wallerstein, D.Env.

TABLE OF CONTENTS

List of Abbreviations i

Executive Summary ES-1

INTRODUCTION I-1

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

Figures
Figure 1-1: Universe Changes from July 1, 2012 through End of Compliance Year 2012 1-5
Figure 2-1: NOx RTC Supply 2-6
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 2013 Overall Trading Activity (Excluding Swaps) 2-10
Figure 2-5: Calendar Year 2013 Trading Activity for Discrete RTCs (Excluding Swaps) 2-11
Figure 2-6: Calendar Year 2013 Trading Activity for IYB RTCs (Excluding Swaps) 2-12
Figure 2-7: Discrete NOx RTC Trades (Excluding Swaps) 2-14
Figure 2-8: Discrete 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: Average Annual Prices for Discrete-Year NOx RTCs during Calendar Years 2005 through 2013 2-21
Figure 2-12: Average Annual Prices for Discrete-Year SOx RTCs during Calendar Years 2005 through 2013 2-21
Figure 2-13: Bi-Monthly Average Price for NOx RTCs near Expiration 2-24
Figure 2-14: Calendar Year 2013 Investor-Involved Discrete NOx and SOx Trades Based on Value Traded 2-27
Figure 2-15: Calendar Year 2013 Investor-Involved Discrete NOx and SOx Trades Based on Volume Traded with Price 2-28
Figure 2-16: Calendar Year 2013 Investor-Involved IYB NOx and SOx Trades Based on Value Traded 2-28
Figure 2-17: Calendar Year 2013 Investor-Involved IYB NOx and SOx Trades Based on Volume Traded with Price 2-29
Figure 2-18: Calendar Year 2013 Investor-Involved Discrete NOx and SOx Trades Based on Value Traded (with trades resulting from change of operator removed) 2-30
Figure 2-19: Calendar Year 2013 Investor-Involved Discrete NOx and SOx Trades Based on Volume Traded with Price (with trades resulting from change of operator removed) 2-30
Figure 2-20: Calendar Year 2013 Investor-Involved IYB NOx and SOx Trades Based on Value Traded (with trades resulting from change of operator removed) 2-31

Figure 2-21: Calendar Year 2013 Investor-Involved IYB NOx and SOx Trades Based on Volume Traded with Price (with trades resulting from change of Operator removed) 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 2012 NOx Quarterly Emissions 7-5
Figure 7-4: Quarterly NOx Emissions from Calendar Years 2002 through 2012 7-6
Figure 7-5: Calendar Year 2012 SOx Quarterly Emissions 7-7
Figure 7-6: Quarterly SOx Emissions from Calendar Years 2002 through 2012 7-8

Tables

Table 1-1: RECLAIM Universe Changes 1-4
Table 2-1: Changes in NOx and SOx RTC Supplies during Compliance Year 2012 (tons/year) 2-5
Table 2-2: NOx Trade Registrations Involving Swaps 2-19
Table 2-3: SOx Trade Registrations Involving Swaps 2-19
Table 2-4: Twelve-Month Rolling Average Prices of Compliance Year 2013 NOx RTCs 2-23
Table 2-5: IYB NOx Pricing (Excluding Swaps) 2-25
Table 2-6: IYB SOx Pricing (Excluding Swaps) 2-26
Table 3-1: Annual NOx Emissions for Compliance Years 1994 through 2012 3-3
Table 3-2: Annual SOx Emissions for Compliance Years 1994 through 2012 3-5
Table 3-3: Breakdown Emission Comparison for Compliance Year 2012 3-9
Table 3-4: NOx Emissions Impact from the Changes in Universe (Tons) 3-11
Table 3-5: SOx Emissions Impact from the Changes in Universe (Tons) 3-11
Table 5-1: MDP Impact on Annual Emissions 5-5
Table 5-2: Monitoring Requirements for RECLAIM Sources 5-6
Table 5-3: Passing Rates Based on RATAs of Certified CEMS in 2012 5-8
Table 5-4: Passing Rates Based on RATAs of Certified CEMS in 2013 5-8
Table 6-1: Job Impacts at RECLAIM Facilities for Compliance Year 2012 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 2012 D-1
Appendix E: Reported Job Impacts Attributed to RECLAIM E-1

LIST OF ABBREVIATIONS

ACEMS	Alternative Continuous Emissions Monitoring System(s)
AER	Annual Emission Report
APEP	Annual Permit Emissions Program
SCAQMD	South Coast Air Quality Management District
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
CEQA	California Environmental Quality Act
CEMS	Continuous Emissions Monitoring System(s)
CGA	Cylinder Gas Audit
CPMS	Continuous Process Monitoring System(s)
EDR	Electronic Data Reporting
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 Standard
NNI	No Net Increase
NOx	Oxides of Nitrogen
NSR	New Source Review
QCER	Quarterly Certification of Emissions Report
RACT	Reasonably Available Control Technology
RATA	Relative Accuracy Test Audit
RECLAIM	REgional CLean Air Incentives Market
RTC	RECLAIM Trading Credit
RTU	Remote Terminal Unit
SIP	State Implementation Plan
SOx	Oxides of Sulfur
SSC	Stationary Source Committee
SWG	Standing Working Group
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 2012 (January 1 through December 31, 2012 for Cycle 1 and July 1, 2012 through June 30, 2013 for Cycle 2 facilities). This annual audit report covers activities for the 19th 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, 2012, the overall changes in RECLAIM participants were 121 facilities included into the program, 70 facilities excluded from the program, and 169 facilities ceased operation. Thus, the RECLAIM universe consisted of 276 active facilities on July 1, 2012. From July 1, 2012 through the end of Compliance Year 2012 (December 31, 2012 for Cycle 1 facilities and June 30, 2013 for Cycle 2 facilities), two facilities were included into the RECLAIM universe, no facility was excluded, and five facilities (one facility in both the NOx and SOx universes and four in the NOx universe only) either shut down or consolidated their operations at other facilities and are no longer in the active RECLAIM universe. These changes resulted in a net decrease of three facilities in the universe, bringing the total number of active RECLAIM facilities to 273 as of the end of Compliance Year 2012.

Chapter 2: RTC Allocations and Trading

The allocation reduction in NOx RTCs adopted by the Governing Board on January 7, 2005 was completed in Compliance Year 2011. The amendments to SOx RECLAIM, which the Governing Board adopted on November 5, 2010 to phase in SOx reductions, will commence in Compliance Year 2013 and continue through Compliance Year 2019. That rule amendment will result in an overall

reduction of 5.7 tons/day (or 48.4%) in SOx allocations when fully implemented (for Compliance Year 2019 and beyond). As a result, there were no programmatic allocation reductions in NOx or SOx RTCs during Compliance Year 2012.

The NOx RTC supply increased by 12.2 tons and the SOx RTC supply decreased by 16.2 tons during Compliance Year 2012. All of these changes, except 0.7 tons of NOx RTCs, were due to allocation adjustments for clean fuel production pursuant to Rule 2002(c)(12). The remaining 0.7 tons of increased NOx RTC supply was issued as the result of a merger between a RECLAIM facility and an adjacent non-RECLAIM facility (issued based on the operational history of the previously non-RECLAIM facility pursuant to Rule 2002). As a result, the NOx and SOx RTC supplies for Compliance Year 2012 were 9,689 tons and 4,283 tons, respectively.

During calendar year 2013, there were 367 registered RTC transactions with a total value of almost $30.4 million traded, excluding the values reported for "swap" transactions (exchange of RTCs for other RTCs, rather than for money). Since the inception of the RECLAIM program in 1994, a total value of over $1.05 billion dollars has been traded in the RTC trading market, excluding swaps. In terms of volume traded in calendar year 2013, a total of 4,443 tons of discrete NOx RTCs, 557 tons of discrete SOx RTCs, 1,779 tons of infinite-year block (IYB) NOx RTCs and 438 tons of IYB SOx RTCs were traded. RTC trading market activity during calendar year 2013 was comparable in terms of number of trades, but substantially higher in total value (by 62%) and volume (by 42%) compared to calendar year 2012.

The average annual prices of discrete-year NOx RTCs traded during calendar year 2013 were $549 per ton for Compliance Year 2012 RTCs, $1,080 per ton for Compliance Year 2013 RTCs, and $1,881 per ton for Compliance Year 2014 RTCs. The average annual prices for discrete-year SOx RTCs traded during the same period were $291 per ton for Compliance Year 2012 RTCs and $485 per ton for RTCs for Compliance Year 2013. Therefore, the average annual prices for discrete NOx and SOx RTCs for all compliance years remained well below the $15,000 per ton threshold to evaluate and review the compliance aspects of the program set forth by SCAQMD Rule 2015, as well as the $40,067 per ton of NOx and $28,848 per ton of SOx discrete RTCs pre-determined overall program review thresholds established by the Governing Board pursuant to Health and Safety Code §39616(f).

The average annual price during calendar year 2013 for IYB NOx RTCs was $45,914 per ton, and the average annual price for IYB SOx RTCs was $181,653 per ton. Therefore, average annual IYB RTC prices did not exceed the $601,010 per ton of IYB NOx RTCs or the $432,727 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 2013. They were involved in 134 of the 229 discrete NOx and SOx trade registrations with price and 19 of 21 IYB NOx and SOx trades with price. Excluding one set of trades resulting from a set of changes of operator between two companies, investors were involved in 31% of total value and 44% of total volume for discrete NOx trades, and 2% of total value and 1% of total volume for discrete SOx

trades. Investors were involved in 100% of the IYB NOx and SOx trades with price. At the end of calendar year 2013, investors' holdings of IYB NOx RTCs and IYB SOx RTCs were 4.9% and 0.9% of the total RECLAIM RTCs, respectively.

Chapter 3: Emission Reductions Achieved

For Compliance Year 2012, aggregate NOx emissions were below total allocations by 19% and aggregate SOx emissions were below total allocations by 40%. No emissions associated with breakdowns were excluded from reconciliation with facility allocations in Compliance Year 2012. Accordingly, no mitigation is necessary to offset excluded emissions due to approved Breakdown Emission Reports. Therefore, based on audited emissions, it can be concluded that RECLAIM achieved its targeted emission reductions for Compliance Year 2012. With respect to the Rule 2015 backstop provisions, Compliance Year 2012 aggregate NOx and SOx 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 2012, a total of 46 NOx RECLAIM facilities had NSR NOx emission increases, and four SOx RECLAIM facilities had NSR SOx emission increases due to expansion or modification. Consistent with all prior compliance years, there were sufficient NOx and SOx 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 NOx emission increases and a 1-to-1 offset ratio for SOx emission increases on a programmatic basis. In Compliance Year 2012, RECLAIM provided an offset ratio based on the compliance year's total unused allocations and total NSR emission increases of 9-to-1 for NOx, demonstrating federal equivalency. RECLAIM inherently complies with the federally-required 1-to-1 SOx offset ratio for any compliance year, provided aggregate SOx emissions under RECLAIM are lower than or equal to aggregate SOx allocations for that compliance year. As shown in Chapter 3, there was no programmatic SOx exceedance during Compliance Year 2012; in fact, there was a surplus of SOx RTCs. Therefore, RECLAIM more than complied with the federally-required SOx offset ratio and further quantification of the SOx 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 very similar to federal Lowest Achievable Emission Rate (LAER), for all new or modified sources with emission increases. In addition, more stringent control technology can be required pursuant to RECLAIM if it is

determined to be cost effective as compared to AQMP measures or adopted SCAQMD rules.

Chapter 5: Compliance

Of the 278 NOx RECLAIM facilities during Compliance Year 2012, a total of 266 facilities (96%) complied with their NOx allocations, and all but one of the 33 SOx facilities (97%) complied with their SOx allocations. The 12 NOx facilities that exceeded their NOx allocations had aggregate NOx emissions of 832 tons and did not have adequate allocations to offset 125.9 tons (or 15.1%) of their combined emissions. This exceedance amount is small compared to the overall allocations for Compliance Year 2012 (1.3% of total NOx allocations). One SOx facility had SOx emissions that exceeded its SOx allocations by only three pounds. The exceedances from these 12 facilities (11 NOx-only facilities and one NOx and SOx facility) did not impact the overall RECLAIM emission reduction goals. Pursuant to Rule 2010(b)(1)(A), all 12 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 2012 allocations. The overall RECLAIM NOx and SOx emission reduction targets and goals were met for Compliance Year 2012 (*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. There may be additional effects 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) and also factors other than RECLAIM (*e.g.*, the prevailing economic climate), that impact the job market. These factors are not evaluated in this report. Also job losses and job gains are strictly based on RECLAIM facilities' reported information. AQMD is not able to independently verify the reported job impacts information.

According to the Compliance Year 2012 employment survey data gathered from APEP reports, RECLAIM facilities reported a net gain of 2,026 jobs, representing 2% of their total employment. All of the facilities that reported job losses and job gains cited factors other than RECLAIM as the reasons for these changes in employment figures. Furthermore, none of the five RECLAIM facilities listed as shutdown during Compliance Year 2012 cited RECLAIM as a factor contributing to the decision to shutdown.

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 2012 NOx emissions increased slightly (7.0%) relative to Compliance Year 2011 and Compliance Year 2012 SOx emissions were 6.4% less when compared to last year. Quarterly calendar year 2012 NOx emissions fluctuated within four percent of the mean NOx emissions for the year. Quarterly calendar year 2012 SOx emissions fluctuated within ten

percent of the year's mean SOx emissions. There was no significant shift in seasonal emissions from the winter season to the summer season.

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 2013, 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 appropriate, to the NSR rule for toxics (Rule 1401). 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 toxics emissions reports are used to identify candidates for the Toxics Hot Spots program (AB2588), which in turn quantifies toxic risk from facilities in the program and identifies those facilities that are required to do public notice and/or reduce their health risk levels to the public. 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 (NOx) and oxides of sulfur (SOx) 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 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 2012 Compliance Year Audit.

This report presents the annual program audit and progress report of RECLAIM's nineteenth compliance year (January 1 through December 31, 2012 for Cycle 1 and July 1, 2012 through June 30, 2013 for Cycle 2 RECLAIM facilities), also known as Compliance Year 2012. 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;
- Average annual 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, 2012 (covered under the Annual RECLAIM Audit Report for 2011 Compliance Year), then discusses changes to the RECLAIM universe of sources in detail through the end of Compliance Year 2012.
2. ***RTC Allocations and Trading***
   This chapter summarizes changes in emissions allocations in the RECLAIM universe, RTC supply and RTC trading activity, average annual 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 NOx and SOx.
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, 2012, the overall changes in RECLAIM participants were 121 facilities included into the program, 70 facilities excluded from the program, and 169 facilities ceased operation. Thus, the RECLAIM universe consisted of 276 active facilities on July 1, 2012. From July 1, 2012 through the end of Compliance Year 2012 (December 31, 2012 for Cycle 1 facilities and June 30, 2013 for Cycle 2 facilities), two facilities were included into the RECLAIM universe, no facility was excluded, and five facilities (one facility in both the NOx and SOx universes and four in the NOx universe only) either shut down or consolidated their operations at other facilities and are no longer in the active RECLAIM universe. These changes resulted in a net decrease of three facilities in the universe, bringing the total number of active RECLAIM facilities to 273 as of the end of Compliance Year 2012.

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 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, 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 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 NOx and/or SOx emissions above the four ton per year threshold; or
- It ceases to be categorically excluded and its reported NOx and/or SOx 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, but may retain their remaining RTCs and participate in the trading market.

Universe Changes

The RECLAIM rules include several mechanisms to exclude facilities originally included in the program and to add new facilities. The overall changes to the RECLAIM universe from the date of adoption (October 15, 1993) through June 30, 2012 (the last day of Compliance Year 2011 for Cycle 2 facilities) were: the inclusion of 121 facilities (including 33 facilities created by partial change of operator of existing RECLAIM facilities), the exclusion of 70 facilities, and the shutdown of 169 facilities. Thus, the net change in the RECLAIM universe from January 1, 1994 through June 30, 2012 was a decrease of 118 facilities from 394 to 276 facilities. From July 1, 2012 through the end of Compliance Year 2012 (December 31, 2012 for Cycle 1 facilities and June 30, 2013 for Cycle 2 facilities), two facilities were included, no facility was excluded, and five facilities shut down. These changes brought the total number of facilities in the RECLAIM universe to 273 facilities. The Compliance Year 2012 RECLAIM universe includes 241 NOx-only, no SOx-only, and 32 both NOx and SOx RECLAIM facilities. The list of active facilities in the RECLAIM universe as of the end of Compliance Year 2012 is provided in Appendix A.

Facility Inclusions and Exclusions

Two facilities were included in the RECLAIM universe from July 1, 2012 through the end of Compliance Year 2012. One of these facilities elected to enter the RECLAIM program and the other was created through the partial change of operator of an existing RECLAIM facility (one facility was split into two). The facility that opted to enter RECLAIM was initially permitted post-October 15, 1993, and is considered "new" as defined by SCAQMD Rule 2000 – General. Appendix B lists these two facilities and the reasons for their inclusion.

Additionally, one existing NOx RECLAIM facility merged with a neighboring non-RECLAIM facility through change of operator of the RECLAIM facility to the operator of the non-RECLAIM facility, bringing the formerly non-RECLAIM facility into the program. However, this did not result in a change to the overall number of facilities in RECLAIM since it was a merger. No facility was excluded from the RECLAIM universe during Compliance Year 2012.

Staff has periodically initiated the process of reviewing past Annual Emission Reports 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 NOx or SOx emissions greater than or equal to four tons per year, as reported under the Annual Emission Reporting (AER) program, for potential inclusion into RECLAIM. This part of the process involves screening for only emissions 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 activity/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.

In October 2012, SCAQMD informed 60 facilities in writing of potential inclusion into RECLAIM based upon their reported emissions in past years (58 potential NOx facilities and two potential SOx facilities, both of which were already NOx facilities). No facilities were included into RECLAIM during Compliance Year 2012 as a result of this evaluation process. Three facilities were included into NOx RECLAIM during the 2013 compliance year and are not addressed in this report because they did not impact the RECLAIM universe during Compliance Year 2012. At the time of composing this report, twenty-eight of the 60 facilities remain under review for inclusion. As stated above, the inclusion review process has now been shifted to an annual process. Additionally, 13 facilities identified through this annual process in 2013 are being evaluated for potential inclusion. Additional inclusions will be addressed in future RECLAIM annual program audits as facility eligibility is confirmed.

Facilities Permanently Ceasing Operations

Five RECLAIM facilities permanently ceased operations between July 1, 2012 and the end of Compliance Year 2012. Two of the facilities each consolidated their operations with separate existing RECLAIM facilities within the SCAQMD. One power plant shut down as air quality mitigation for the start-up of a new power plant located in the SCAQMD. Another facility shut down its operation, its only piece of process equipment was rendered inoperable, and it sold the property to an adjacent facility. The facility that bought the property is a university and became RECLAIM exempt, and categorically excluded from

RECLAIM pursuant to Rule 2001(i)(2)(H). The last shutdown facility moved its operation to a new plant in a different state. Four of the five facilities permanently ceasing operations were in NOx RECLAIM, and the remaining shutdown facility was in both NOx and SOx RECLAIM. Appendix C lists these facilities and provides brief descriptions of the reported reasons for their closures.

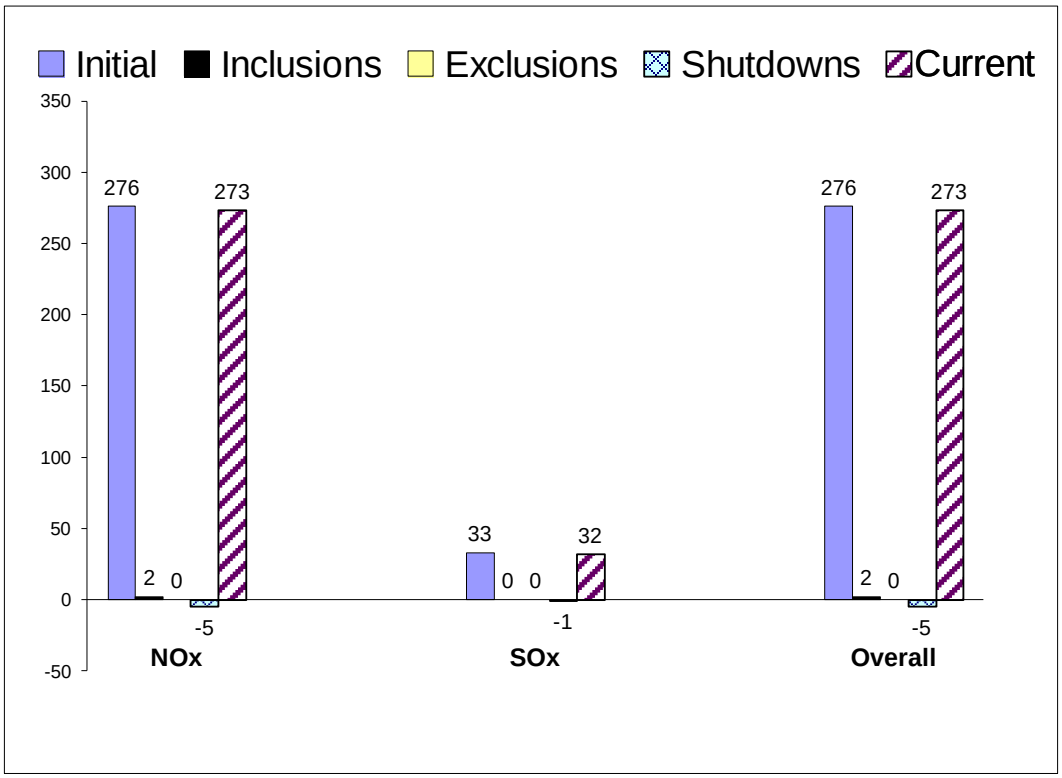
The above mentioned changes to the RECLAIM Universe resulted in a net decrease of three facilities in the RECLAIM universe. Table 1-1 summarizes changes in the RECLAIM universe between the start of the program and June 30, 2013. Overall changes to the RECLAIM universe that occurred from July 1, 2012 through June 30, 2013 are illustrated in Figure 1-1.

Table 1-1
RECLAIM Universe Changes

	NOx Facilities	SOx Facilities	Total* Facilities
Universe – October 15, 1993 (Start of Program)	392	41	394
Inclusions – October 15, 1993 through June 30, 2012	121	12	121
Exclusions – October 15, 1993 through June 30, 2012	-69	-4	-70
Shutdowns – October 15, 1993 through June 30, 2012	-168	-16	-169
Universe – June 30, 2012	276	33	276
Inclusions – July 1, 2012 through end of Compliance Year 2012	2	0	2
Exclusions – July 1, 2012 through end of Compliance Year 2012	0	0	0
Shutdowns – July 1, 2012 through end of Compliance Year 2012	-5	-1	-5
Universe – End of Compliance Year 2012	273	32	273

* 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 from July 1, 2012 through End of Compliance Year 2012



CHAPTER 2
RTC ALLOCATIONS AND TRADING

Summary

The allocation reduction in NOx RTCs adopted by the Governing Board on January 7, 2005 was completed in Compliance Year 2011. The amendments to SOx RECLAIM, which the Governing Board adopted on November 5, 2010 to phase in SOx reductions, will commence in Compliance Year 2013 and continue through Compliance Year 2019. That rule amendment will result in an overall reduction of 5.7 tons/day (or 48.4%) in SOx allocations when fully implemented (for Compliance Year 2019 and beyond). As a result, there were no programmatic allocation reductions in NOx or SOx RTCs during Compliance Year 2012.

The NOx RTC supply increased by 12.2 tons and the SOx RTC supply decreased by 16.2 tons during Compliance Year 2012. All of these changes, except 0.7 tons of NOx RTCs, were due to allocation adjustments for clean fuel production pursuant to Rule 2002(c)(12). The remaining 0.7 tons of increased NOx RTC supply was issued as the result of a merger between a RECLAIM facility and an adjacent non-RECLAIM facility (issued based on the operational history of the previously non-RECLAIM facility pursuant to Rule 2002). As a result, the NOx and SOx RTC supplies for Compliance Year 2012 were 9,689 tons and 4,283 tons, respectively.

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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), based on its historic production levels as reported to SCAQMD in its emission inventory reports (if the facility existed prior to January 1, 1993) and its listed starting emission factor in Tables 1 or 2, any qualified[1] external offsets it previously provided, and any unused ERCs generated at and held by the facility. 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.

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

[1] Only external offsets provided at a one-to-one offset ratio after the base year used for allocation quantification purposes.

present and discuss Compliance Year 2012 data, RTC trading and price data discussed in this chapter are for calendar year 2013.

RTC Allocations and Supply

The methodology for determining RTC allocations is established by Rule 2002. According to the 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 starting emission factors are changed. In addition to these SCAQMD-allocated RTCs, RTCs may be 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 (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), 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. Changes in the RTC supply during Compliance Year 2012 are discussed below.

Allocations Adjustments Due to Inclusion and Exclusion of Facilities

Allocations for a facility are based on the facility's historical operations, their starting emission factor, emission reduction requirements under the command-and-control rules subsumed by RECLAIM, AQMP control measures subsumed by RECLAIM, and adjustments for Best Available Retrofit Control Technology (BARCT) equivalency. Facilities 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 upon 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 are expired.

One new facility opted into the RECLAIM program and another facility was created through a partial change of operator in Compliance Year 2012. Both facilities belong to the NOx RECLAIM program. However, neither facility qualified for allocations pursuant to Rule 2002 – Allocations for Oxides Nitrogen (NOx) and Oxides of Sulfur (SOx). Additionally, one existing NOx RECLAIM facility merged with a neighboring non-RECLAIM facility through change of operator of the RECLAIM facility to the operator of the non-RECLAIM facility. This previously non-RECLAIM facility is an existing facility as defined in Rule 2002 and was therefore eligible for additional allocations. A total of 0.7 tons per year of NOx allocations were issued to the merged facility for the previously non-RECLAIM facility. There were no facilities excluded from the RECLAIM program in Compliance Year 2012.

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 CARB Phase II reformulated gasoline. The amount of these RTCs is based on actual emissions for the subject compliance year and historical production data. Based on the historical production data submitted, qualifying refineries were issued in 2000 an aggregate baseline of 86.5 tons of NOx and 42.3 tons of SOx for Compliance Year 1999, 101.8 tons of NOx and 41.4 tons of SOx for Compliance Year 2000, and 98.4 tons of NOx and 40.2 tons of SOx for each subsequent Compliance Year. 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 NOx allocations, the NOx 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) entitles refineries to 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 2012, the overall effect of adjusting NOx allocations to account for these differences was a total of 11.5 tons of NOx RTCs (0.1% of total NOx allocation for Compliance Year 2012) added to, and 16.2 tons of SOx RTCs (0.4% of total SOx allocation for Compliance Year 2012) deducted from refineries' Compliance Year 2012 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). If a facility makes corrections to its reported activity levels, the allocation is adjusted accordingly. There were no changes in RTC allocations due to activity corrections in Compliance Year 2012.

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. As a result, no new RTCs were issued as a result of conversion of other types of emission reduction credits in Compliance Year 2012.

Net Changes in RTC Allocations

The changes to RTC supplies described in the above sections resulted in a net increase of 12.2 tons of NOx RTCs (0.13% of the total) and a decrease of 16.2 tons of SOx RTCs (0.38% of total) for Compliance Year 2012. Table 2-1 summarizes the changes in NOx and SOx RTC supplies that occurred in Compliance Year 2012 pursuant to Rule 2002.

Table 2-1
Changes in NOx and SOx RTC Supplies during Compliance Year 2012 (tons/year)

Source	NOx	SOx
Universe changes	0.7	0
Clean Fuel/Reformulated Gasoline	11.5	-16.2
Activity corrections	0	0
MSERCs	0	0
Net change	**12.2**	**-16.2**

Note: The data in this table represents the changes that occurred over the course of Compliance Year 2012 to the Compliance Year 2012 aggregate NOx and SOx RTC supplies originally issued pursuant to Rule 2002, not the difference between 2012 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 then started the rule amendment process, 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.

Similarly, on November 5, 2010, the Governing Board adopted changes to the RECLAIM program implementing the 2007 AQMP Control Measure CMB-02 – Further SOx Reductions for RECLAIM (SOx). Specifically, these amendments will result in an overall reduction of 5.7 tons SOx 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 through 2016, 5.0 tons per day in 2017 and 2018, and a cumulative 5.7 tons per day starting in 2019 and continuing thereafter). This reduction in SOx is an essential part of the South Coast Air Basin's effort in attaining the federal 24-hour average PM2.5 standard by the year 2020.

Figures 2-1 and 2-2 illustrate the total NOx and SOx RTC supplies through the end of Compliance Year 2020 incorporating all the changes discussed above.

Figure 2-1
NOx RTC Supply

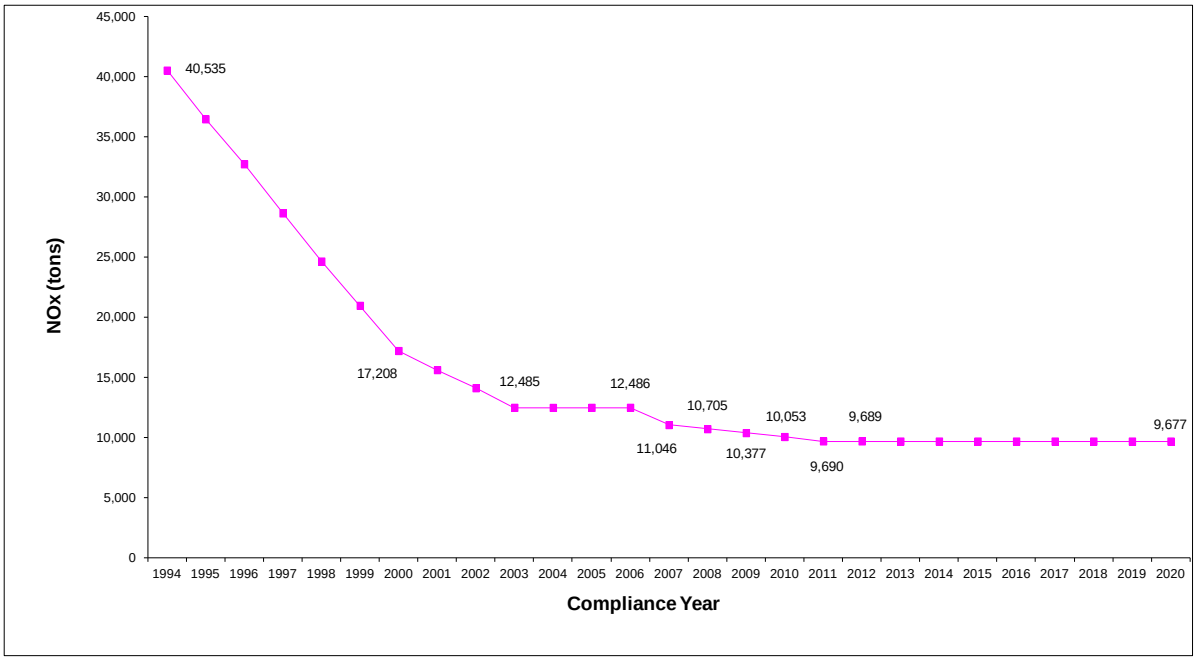
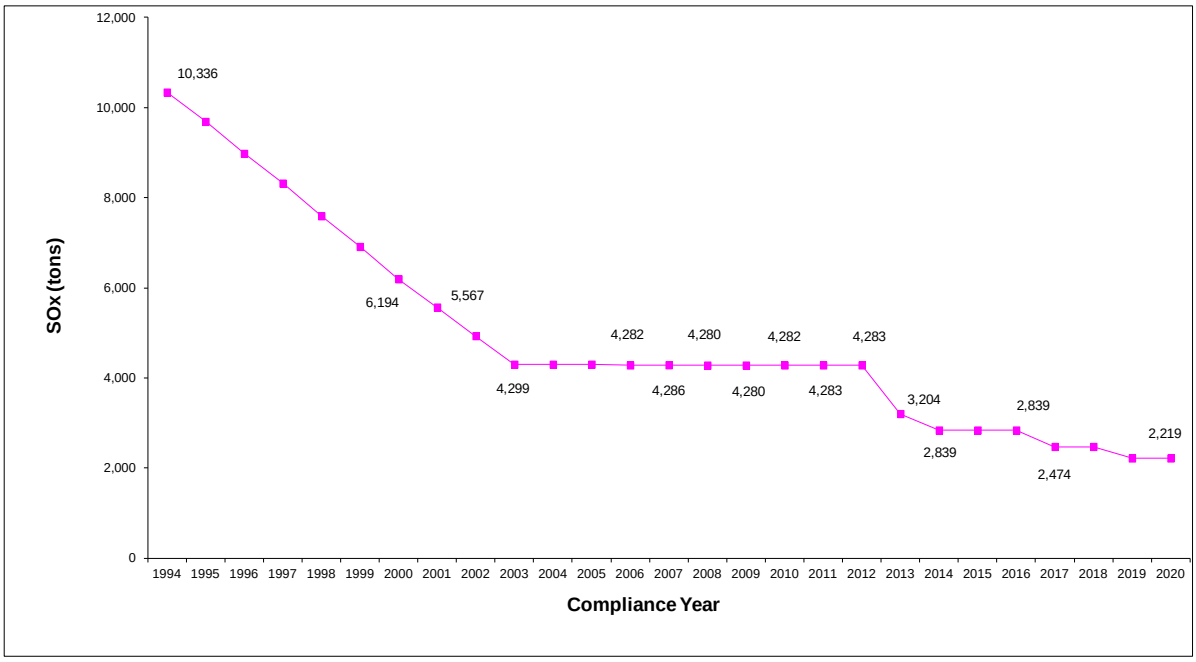


Figure 2-2
SOx RTC Supply



On December 7, 2012 the SCAQMD Governing Board adopted the 2012 AQMP, which includes Control Measure CMB-01 – Further NOx Reductions for RECLAIM, calling for reductions of NOx emissions within the RECLAIM program by 3 to 5 tons per day. The rule development and adoption process for this latest NOx reduction is currently ongoing. The actual amount of NOx reduction will be determined at the completion of the public process and will be submitted to the Governing Board for its consideration at a public hearing later in 2014.

Upcoming Proposal for Credit Generation

Proposed Rule 2511 – Credit Generation Program for Locomotive Head End Power Unit Engines and Proposed Rule 2512 – Credit Generation Program for Ocean-Going Vessels at Berth are two potential rules that could generate credits for the RECLAIM program. Proposed Rule 2511 would allow generation of emission reduction credits through the voluntary repowering of diesel–fueled auxiliary head end power generating units on passenger locomotives with cleaner engines. Proposed Rule 2512 would allow generation of emission reduction credits through the control of exhaust emissions from auxiliary engines and/or boilers used on Ocean-Going Vessels while at berth in a commercial marine port. Both of these two proposed rules are presently targeted for Governing Board consideration as part of the Rule and Control Measure Forecast for calendar year 2014, as approved by the Governing Board at the January 10, 2014 Board meeting.

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 because 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 may be somewhat arbitrary and are, therefore, excluded from the calculation of annual average prices. In this report, the average annual prices for discrete-year RTCs are averaged in dollars per ton of RTCs for each compliance year, while the average price for IYB RTCs are averaged as a total dollar value per ton of IYB RTCs.

Rule 2015(b)(6) specifies that, if the average annual price of discrete NOx or SOx 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. For RTC transactions occurring in calendar year 2013, the overall program review thresholds in 2013 dollars are $40,067 per ton of discrete-year NOx RTCs, $28,848 per ton of discrete-year SOx RTCs, $601,010 per ton of infinite-year NOx RTCs, and $432,727 per ton of infinite-year SOx RTCs.

RTC Trading Activity Excluding Swaps

Overall Trading Activity

The RTC market activity in calendar year 2013 was comparable to the market activity in calendar year 2012 in terms of the number of transactions. The calendar year 2013 trading activity—367 total registered trade transactions (344 NOx trades and 23 SOx trades)—was slightly higher than the number of trade transactions in calendar year 2012 (363 total registered trade transactions). These trades included discrete and IYB RTCs traded with prices, discrete and IYB RTC transfers with zero price, and discrete and IYB RTC swap trades.

Although the number of transactions in calendar year 2013 was comparable to that in calendar year 2012, the value and volume (pounds) traded in calendar year 2013 were substantially higher (62% and 42%, respectively) than those traded in calendar year 2012. Excluding swap trades, a total value of almost $30.4 million was traded in calendar year 2013 ($15.9 million for NOx and $14.5 million for SOx)—substantially higher than the total value of $18.8 million traded in calendar year 2012 ($4.2 million for NOx and $14.6 million for SOx). The increase in the total value traded (also total volume) was largely due to the sale of NOx and SOx RTCs resulting from a set of changes of operator between two companies, which accounted for $23.5 million (77.3% of the total value traded). Further details of the trades resulting from these changes of operator between two companies are presented at the end of this section. Figure 2-3 shows historical trading values (excluding swaps). Figure 2-4 summarizes overall trading activity (excluding swaps) in calendar year 2013 by pollutant.

With respect to volume traded (also excluding swap trades), 5,000 tons of discrete RTCs and 2,216 tons of IYB RTCs were traded in calendar year 2013.

This is significantly higher than the volume traded in calendar year 2012 (4,392 tons of discrete RTCs and 700 tons of IYB RTCs). In calendar year 2013, there were 3,370 tons of discrete NOx RTCs and 83 tons of discrete SOx traded with price and 1,073 tons of discrete NOx and 474 tons of discrete SOx traded without price. In addition, there were 261 tons of IYB NOx and 79 tons of IYB SOx traded with price and, 1,518 tons of IYB NOx, and 358 tons of IYB SOx traded with zero price. Additional information on the discrete and IYB trading activities, value, and volume are discussed later in this chapter.

There were 71 trades with zero price in calendar year 2013. 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.

Figure 2-3
Annual Trading Values for NOx and SOx (Excluding Swaps)

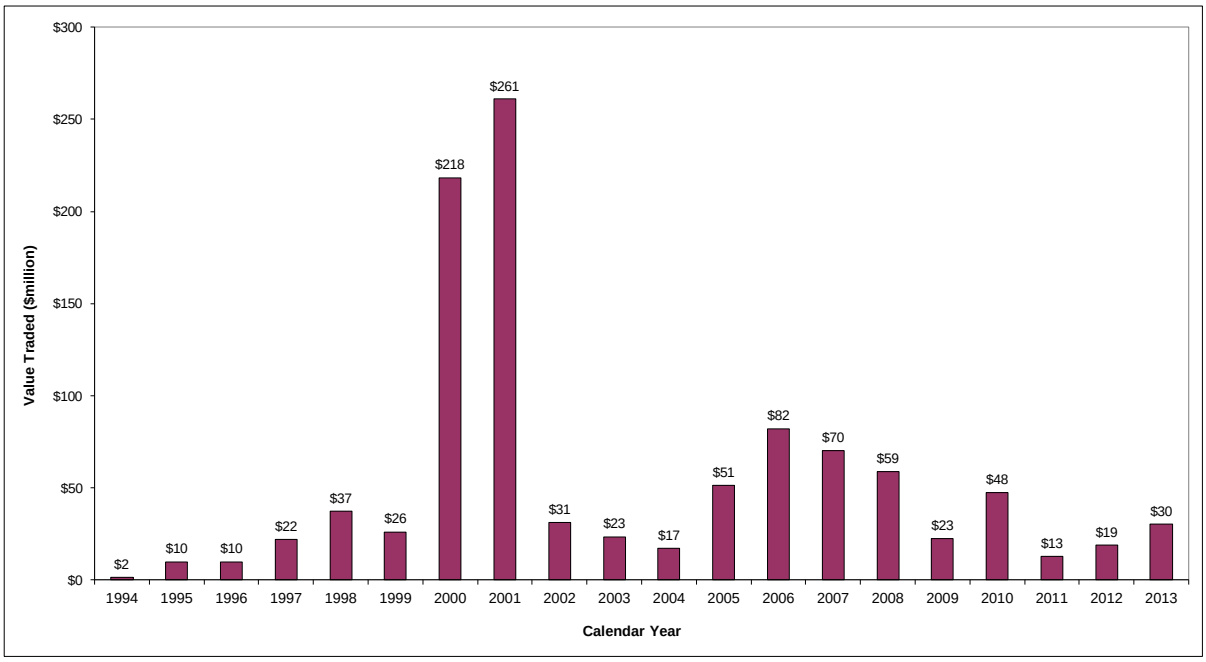
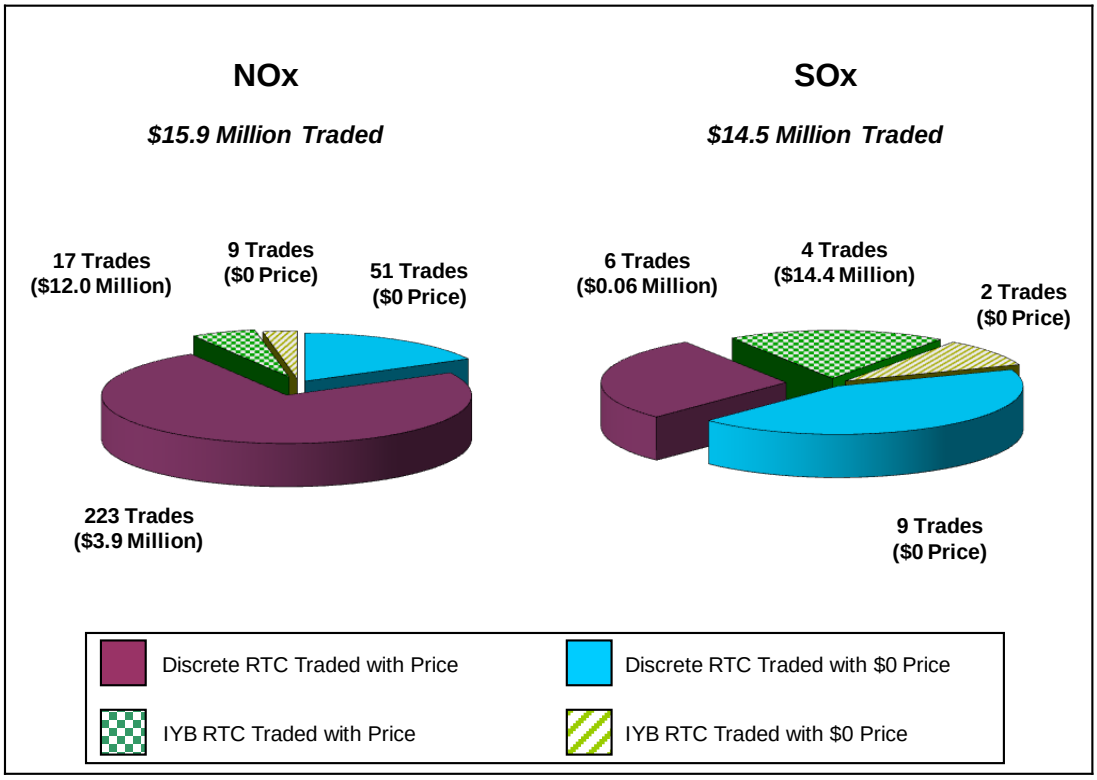


Figure 2-4
Calendar Year 2013 Overall Trading Activity (Excluding Swaps)



Discrete RTC Trading Activity

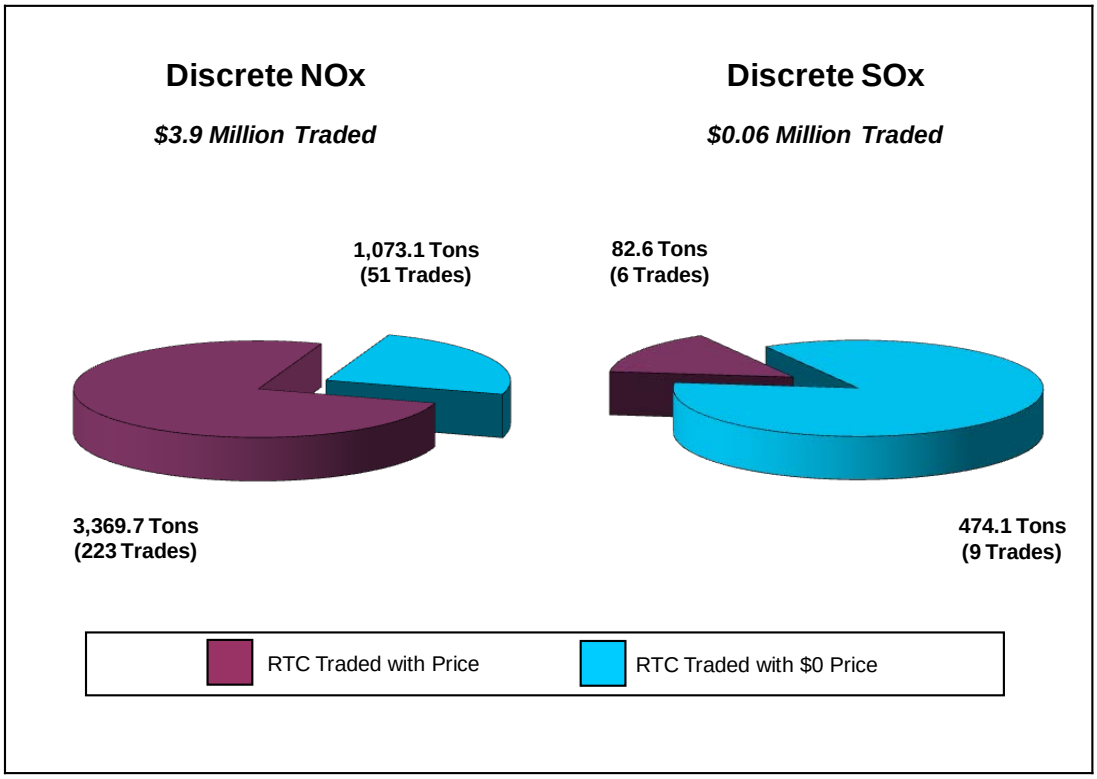
In calendar year 2013, there were a total of 274 discrete NOx RTC trades (223 trades with price and 51 trades with zero price) and 15 discrete SOx RTC trades (six trades with price and nine trades with zero price), excluding swap trades. Most of the trading of discrete NOx RTCs included RTCs for Compliance Years 2012 through 2015. There was one NOx trade that involved RTCs for Compliance Years 2016, 2017, and 2018. Most of the trading of discrete SOx RTCs included RTCs for Compliance Years 2012 and 2013. There was one SOx trade that involved RTCs for Compliance Years 2015 and 2016.

Discrete RTC trading values increased significantly in calendar year 2013. The 223 NOx trades with price totaled $3.9 million in value. This is almost double the $2.0 million in calendar year 2012. The six discrete SOx trades with price totaled $0.06 million in value, which also is double the $0.03 million traded in calendar year 2012.

The overall quantity of discrete NOx RTCs traded in calendar year 2013, 4,443 tons, increased from 3,301 tons traded in calendar year 2012. Total quantity of discrete NOx RTCs traded with price also increased to 3,370 tons in 2013 from 2,150 tons in calendar year 2012. There were a total of 1,073 tons of discrete NOx RTCs traded with zero price in 2013. The overall quantity of discrete SOx RTCs traded decreased from 1,091 tons to 557 tons. However, the quantity of discrete SOx RTCs traded with price more than doubled from 35 tons in 2012 to

83 tons in 2013. There were also 474 tons of discrete SOx RTCs trades with zero price. Figure 2-5 illustrates the trading activity of discrete RTCs (excluding swaps) for calendar year 2013.

Figure 2-5
Calendar Year 2013 Trading Activity for Discrete RTCs (Excluding Swaps)



IYB RTC Trading Activity

In calendar year 2013, there were 26 IYB NOx trades and six IYB SOx trades. The IYB NOx trades included Compliance Years 2012, 2013, 2014, or 2015 as the start year, while the IYB SOx trades included Compliance Years 2013 or 2014 as the start year. Of the 26 IYB NOx trades, 17 trades were with price and 9 trades with zero price. Of the six IYB SOx trades, four trades were with price and two trades were with zero price.

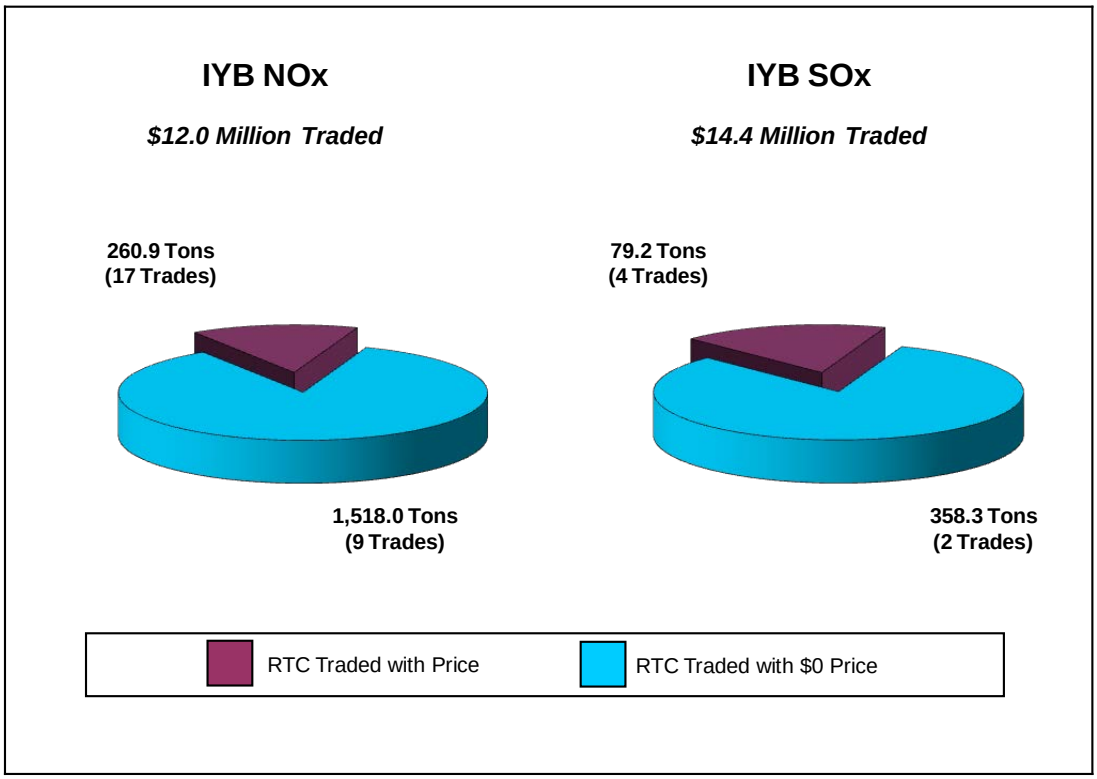
The 17 IYB NOx trades with price totaling $12 million in calendar year 2013 were much higher than the 13 trades with price for $2.2 million in 2012. The four IYB SOx RTC trades with price totaling $14.4 million in calendar year 2013 were just slightly lower than the $14.6 million traded in 2012.

The total quantity of 1,779 tons of IYB NOx traded in Calendar Year 2013 was much higher than the 131 tons traded in Calendar Year 2012. There were 261 tons of IYB NOx traded with price in calendar year 2013 compared to only 47 tons traded in calendar year 2012. The total quantity of IYB SOx traded in Calendar Year 2013 was 438 tons, which is less than the 569 tons traded in

Calendar Year 2012. The 79.2 tons of IYB SOx traded with price in 2013 also was lower than the 116 tons traded in calendar year 2012.

In addition to trades with price, there were also nine IYB NOx trades totaling 1,518 tons and two IYB SOx trades totaling 358 tons traded with zero price in calendar year 2013. Of the IYB NOx RTCs traded without price, 1,496 tons were the result of changes of operator transferring their SCAQMD issued allocations from their old operators to their new operators. All 358 tons of the IYB SOx RTCs traded without price were due to a change of operator and the associated transfer of IYB SOx RTCs that were originally issued by SCAQMD. Figure 2-6 illustrates the calendar year 2013 IYB RTC trading activity excluding swap trades.

Figure 2-6
Calendar Year 2013 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 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 NOx trades, discrete SOx trades, IYB NOx trades, and IYB SOx trades, respectively) based on the trade reporting methodology described earlier in this report.

As mentioned in the beginning of this section, there was a set of changes of operator between two companies in 2013. These changes resulted in significant amounts of RTCs transferred between these two companies both with and without prices and were the main cause in the increased trading activity in 2013. Some of the transfers of RTCs resulting from these changes of operator occurred with price and the others were with $0 price. The transfers with $0 included only RTCs that were originally issued to the facilities by SCAQMD and included 468 tons of discrete NOx RTCs, 128 tons of discrete SOx RTCs, 771 tons of IYB NOx RTCs and 358 tons of IYB SOx RTCs. The other transfers included RTCs that were previously purchased from other sources by the previous operator and included 48 tons of discrete year SOx RTCs (58% of total volume of discrete SOx RTCs traded with price), 202 tons of IYB NOx RTCs (77% of total volume of IYB NOx RTCs traded with price) and 78.7 tons of IYB SOx RTCs (99% of total volume of IYB SOx RTCs traded with price). These transfers totaled $0.04 million for the discrete year SOx RTCs (67% of total value discrete SOx RTCs traded), $9.2 million for the NOx IYB RTCs (77% of total value of NOx IYB RTCs traded) and $14.3 million for the IYB SOx RTCs (84% of total value of SOx IYB RTCs traded).

Figure 2-7
Discrete NOx RTC Trades (Excluding Swaps)

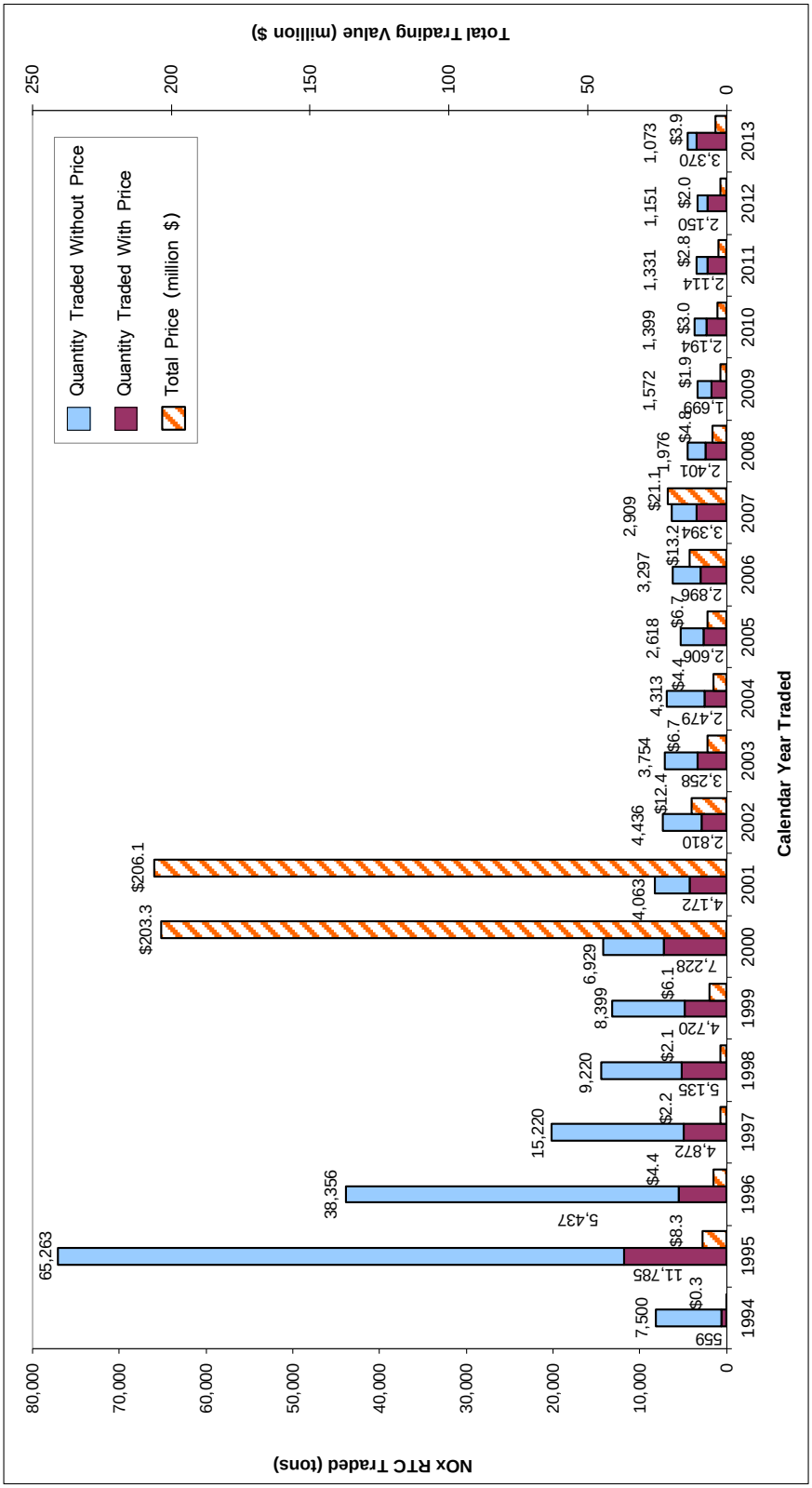


Figure 2-8
Discrete SOx RTC Trades (Excluding Swaps)

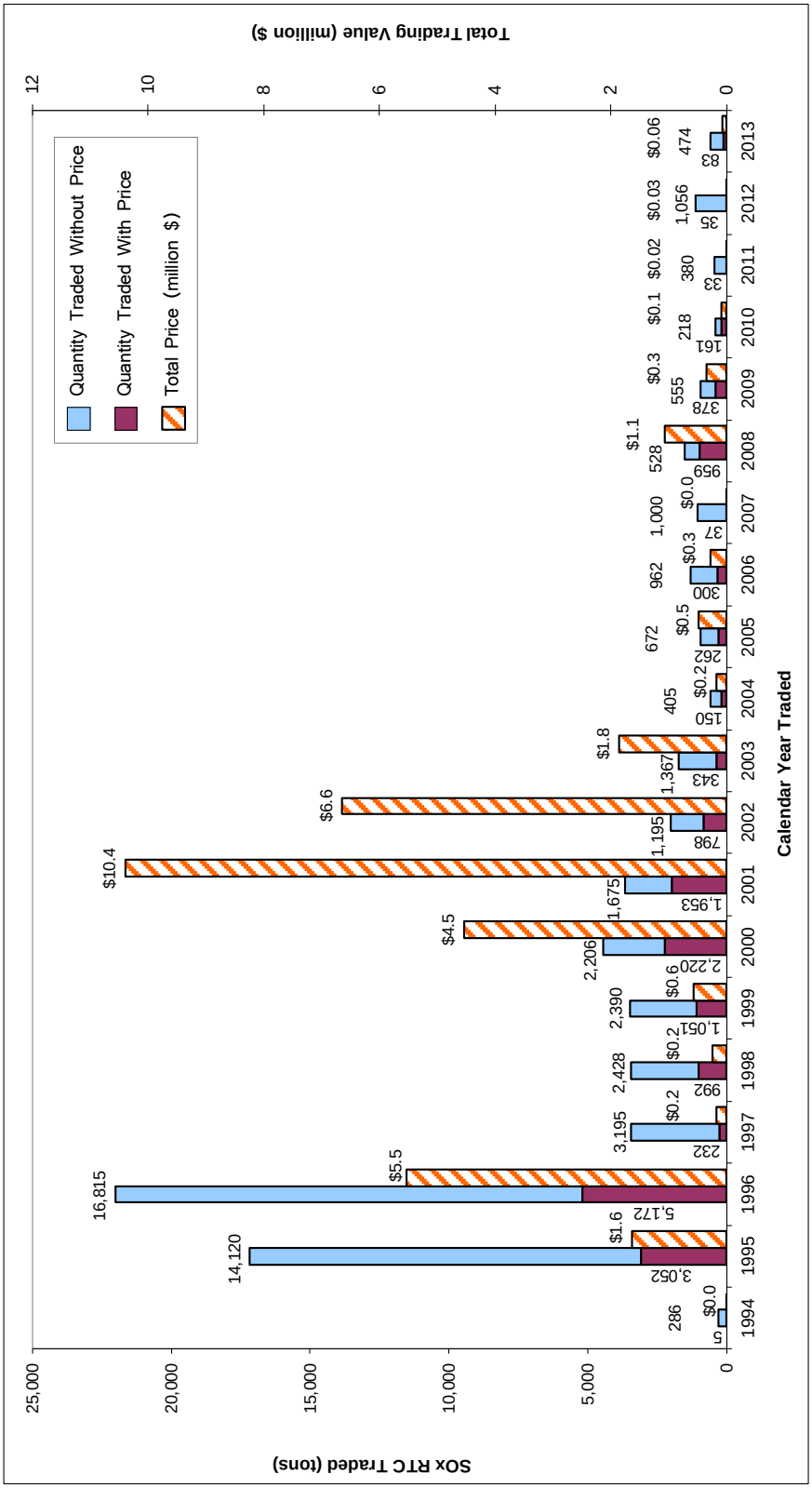


Figure 2-9
IYB NOx RTC Trades (Excluding Swaps)

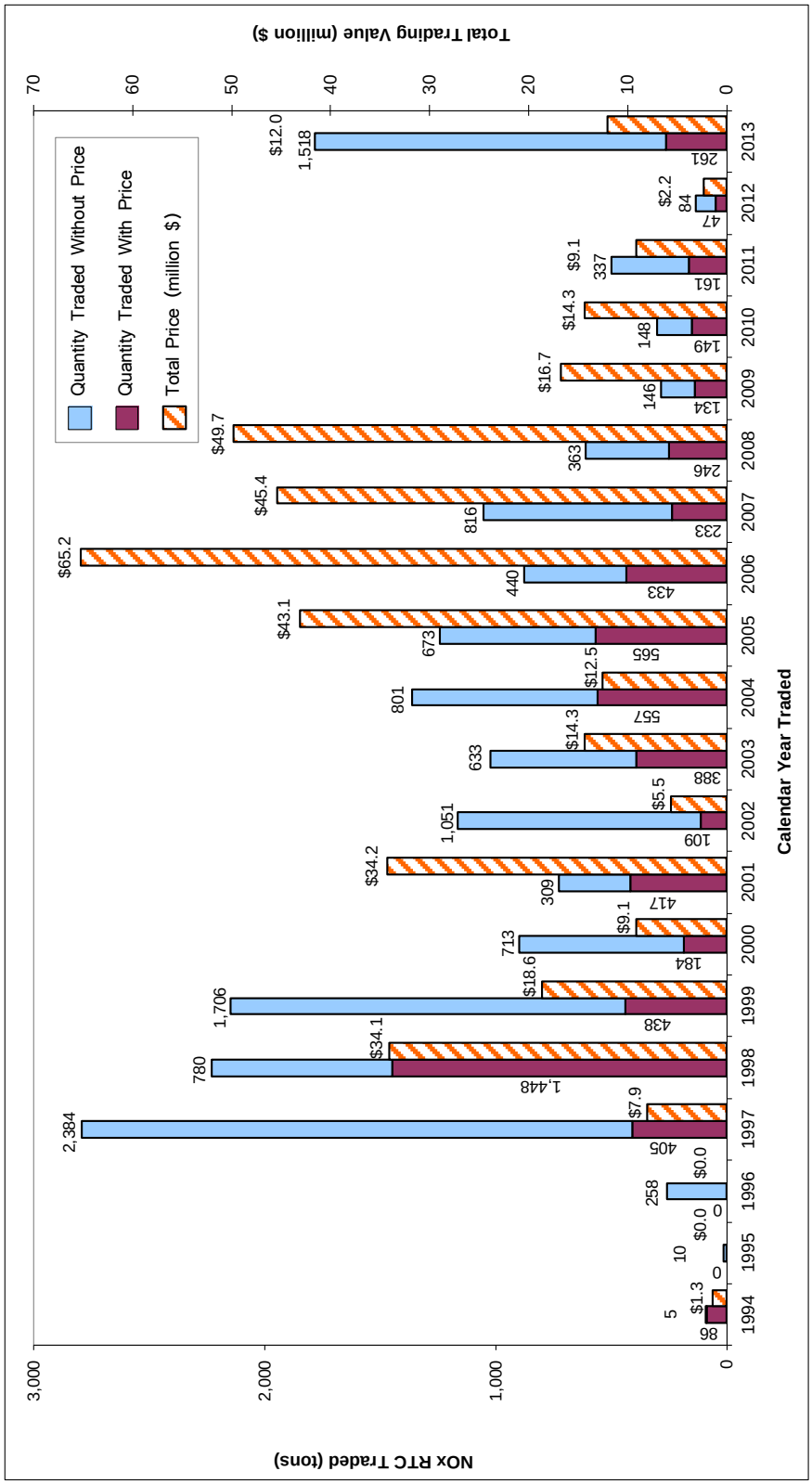
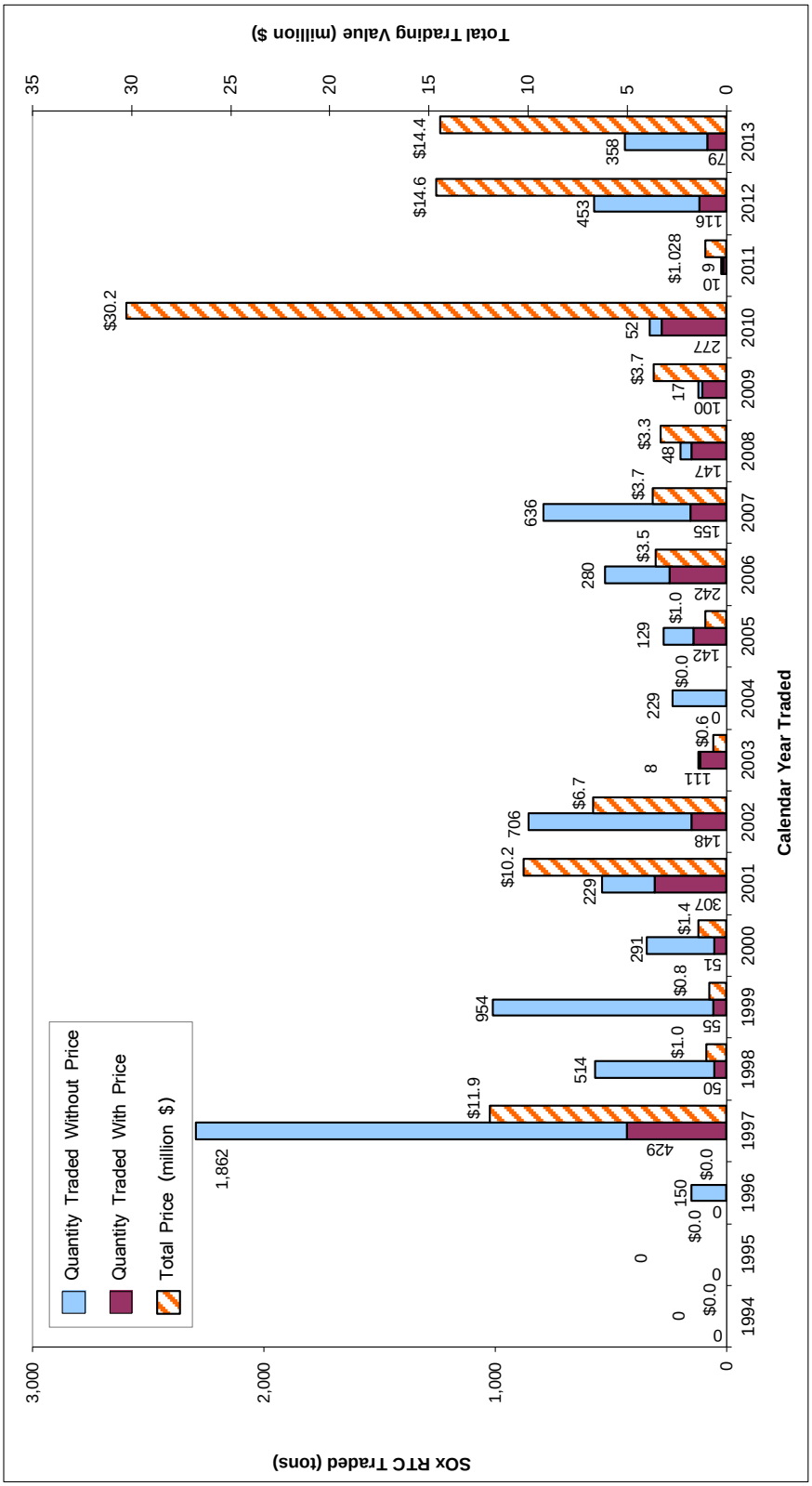


Figure 2-10
IYB SOx RTC Trades (Excluding Swaps)



Swap Trades

In addition to traditional trades of RTCs for a price, RTC swaps also occurred between trading partners. There were swaps of RTCs with different zones, cycles, expiration years, and pollutants. In some cases, swaps involved a combination of RTCs and cash payment as a premium. 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. Over $2.74 million in total value was reported from RTCs that were swapped in calendar year 2013. 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 transactions with large values (*e.g.,* 2009) the inclusion of swap transactions in the average trade price calculations would have resulted in calculated average annual prices dominated by swap transactions, and therefore, may not be 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 2013 RTC swaps for NOx and SOx, respectively.

Table 2-2
NOx Registrations Involving Swaps*

Year	Total Value ($ millions)	IYB RTC Swapped with Price (tons)	Discrete RTC Swapped with Price (tons)	Number of Swap Registrations with Price	Total Number of Swap Registrations
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

* There are swaps that are without price. 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 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

* There are swaps that are without price. 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

Discrete-Year RTC Prices

In calendar year 2013, the average annual prices for discrete-year NOx RTCs were $549 per ton for Compliance Year 2012, $1,080 per ton for Compliance Year 2013 RTCs, and $1,881 per ton for Compliance Year 2014. The highest NOx average price was $3,800 per ton for Compliance Year 2018 RTCs. There was only one trade that involved discrete-year NOx RTCs for Compliance Years 2016, 2017, and 2018.

The average annual prices for discrete-year SOx RTCs were $291 per ton for Compliance Year 2012, $485 per ton for Compliance Year 2013, and $900 per ton for Compliance Years 2015 and 2016[2]. There was only one trade that involved discrete-year SOx RTCs for Compliance Years 2015 and 2016 and this trade was also associated with the change of operator. The $485 per ton for Compliance Year 2013 SOx RTCs traded in calendar year 2013 is less than the corresponding $759 per ton Compliance Year 2012 SOx RTCs traded in calendar year 2012. These discrete-year SOx RTCs average prices are based on only three trades for each of these calendar years. Averages based on such small populations are expected to be highly variable.

Figures 2-11 and 2-12 present the average annual prices for discrete-year NOx and SOx RTCs during calendar years 2005 through 2013, respectively. Note that prices for a Compliance Year's RTCs may also be shown for the calendar year after those RTCs expired, since the average price for each compliance year is based on sales of both Cycle 1 RTCs expiring in December of that year, as well as Cycle 2 RTCs expiring in June of the following year. Furthermore, Cycle 1 RTCs expiring in December may be traded during the 60-day reconciliation period following the expiration date, which extends into the next calendar year.

Average annual prices in calendar year 2013 for discrete NOx and SOx RTCs for all compliance years remained well below the $15,000 per ton threshold to evaluate and review the compliance aspects of the program set forth by SCAQMD Rule 2015, as well as the $40,067 per ton of NOx and $28,848 per ton of SOx discrete RTCs pre-determined overall program review thresholds established by the Governing Board pursuant to Health and Safety Code §39616(f).

[2] There were no discrete-year SOx RTCs for Compliance Year 2014 traded in calendar year 2013.

Figure 2-11
Average Annual Prices for Discrete-Year NOx RTCs during Calendar Years 2005 through 2013

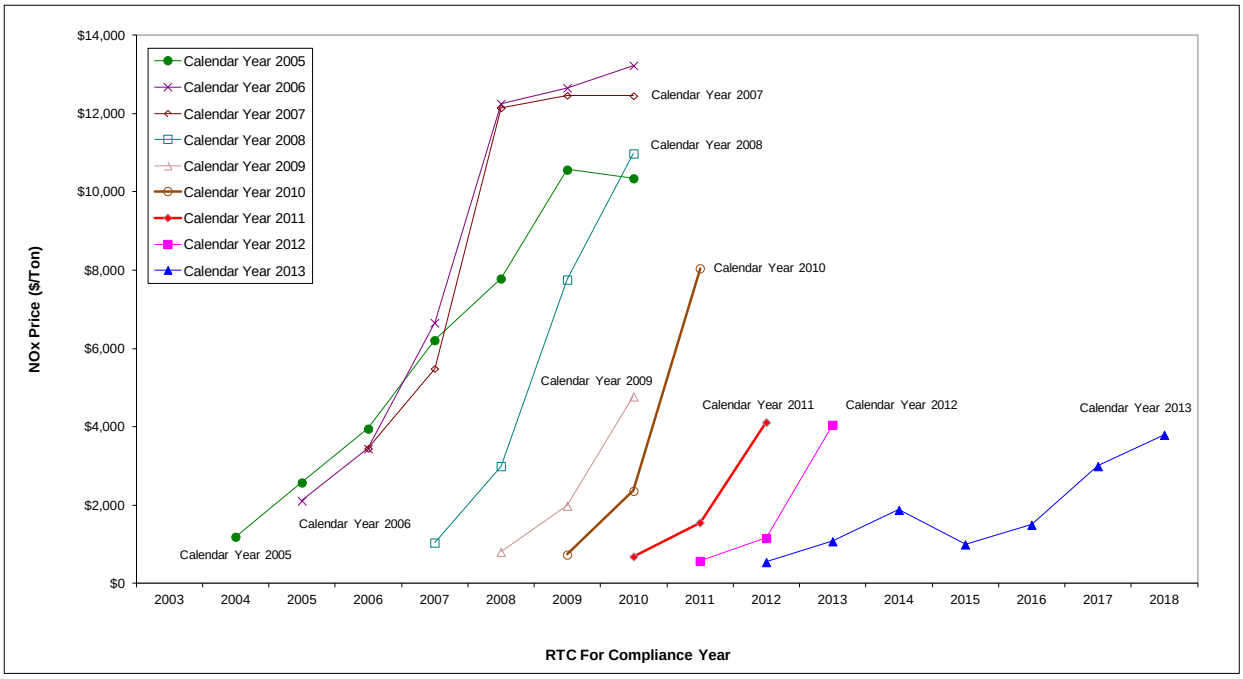
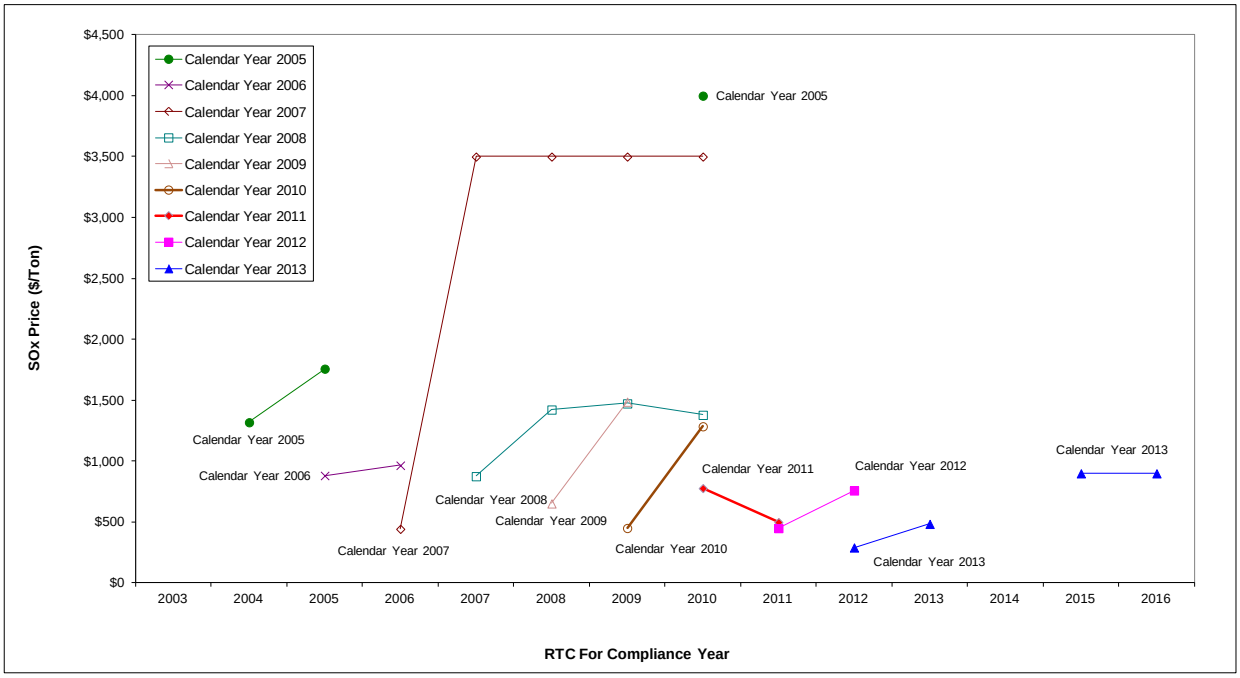


Figure 2-12
Average Annual Prices for Discrete-Year SOx RTCs during Calendar Years 2005 through 2013



Twelve-Month Rolling Average Prices of Compliance Year 2012 NOx RTCs

The January 2005 RECLAIM amendments directed the Executive Officer to calculate the 12-month rolling average price of NOx RTCs ("rolling average price") "for all trades for the current compliance year" excluding "RTC transactions reported at no price." Swap transactions are also excluded from the calculation of rolling average prices.

In the event that the rolling average price exceeds $15,000 per ton, the Executive Officer is required to report the rolling average price to the Governing Board. If the Governing Board determines that the rolling average price exceeds $15,000 per ton, SCAQMD is required to review the compliance aspects of the RECLAIM program. In its resolution amending Rule 2002(f) on January 7, 2005, the Governing Board directed the Executive Officer to report the NOx RTC 12-month rolling average price data to the Stationary Source Committee (SSC) at least quarterly. Accordingly, such reports have been prepared by SCAQMD staff and submitted to the SSC on a quarterly basis. To date, the twelve-month rolling average prices have been far below and have not exceeded the $15,000 per ton threshold. Staff continues to monitor the twelve-month rolling average price of current-year NOx RTCs on a monthly basis and report the rolling average prices to the Stationary Source Committee on a quarterly basis.

As shown in Table 2-4, the twelve-month rolling average prices of Compliance Year 2013 NOx RTCs have generally been flat or declining since January 2013 and have not exceeded the $15,000 per ton threshold specified in Rule 2002(f). Therefore, it was not necessary for the Executive Officer to report the rolling average price to the Governing Board or for the Governing Board to require a compliance audit. For Compliance Year 2012 NOx RTCs, the same findings were true and were included in the RECLAIM Annual Audit Report for 2011 Compliance Year, submitted to the Governing Board in March 2013.

Table 2-4
Twelve-Month Rolling Average Prices of Compliance Year 2013 NOx RTCs

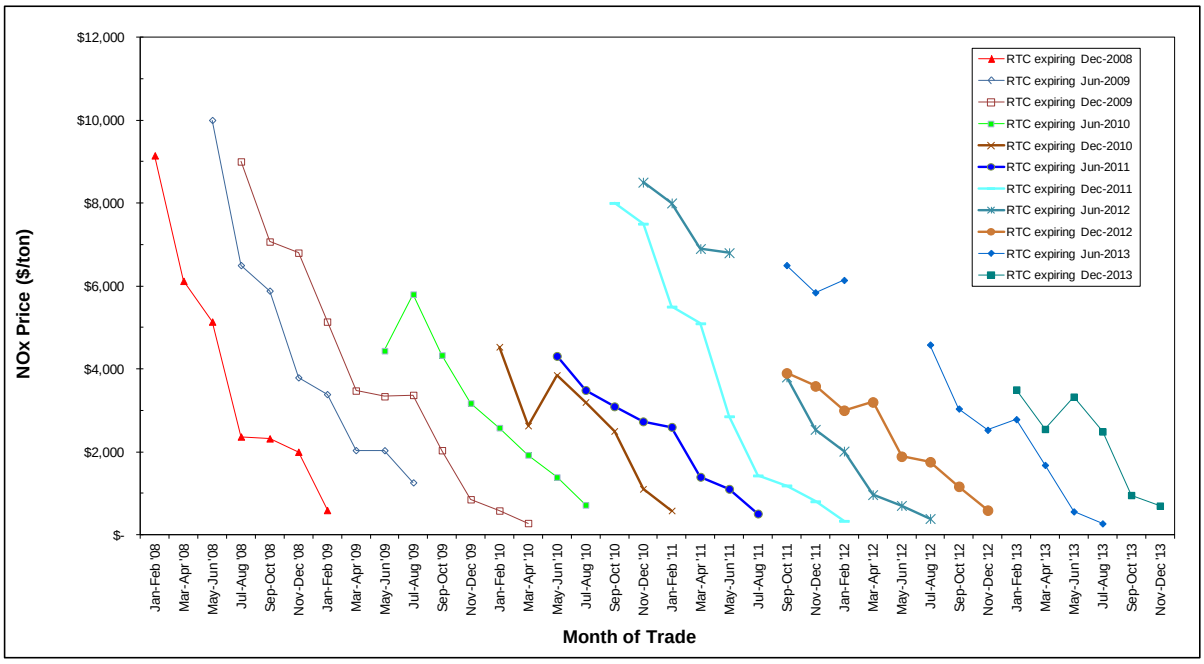
Reporting Month	12-Month Period	Average Price ($/ton)
January 2013	January through December 2012	$4,053
February 2013	February 2012 through January 2013	$4,044
March 2013	March 2012 through February 2013	$4,044
April 2013	April 2012 through March 2013	$4,042
May 2013	May 2012 through April 2013	$3,765
June 2013	June 2012 through May 2013	$3,765
July 2013	July 2012 through June 2013	$3,758
August 2013	August 2012 through July 2013	$3,665
September 2013	September 2012 through August 2013	$3,643
October 2013	October 2012 through September 2013	$1,849
November 2013	November 2012 through October 2013	$1,522
December 2013	December 2012 through November 2013	$1,444
January 2014	January through December 2013	$1,080

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 and there was a shortage of NOx RTCs. Prices for NOx RTCs that expired in calendar year 2013 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 2-13 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, however SOx RTC prices have generally followed the same trends.

Figure 2-13
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 average annual price for IYB NOx RTCs traded in calendar year 2013 is $45,914 per ton, which is lower than the average annual price of $48,146 per ton traded in calendar year 2012. The average annual price for IYB SOx RTCs traded in calendar year 2013 is $181,653 per ton, which is higher than the $125,860 per ton traded in calendar year 2012. There were only four IYB SOx trades with price totaling 79 tons in 2013, which is lower than the 116 tons traded in 2012. However, the IYB SOx RTC average price was dominated by one IYB SOx trade resulting from a change of operator that accounted for over 99% of the trading volume. Data regarding IYB RTCs traded with price (excluding swap trades) for NOx and SOx RTCs and their average annual prices since 1994 are summarized in Tables 2-5 and 2-6, respectively. In calendar year 2013, the average annual IYB RTC prices did not exceed the $601,010 per ton of NOx RTCs or the $432,727 per ton of SOx RTCs program review thresholds established by the Governing Board pursuant to California Health and Safety Code §39616(f).

Table 2-5
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

* No information regarding swap trades was reported until May 9, 2001.

Table 2-6
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

* No information regarding swap trades was reported until May 9, 2001.

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 original sources and users of RTCs. 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. For discussion in this report, “investors” include all parties who hold RTCs other than RECLAIM facility permit holders and brokers.

Investor Participation

Investors were involved in 133 of the 223 discrete NOx RTC trades with price, one of the six discrete SOx RTC trades with price, 16 of the 17 IYB NOx trades with price and three of the four IYB SOx trades with price in calendar year 2013.

Investors' involvement in discrete NOx and SOx trades registered with price in calendar year 2013 is illustrated in Figures 2-14 and 2-15. Figure 2-14 is based on total value of discrete NOx and SOx RTCs traded, and shows that investors were involved in 31% and 0.5%, respectively, of the NOx and SOx trades reported by value. Figure 2-15 is based on discrete volume traded with price and shows that investors were involved in 44% and 0.5% of the NOx and SOx trades by volume, respectively. Figures 2-16 and 2-17 provide similar data for both IYB NOx and SOx trades, and show that investors were involved in 23% of IYB NOx trades and 0.4% of IYB SOx trades on a reported value basis, and 22% of IYB NOx and 0.6% of IYB SOx trades on the basis of the number of pounds traded with price. These involvement figures are relatively low when compared to investor involved trades in calendar year 2012.

Figure 2-14
Calendar Year 2013 Investor-Involved Discrete NOx and SOx Trades Based on Value Traded

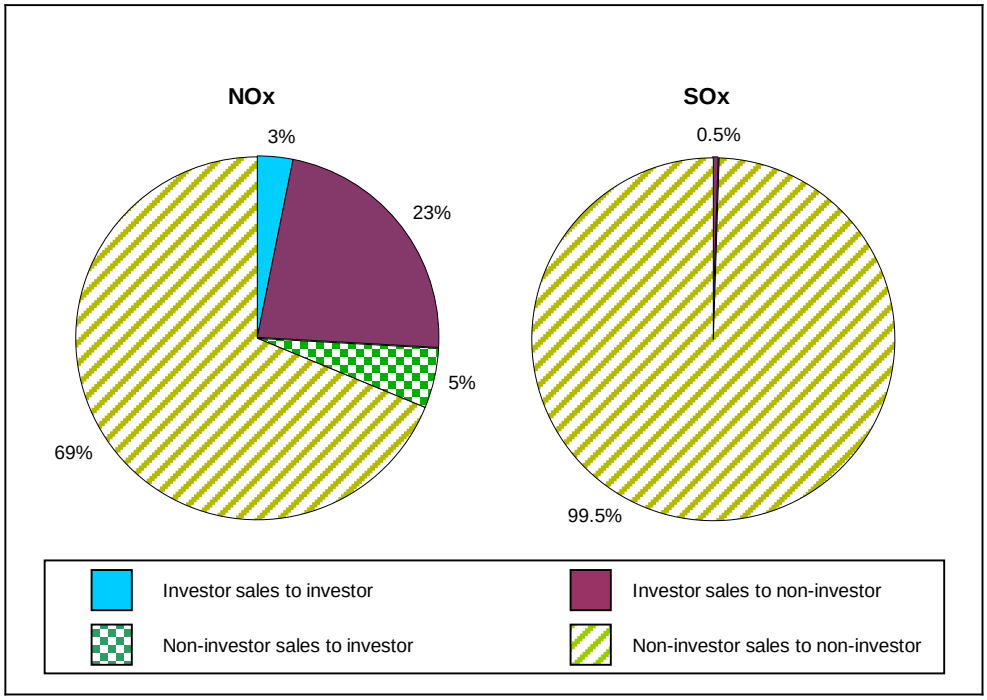


Figure 2-15
Calendar Year 2013 Investor-Involved Discrete NOx and SOx Trades Based on Volume Traded with Price

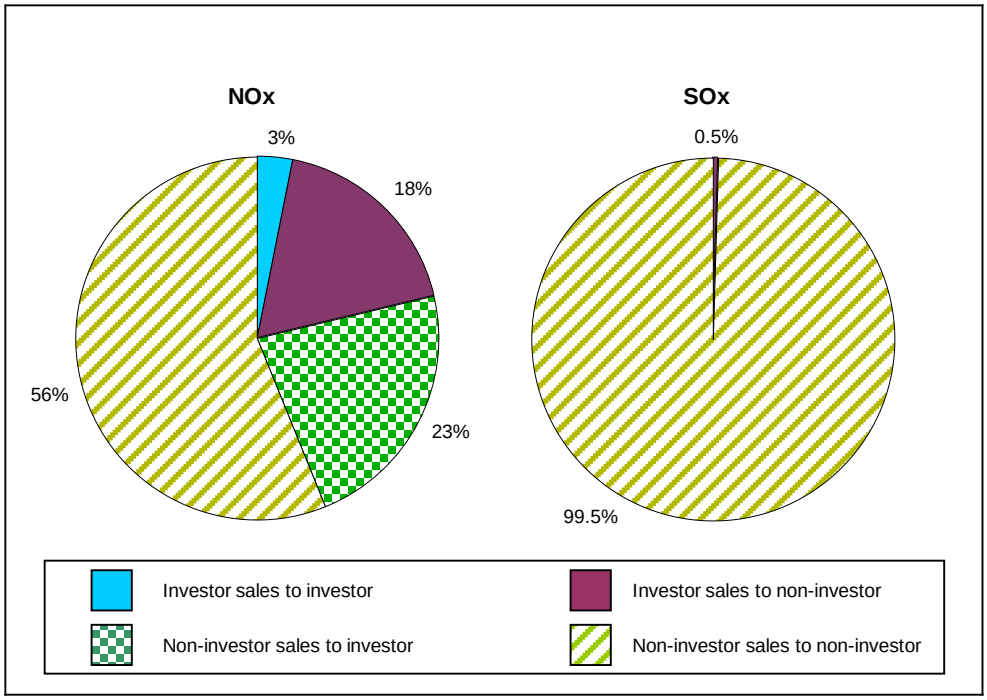


Figure 2-16
Calendar Year 2013 Investor-Involved IYB NOx and SOx Trades Based on Value Traded

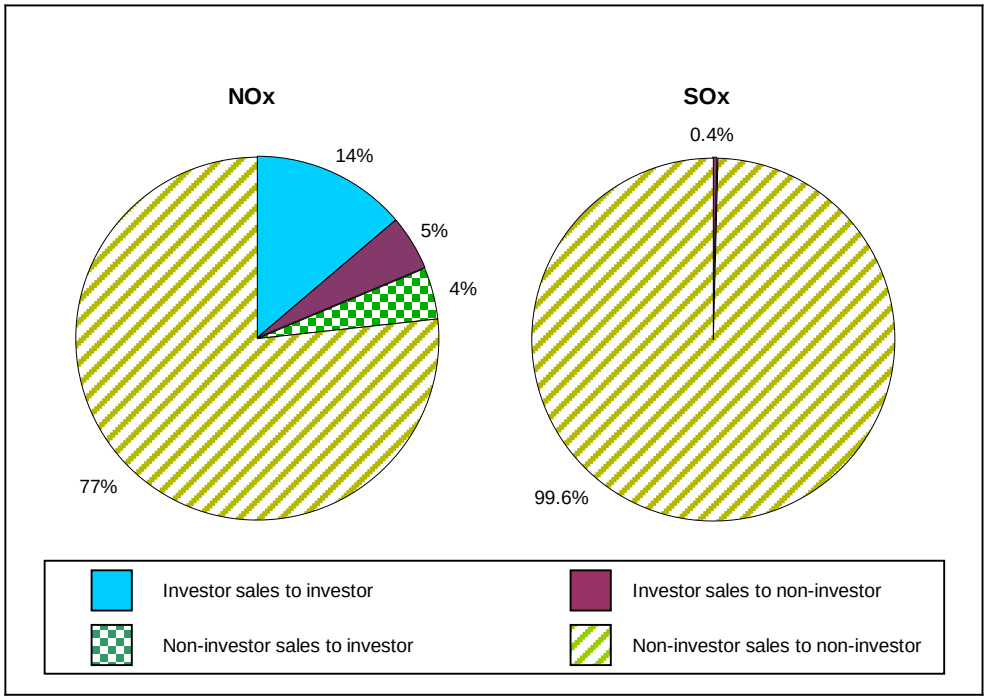
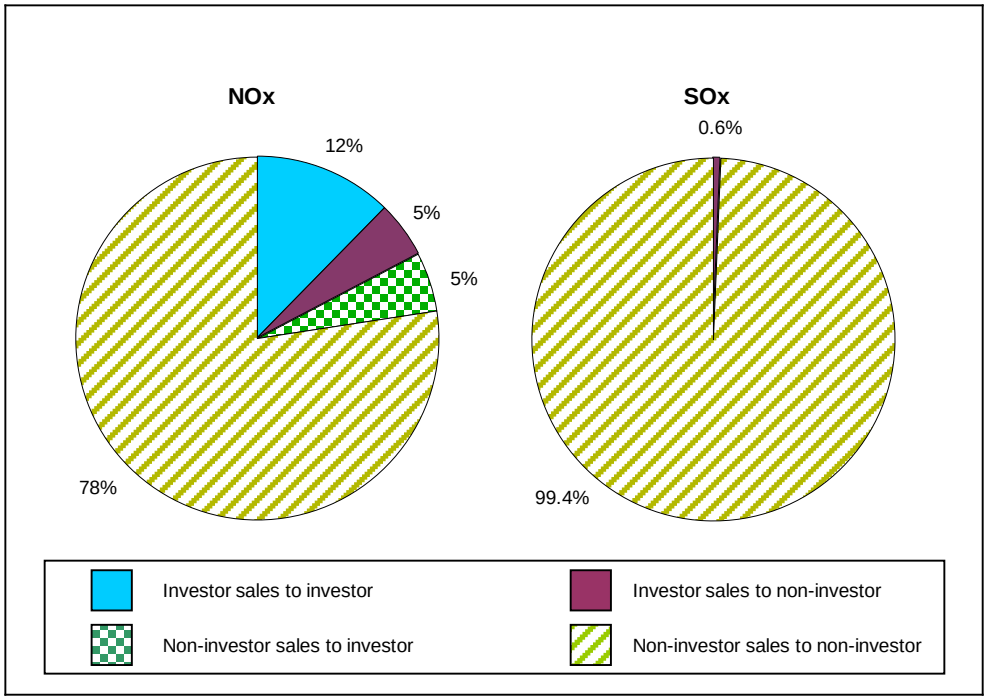


Figure 2-17
Calendar Year 2013 Investor-Involved IYB NOx and SOx Trades Based on Volume Traded with Price



As mentioned in previous sections, there were RTC transfers due to changes of operator between two companies in calendar 2013. The amount of RTCs traded with price as a result of the changes of operator were significant and skewed the above percentages to show a lower investor participation rate, especially in IYB RTC trades. These transfers were the result of RECLAIM facilities changing hands and not influenced by RTC market activities. As such, Figures 2-18 through 2-21 are presented to show investor participation rates after removing these trades in the same manner as in Figures 2-14 through 2-17, respectively. Figures 2-14, 2-15, 2-18, and 2-19 together show that investor involvement in discrete-year RTC trades was appreciably less in calendar year 2013 than it has been in recent years, even with the effect of the change of operator removed. However, investor involvement in IYB RTC trades is still significant (100% in both NOx and SOx IYB RTC trades) when the effect of the change of operator is removed.

Figure 2-18
Calendar Year 2013 Investor-Involved Discrete NOx and SOx Trades Based on Value Traded (with trades resulting from change of operator removed)

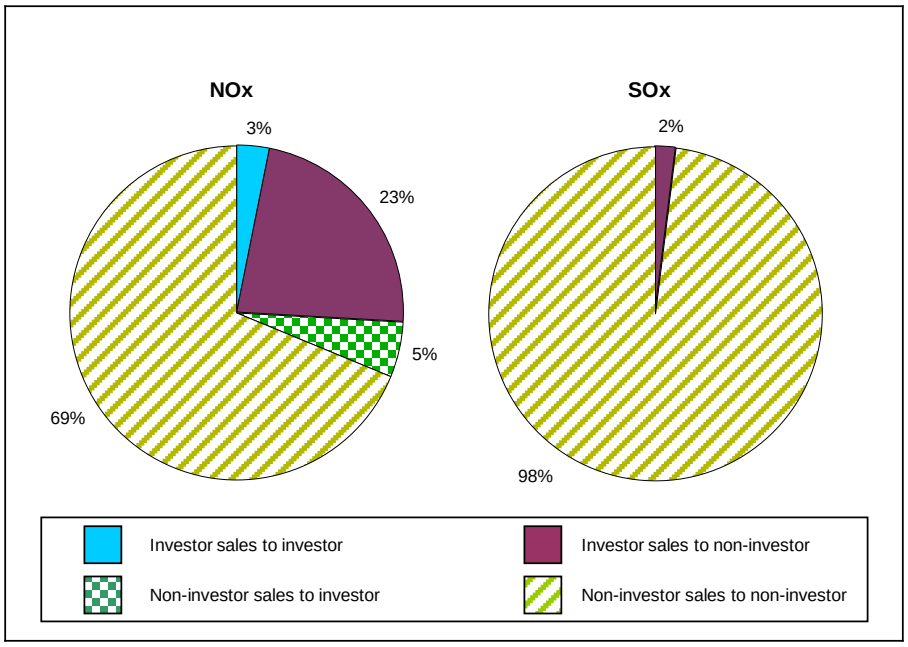


Figure 2-19
Calendar Year 2013 Investor-Involved Discrete NOx and SOx Trades Based on Volume Traded with Price (with trades resulting from change of operator removed)

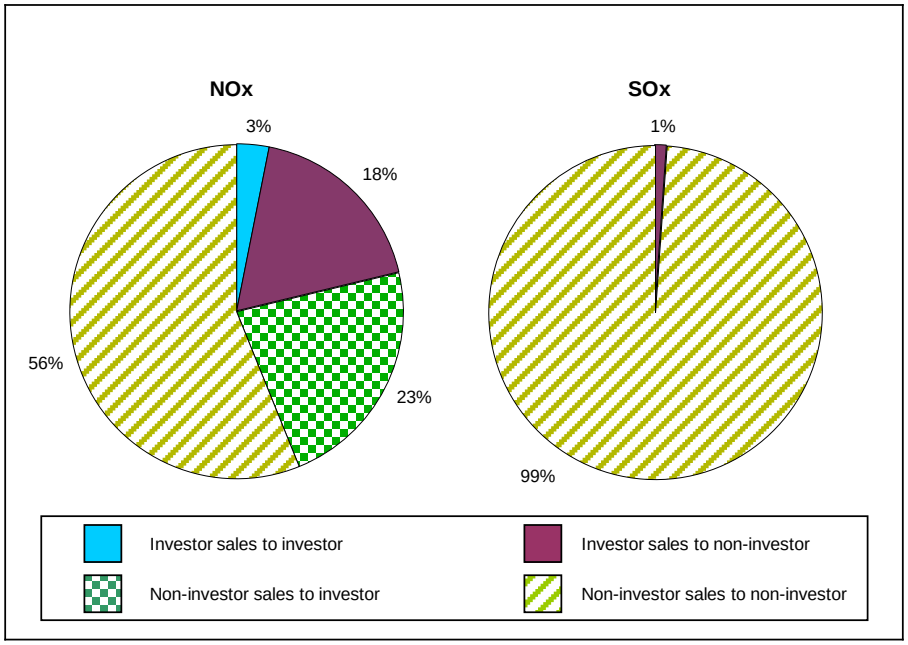


Figure 2-20
Calendar Year 2013 Investor-Involved IYB NOx and SOx Trades Based on Value Traded (with trades resulting from change of operator removed)

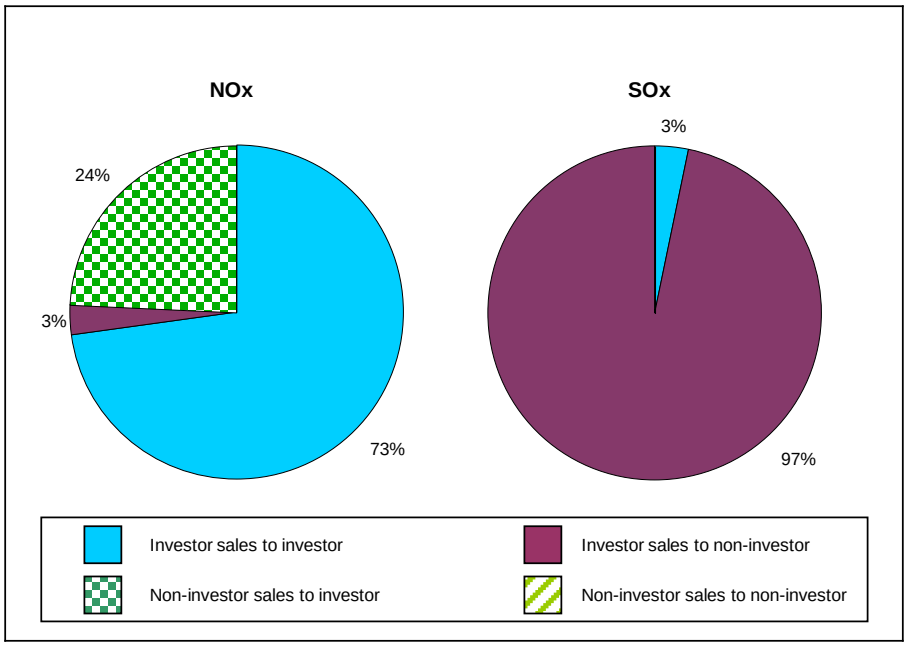
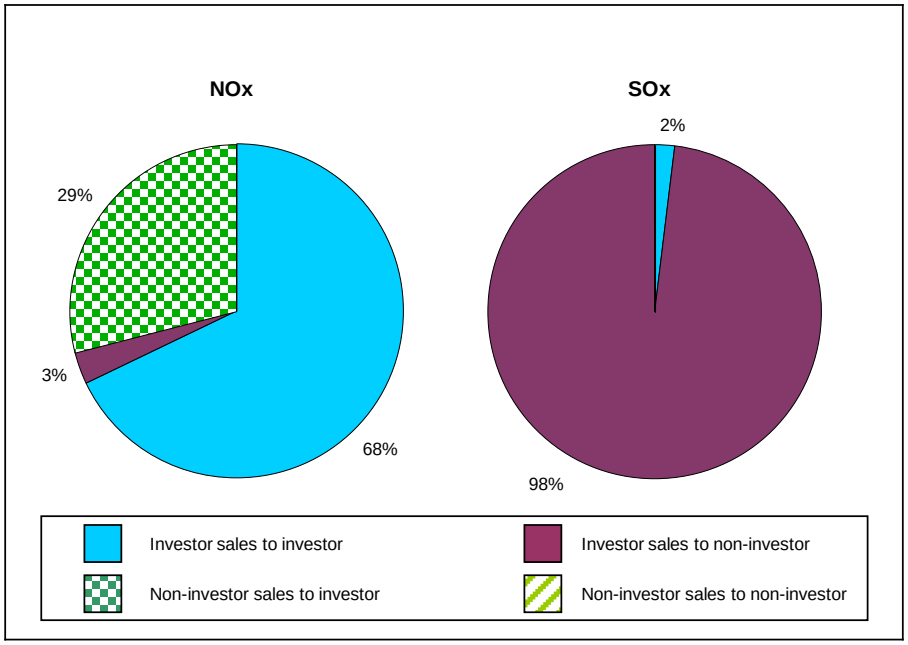


Figure 2-21
Calendar Year 2013 Investor-Involved IYB NOx and SOx Trades Based on Volume Traded with Price (with trades resulting from change of operator removed)



As of the end of calendar year 2013, investors' holding of IYB NOx RTCs was unchanged at 4.9% compared to the end of calendar year 2012. Mutual fund investors hold 2.7% of all IYB NOx RTCs, down from 3.2% at the end of calendar year 2012. Investors slightly increased their holding of IYB SOx RTCs to 0.9% at the end of calendar year 2013 from 0.7% at the end of calendar year 2012. No IYB SOx RTCs are currently held by mutual fund investors.

The supply of IYB RTCs available for sale has been mainly from facilities that have permanently shut down or that were in the process of doing so. There were five RECLAIM facilities that shut down during Compliance Year 2012 (refer to Chapter 1). One of the five facilities participated in both the NOx and SOx RECLAIM program. This facility did not hold any IYB NOx or IYB SOx RTCs. The remaining four NOx-only facilities held a total of 8.4 tons of IYB NOx RTCs. Of this amount, 2.4 tons of IYB NOx RTCs were sold to investors, 4.7 tons of IYB NOx RTCs were sold to non-investors, and the remaining 1.3 tons of IYB NOx RTCs have not been sold or transferred. Note that the majority of these sales occurred prior to calendar year 2013, as facilities often decrease production in years prior to shutting down.

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, they 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.

To put investors' holdings in context, RECLAIM facilities have generally held back approximately 10% of their allocations each compliance year as a margin to ensure that they did not inadvertently find themselves exceeding their allocations (failing to reconcile by securing sufficient RTCs to cover their emissions) if their reported emissions were increased as the result of any problems or errors discovered by SCAQMD staff during annual audits. For Compliance Year 2012, the total RECLAIM NOx emissions were 7,810 tons. However, Compliance Year 2012 spans a period marked by a depressed economy with lower production at many manufacturing facilities and thus emissions were lower compared to historical levels. If the economy were to improve, total RECLAIM NOx emissions may approach recent historical levels (historical emission trends are illustrated in Figure 7-1). RECLAIM NOx emissions as recent as Compliance Year 2007 totaled 8,794 tons. If the recovering economy was to cause emissions to return to the 2007 level, the NOx RTC surplus would be only 895 tons (9% of allocation), which is slightly less than the traditional 10% compliance margin. Therefore, the current aggregate investors' holdings of 4.9% of NOx IYB RTCs (more than half the total surplus IYB RTCs in this scenario) have the potential to result in a sellers' market. The current rule development effort to further reduce

the overall NOx supply to reflect current BARCT (refer to Chapter 3) has the potential to increase the importance of investors' holdings of RTCs.

While it can be argued that the holding of IYB NOx RTCs by investors as a group is still small relative to the total supply of IYB NOx RTCs (4.9% overall), there is no clear basis to estimate the level of IYB RTCs available for sale by non-investors or the extent of additional emissions reductions that will be achieved in future years. IYB RTCs represent an even more critical aspect of the program because these streams of RTCs are sought after to support growth at new or existing facilities. Active facilities are less likely to sell their future year RTCs as IYB. As a result, new RECLAIM facilities or facilities with modifications resulting in emissions increases are potentially at the mercy of investors holding IYB RTCs. Although investors' holdings of IYB NOx RTCs did not change during calendar year 2013, they have the ability to purchase RTCs at any time so there is the potential for investors' holdings of IYB NOx RTCs to increase in the future.

On the other hand, overall emissions in RECLAIM will certainly change and can be affected by various factors including installation of more emission control equipment, production changes, inclusion of additional facilities into the RECLAIM universe, and shifts in industry sectors and in the economy, in general. In January 2005, SCAQMD identified cost-effective control opportunities outside the power producing industry that would amount to 3.7 tons per day of additional NOx reductions based on historical production rates. Staff anticipates that there are two primary mechanisms that will drive the implementation of these control technologies: implementation of BACT when existing sources reach the end of their useful lives and are replaced, and demand for RTCs approaching the supply driving up RTC prices and incentivizing the installation of emission controls. The first of these mechanisms will occur gradually over time and the second is unlikely to be significant until economic conditions change resulting in increased production at RECLAIM facilities. The significance of investors' holdings will certainly depend on the ability of RECLAIM facilities to generate adequate emissions reductions in time to dampen the effect of a sellers' market that may exist if demand surges in a short period of time, as it did during the California energy crisis of 2000-2001. Proposals to generate emission reduction credits from sources outside of RECLAIM (*i.e.*, mobile and area sources) can also dampen sudden price increases. SCAQMD staff continues to monitor investor participation in the market to ensure that such participation does not adversely impact the RECLAIM program.

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 buy or sell RTCs. In those transactions, one party pays a premium for the right to purchase or sell 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 or sell the RTCs at a future date. These rights may or may not be actually exercised. RTC traders are obligated to report options to the SCAQMD within five business days of reaching an agreement. These reports are posted on the SCAQMD website. There was no reported trade involving the contingent right (option) to buy or sell RTCs in calendar year 2013.

As in prior years, RTCs were used in other programs during calendar year 2013. A total of 1.8 tons of NOx RTCs and 0.8 tons of SOx RTCs were surrendered to satisfy variance conditions. These consisted of discrete year RTCs only. However, no RTCs were surrendered to mitigate impacts from construction projects in calendar year 2013.

CHAPTER 3
EMISSION REDUCTIONS ACHIEVED

Summary

For Compliance Year 2012, aggregate NOx emissions were below total allocations by 19% and aggregate SOx emissions were below total allocations by 40%. No emissions associated with breakdowns were excluded from reconciliation with facility allocations in Compliance Year 2012. Accordingly, no mitigation is necessary to offset excluded emissions due to approved Breakdown Emission Reports. Therefore, based on audited emissions, it can be concluded that RECLAIM achieved its targeted emission reductions for Compliance Year 2012. With respect to the Rule 2015 backstop provisions, Compliance Year 2012 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 changes to BARCT. In January 2005, the Board adopted an amendment to Rule 2002 to further reduce RECLAIM NOx allocations to implement the latest BARCT. The amendments to Rule 2002 called for the NOx allocation reductions to be phased-in during Compliance Years 2007 through 2011. These changes resulted in cumulative NOx allocation reductions of 22.5% (7.7 tons/day; 2,811 tons/year) from all RECLAIM facilities by Compliance Year 2011, with the biggest single-year reduction of 11.7% in Compliance Year 2007. Similarly, the Board again amended Rule 2002 in November 2010 to implement changes in BARCT for SOx. Specifically, the November 2010 amendments called for reducing aggregate RECLAIM SOx emissions by 2,081 tons per year (48%), with the reductions phased-in from Compliance Year 2013 through Compliance Year 2019. A little over half of the SOx reductions were scheduled to occur in Compliance Year 2013 (recently completed for Cycle 1 facilities and concluding June 30, 2014 for Cycle 2 facilities).

Emissions Audit Process

Since the inception of the RECLAIM program, SCAQMD has conducted annual program audits of the emissions data submitted by RECLAIM facilities to ensure the integrity and reliability of facility reported 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 reported emissions data. The audited emissions are used to determine if a facility complied with its allocations. The most recent five compliance years' audited emissions for each facility are posted on SCAQMD's web page after the audits are completed. Additionally, 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 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. In aggregating emissions from RECLAIM facilities, audited emissions are used in the Annual RECLAIM Report for that Compliance Year. Table 3-1 and Figure 3-1 show aggregate NOx emissions based on audited emission data for Compliance Years 1994 through 2012.

Table 3-1 and Figure 3-1 show that, 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 for that year due to the California energy crisis. Since Compliance Year 2007, the first year of the programmatic reduction in RECLAIM NOx allocations which were adopted by the Governing Board as part of the January 2005 rule amendments, the unused NOx RTCs have been at least 20 percent of the aggregate allocations. There may be other forces at play to cause such results in addition to actual emission reductions implemented through the application of air pollution control systems by RECLAIM facilities. Potentially, the effects of the nation's economic downturn and slow recovery over the last few years may also be contributing to lower aggregate emissions in the RECLAIM universe, although less so for Compliance Year 2012 as the economy has begun to improve. As shown in Table 3-1, Compliance Year 2012 NOx emissions increased about 7% when compared to 2011 and almost 10% compared to Compliance Year 2010. This may be a reflection of the economic turnaround in the region.

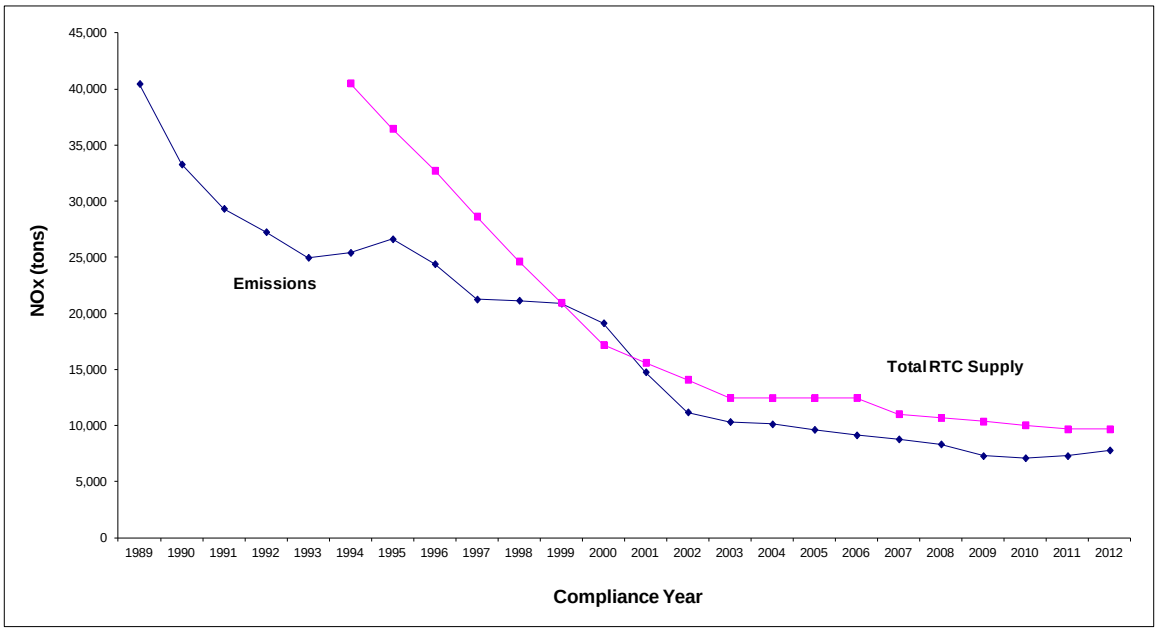
Table 3-1
Annual NOx Emissions for Compliance Years 1994 through 2012

Compliance Year	Audited Annual NOx Emissions[1] (tons)	Audited Annual NOx Emissions Change from 1994 (%)	Total NOx RTCs[2] (tons)	Unused NOx RTCs (tons)	Unused NOx RTCs (%)
1994	25,420	0%	40,534	15,114	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	8,794	-65%	11,046	2,252	20%
2008	8,346	-67%	10,705	2,359	22%
2009	7,300	-71%	10,377	3,077	30%
2010	7,116	-72%	10,053	2,937	29%
2011	7,302	-71%	9,690	2,388	25%
2012	7,810	-69%	9,689	1,879	19%

[1] 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.

[2] 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 2012, SOx emissions were below total allocations by 40%. Similar to the unused NOx RTCs, the unused SOx RTCs for the last four compliance years, inclusive of Compliance Year 2012, remain in excess of 30%. 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 have followed a general downward trend, except for increases in Compliance Years 1995, 1997, 2005, and 2007 compared to their respective previous year.

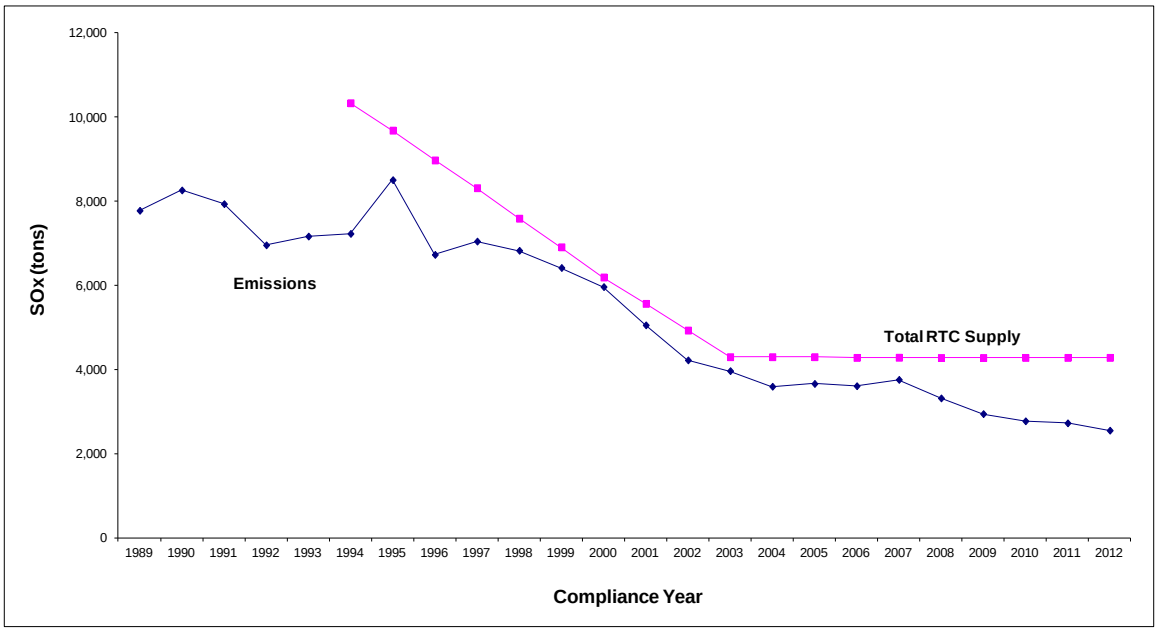
Table 3-2
Annual SOx Emissions for Compliance Years 1994 through 2012

Compliance Year	Audited Annual SOx Emissions[1] (tons)	Audited Annual SOx Emissions Change from 1994 (%)	Total SOx RTCs[2] (tons)	SOx RTCs Left Over (tons)	SOx RTCs Left Over (%)
1994	7,230	0%	10,335	3,105	30%
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%

[1] 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.

[2] 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[1] and sought to achieve reductions equivalent to these subsumed rules. 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. During Compliance Year 2012, one of the subsumed rules, Rule 1110.2 – Emissions from Gaseous and Liquid-Fueled Engines, was amended on September 7, 2012. Even though this rule was subsumed by RECLAIM, the February 1, 2008 amendment to Rule 1110.2 added, in part, emission standards for new non-emergency engines driving electrical generators that are specifically applicable to both RECLAIM and non-RECLAIM facilities. The purpose of the September 2012 rule amendment was to re-affirm the previously adopted emission limits for biogas-powered internal combustion engines as well as to provide: additional time for compliance, a compliance option for a longer averaging time for engines with superior performance in achieving lower mass emissions, and a compliance option that further extends the effective dates for certain engines based on a compliance flexibility fee. This amended rule did not impose a new category-wide equipment emission limit change and did not alter the RECLAIM-related portions of the rule concerning new non-emergency engines driving electrical generators. Instead, it extended the compliance timeline for the command and control emission limit already existing in the 2008 amendment of the rule for operators of biogas-powered internal combustion

[1] See Tables 1 and 2 of Rule 2001.

engines. The emission limit was based on the Interim Report on the Technology Assessment for Rule1110.2 Biogas Engines presented to the Governing Board in July 2010.

Other rules amended or adopted during Compliance Year 2012 but not subsumed by RECLAIM included Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II, Rule 1114 – Petroleum Refining Coking Operations, and Rule 1148.2 – Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers.

The May 3, 2013 amendment to Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II excluded several categories of equipment with de minimus emissions from the requirement to obtain written permits to facilitate the streamlining of the District's permitting system. Similarly, the May 3, 2013 amendment to Rule 222 – Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II included additional categories to the streamlined filing/registration program of Rule 222 and clarified and enhanced the enforceability and the ability to appeal operating conditions issued pursuant to the provisions of that rule.

Rule 1114 – Petroleum Refining Coking Operations, adopted on May 3, 2013, established a depressurization limit of less than two pounds per square inch gauge (psig) pressure prior to venting a coke drum to atmosphere. Additionally, it included into the rule options for alternative compliance schedules and interim limits for facilities not able to meet the less than two psig compliance deadline within six months of rule adoption, depending on the number of delayed coking units they operate. The intent of the adopted rule was to reduce volatile organic compounds, particulate matter, hazardous air pollutants, sulfur compounds and methane emissions released during the delayed coking process at petroleum refineries. Furthermore, the rule also included deadlines for permit applications, installation of monitoring equipment and exemptions from certain Regulation IV requirements.

Finally, on April 5, 2013 Rule 1148.2 – Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers was adopted. This rule established requirements for owners or operators of onshore oil and gas wells within SCAQMD's jurisdiction to notify the Executive Officer when conducting well drilling, well completion, and well reworking activities that involve production stimulation activities such as hydraulic fracturing, gravel packing and/or acidizing. Rule 1148.2 also initiated emissions and chemical reporting requirements. Additionally, this rule also impacted suppliers of chemicals and additives used in drilling, rework, and well completion fluids.

Rules 219, 222, 1114, and 1148.2 are not subsumed under RECLAIM, they apply equally to RECLAIM and non-RECLAIM facilities. The amendment to Rule 1110.2 did not impose new emission limits. Therefore, there are no differential impacts between RECLAIM and non-RECLAIM facilities as a result of these rule amendments/adoptions.

Program Amendments

The Governing Board amended Rule 2002 – Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx) in November 2010. These amendments call for SOx RTCs to be adjusted to achieve a 48.4% (2080.5 tons/yr) overall

reduction, phased in from Compliance Year 2013 through Compliance Year 2019. If overall SOx emissions were to remain unchanged at the Compliance Year 2012 level, then emissions would exceed allocations in Compliance Year 2017.

During Compliance Year 2012, there were no new amendments to Regulation XX adopted by SCAQMD's Governing Board. However, on December 7, 2012 SCAQMD Governing Board did adopt the 2012 AQMP, including Control Measure CMB-01 – Further NOx Reductions from RECLAIM that proposes to reduce NOx emissions from RECLAIM sources by three to five tons per day by 2020. The reductions were originally planned for two phases – two to three tons per day by Compliance Year 2015 in Phase I and an additional one to two tons per day by 2020 in Phase II. Rule development is currently underway with an anticipated public hearing in 2014 to consider the reductions as a single amendment (the reductions, if adopted, will most likely be implemented in phases over a number of years).

Breakdowns

Pursuant to Rule 2004(i) – Breakdown Provisions, a facility may request that emissions 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 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 unused RTCs, 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 2012 found that no facilities requested to exclude breakdown emissions from being counted against their allocations. Thus, for Compliance Year 2012, no additional RTCs are required to offset breakdown emissions pursuant to Rule 2015(d)(3).

Table 3-3
Breakdown Emission Comparison for Compliance Year 2012

Emittant	Compliance Year 2012 Unused RTCs (tons)	Unmitigated Breakdown Emissions[1] (tons)	Remaining Compliance Year 2012 RTCs (tons)
NOx	1,879	0	1,879
SOx	1,731	0	1,731

[1] 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, no facility was excluded and five facilities shut down in Compliance Year 2012. 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 may choose to enter the program even though they do not meet the inclusion criteria. They 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 under 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. Finally, inclusions change the rules and requirements that apply to the affected facilities. There were no existing facilities that chose to opt into the RECLAIM program between July 1, 2012 and June 30, 2013 and none were included into the RECLAIM program during Compliance Year 2012 based on the Rule 2001 threshold of actual NOx and/or SOx emissions greater than or equal to four tons per year.

Facilities that received all SCAQMD Permits to Operate on or after October 15, 1993 are defined by Rule 2000 as new 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. There was one new facility that elected to opt-in between July 1, 2012 and June 30, 2013. 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. 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.

Additionally, facilities that undergo a partial change of operator may have an impact on emissions, depending on the operating conditions of the facility under the new operator. No additional allocations are issued as a consequence of a facility splitting into two and undergoing a partial change of operator. Therefore, the supplies of NOx and SOx RTCs are not impacted. Between July 1, 2012 and June 30, 2013 there was one facility included into the RECLAIM universe as a result of the partial change of operator of a facility already in RECLAIM.

The shutdown of a RECLAIM facility results in a reduction in actual emissions. The shutdown facility retains its RTC holdings, which it may continue to hold as an investment, transfer to another facility under common ownership, or trade on the market. Therefore, although the facility is no longer emitting, its RTCs may be used at another facility. Shutdown facilities have the opposite effect on the RTC market as do new facilities: the overall demand for RTCs is reduced while the supply remains constant. As reported in Chapter 1, five RECLAIM facilities (one of which was a NOx and SOx facility, and the other four which were NOx-only facilities) shut down permanently between July 1, 2012 and June 30, 2013.

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 affect as inclusions, in that the accounting of emissions is shifted from the RECLAIM universe of sources to the non-RECLAIM universe of sources. No facilities were excluded between July 1, 2012 and June 30, 2013.

In short, inclusion of new facilities and facilities that result from a partial change of operator, as well as the shutdown of RECLAIM facilities, change the demand for RTCs without changing the supply[2], while exclusions of existing facilities make corresponding changes to both the demand and the supply, thereby mitigating their own impact on the markets and shifting emissions between the RECLAIM and non-RECLAIM universes.

Compliance Year 2012 NOx and SOx audited emissions and initial allocations for facilities that were shut down, excluded, or included into the program during Compliance Year 2012 are summarized in Tables 3-4 and 3-5.

[2] Facilities that were initially permitted after the October 1993 adoption of RECLAIM and that provided NOx or SOx ERCs to offset their emissions are issued RTCs corresponding to the ERCs provided.

Table 3-4
NOx Emissions Impact from the Changes in Universe (Tons)

Category	Compliance Year 2012 NOx Emissions (tons)	Allocated Compliance Year 2012 NOx RTCs (tons)
Shutdown Facilities	4.5	10.0
Excluded Facilities	Not applicable	Not applicable
Included Facilities	172.0	0
RECLAIM Universe	7,810	9,689

Table 3-5
SOx Emissions Impact from the Changes in Universe (Tons)

Category	Compliance Year 2012 SOx Emissions (tons)	Allocated Compliance Year 2012 SOx RTCs (tons)
Shutdown Facilities	1.3	3.7
Excluded Facilities	Not applicable	Not applicable
Included Facilities	Not applicable	Not applicable
RECLAIM Universe	2,552	4,283

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, or whenever the average annual price of RTCs exceeds $15,000 per ton. Compliance Year 2012 aggregate NOx and SOx emissions were both below aggregate allocations as shown in Figures 3-1 and 3-2. At the same time, average annual prices for NOx and SOx RTCs in calendar year 2012 were below $15,000 per ton, as shown in Chapter 2. Therefore, there is no need to initiate a program review.

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 2012, a total of 46 NOx RECLAIM facilities had NSR NOx emission increases, and four SOx RECLAIM facilities had NSR SOx emission increases due to expansion or modification. Consistent with all prior compliance years, there were sufficient NOx and SOx 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 NOx emission increases and a 1-to-1 offset ratio for SOx emission increases on a programmatic basis. In Compliance Year 2012, RECLAIM provided an offset ratio based on the compliance year's total unused allocations and total NSR emission increases of 9-to-1 for NOx, demonstrating federal equivalency. RECLAIM inherently complies with the federally-required 1-to-1 SOx offset ratio for any compliance year, provided aggregate SOx emissions under RECLAIM are lower than or equal to aggregate SOx allocations for that compliance year. As shown in Chapter 3, there was no programmatic SOx exceedance during Compliance Year 2012; in fact, there was a surplus of SOx RTCs. Therefore, RECLAIM more than complied with the federally-required SOx offset ratio and further quantification of the SOx 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 very similar to federal Lowest Achievable Emission Rate (LAER), for all new or modified sources with emission increases. In addition, more stringent control technology can be required pursuant to RECLAIM if it is determined to be cost effective as compared to AQMP measures or adopted SCAQMD rules.

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[1].

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 existing major sources to employ federal BACT/California BARCT and, therefore, is eligible for a 1.2-to-1 offset ratio for ozone precursors (*i.e.*, NOx and VOC). The federal offset requirement for major SO_2 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 SOx standards, SOx is a precursor to PM10 which is a non-attainment air pollutant in the Basin. The applicable offset ratio for PM10 is at least 1-to-1, thus, the applicable offset ratio for SOx 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 SOx and state NNI requirements for both SOx and NOx. 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 California BACT/federal LAER for new or modified sources with increases in hourly potential to emit of RECLAIM pollutants. This provision complies with both the 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. The same rule also requires existing RECLAIM facilities that increase their annual allocations above the level of their starting allocations plus non-tradable/non-usable credits and all new RECLAIM facilities[2] to provide sufficient RTCs to offset the annual potential emissions increase from new or modified

[1] Federal NSR applies to federal major sources (sources with the potential to emit at least 10 tons of NOx or 100 tons of SOx per year for the South Coast Air Basin) and state NNI requirements apply to all NOx sources and to SOx 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 NOx or SOx emissions, some RECLAIM facilities have actual emissions much less than 4 tons per year).

[2] New facilities are facilities that received all District Permits to Construct on or after October 15, 1993. All other facilities are existing facilities.

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 offset requirement by complying with the 1.2-to-1 offset requirement for NOx on an aggregate basis. This annual program audit report assesses NSR permitting activities for Compliance Year 2012 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 2012 shows that RECLAIM facilities were able to expand and modify their operations while complying with NSR requirements. During Compliance Year 2012, a total of 46 NOx RECLAIM facilities (26 in Cycle 1 and 20 in Cycle 2) were issued permits to operate, which resulted in a total of 237.18 tons per year of NOx emission increases from starting operations of new or modified sources, and four SOx RECLAIM facilities (one facility in Cycle 1 and three facilities in Cycle 2) experienced a total of 7.53 tons per year of SOx 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 (NOx: 1,879 tons, SOx: 1,731 tons; see Chapter 3) in the RECLAIM universe for use to offset these emission increases at the appropriate offset ratios.

NSR Compliance Demonstration

RECLAIM is designed to programmatically comply with the federal NSR offset requirements. Meeting the NSR requirement (offset ratio of 1.2-to-1 for NOx and at least 1-to-1 for SOx) 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 NOx and SOx offset ratios in the annual program audit report for Compliance Year 2005 and is continuing to do so for NOx 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 NOx 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 where RACT lies for RECLAIM facilities. However, if this very conservative approach should ever fail to demonstrate that the aggregate NOx 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 NOx 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:

$$\text{Offset Ratio} = \left(1 + \frac{\text{compliance year's total unused allocations}}{\text{total NSR emission increases}}\right)\text{-to-1}$$

As stated in the previous section under the title of "NSR Activity", permits to operate issued to 46 RECLAIM facilities resulted in 237.18 tons of NOx emission increase pursuant to Rule 2005(d). Additionally, as identified in Table 3-1 (Annual NOx Emissions for Compliance Years 1994 through 2012), 1,879 tons of Compliance Year 2012 NOx RTCs remained unused. Therefore, the Compliance Year 2012 NOx programmatic offset ratio calculated from this methodology is 9-to-1 as shown below:

$$\text{Offset Ratio} = \left(1 + \frac{1{,}879 \text{ tons}}{237.18 \text{ tons}}\right)\text{-to-1}$$

$$= 9\text{-to-1}$$

RECLAIM continues to generate sufficient excess emissions reductions to provide a NOx 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 SOx is 1-to-1. Since RECLAIM facilities are required to secure, at a minimum, adequate RTCs to cover their actual emissions, the SOx 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 1,731 tons of excess (unused) SOx RTCs for Compliance Year 2012. Therefore, there is certainty that both the federally required SOx offset ratio and the California NNI requirement for

SOx were satisfied and a separate calculation of the SOx offset ratio is not necessary.

BACT and modeling are also required for any RECLAIM facility that installs new equipment or modifies existing 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 2012 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 2012, one RECLAIM facility[3] was subject to this requirement. The facility submitted modeling analysis that showed that its NOx emissions complied with the most stringent ambient air quality standards set forth in Rule 2005, Appendix A.

[3] Under the requirements of Rule 2004(q), Mountainview Power Company (Facility ID 160437) was required to submit modeling analysis for its NOx emissions in Compliance Year 2012.

CHAPTER 5
COMPLIANCE

Summary

*Of the 278 NOx RECLAIM facilities during Compliance Year 2012, a total of 266 facilities (96%) complied with their NOx allocations, and all but one of the 33 SOx facilities (97%) complied with their SOx allocations. The 12 NOx facilities that exceeded their NOx allocations had aggregate NOx emissions of 832 tons and did not have adequate allocations to offset 125.9 tons (or 15.1%) of their combined emissions. This exceedance amount is small compared to the overall allocations for Compliance Year 2012 (1.3% of total NOx allocations). One SOx facility had SOx emissions that exceeded its SOx allocations by only three pounds. The exceedances from these 12 facilities (11 NOx-only facilities and one NOx and SOx facility) did not impact the overall RECLAIM emission reduction goals. Pursuant to Rule 2010(b)(1)(A), all 12 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 2012 allocations. The overall RECLAIM NOx and SOx emission reduction targets and goals were met for Compliance Year 2012 (*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 guarantee 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 under Rule 2002. For a facility in existence prior to October 1993, it is issued allocations by the 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. At the time of joining RECLAIM, these facilities are issued RTCs on an annual basis, converted from the amount of offsets provided. 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. Each RECLAIM facility must hold sufficient RTCs in its allocation account to cover 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 program audits of all emission reports submitted by RECLAIM facilities 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. These inspections revealed that some facilities made errors in quantifying their emissions such as arithmetic errors, used incorrect emission factors or adjustment factors (*e.g.*, pressure correction factors and bias adjustment factors), used emission calculation methodologies not allowed under the rules, used MDP inappropriately, or did not use MDP when required. Other common mistakes included reporting non-RECLAIM emissions and/or omitting reportable emissions.

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 12 RECLAIM facilities failed to reconcile their emissions (11 NOx-only facilities and one facility that exceeded both its NOx and SOx allocations). Ten of these 12 facilities failed to secure sufficient RTCs to cover their reported emissions during either the quarterly or annual reconciliation periods. Of these ten facilities, three facilities (two NOx-only facilities and one NOx and SOx facility), had additional reasons for NOx exceedance such as applying incorrect stackflow calculations, using incorrect emission factors, failing to apply MDP, and using incorrect MDP (the facility with a SOx exceedance failed to secure sufficient SOx RTCs to cover reported SOx emissions). Of the remaining two facilities, one exceeded its allocations because the facility failed to apply bias adjustment factors to its calculated major source emissions. The second facility failed to account for emissions from two reportable sources, failed to report all of the emissions from equipment that are exempt from obtaining SCAQMD permit pursuant to Rule 219, and failed to apply a pressure correction factor in order to standardize its process unit fuel usage.

Overall, the Compliance Year 2012 allocation compliance rate is 96% (266 out of 278 facilities) for NOx RECLAIM facilities and 97% (32 out of 33 facilities) for SOx RECLAIM facilities. For purposes of comparison, the allocation compliance rates for Compliance Year 2011 were 93% and 100% for NOx and SOx RECLAIM facilities, respectively. The 12 facilities that had NOx emissions in excess of their individual NOx allocations had 832 tons of NOx emissions and did not have adequate RTCs to cover 125.9 of those tons (or 15.1%). This exceedance amount (1.3% of aggregate NOx allocations) is small compared to the overall allocations for Compliance Year 2012. One SOx facility had SOx emissions that exceeded its SOx allocations by only three pounds. Pursuant to Rule 2010(b)(1)(A), all 12 facilities had their respective exceedances deducted from their annual emissions allocations for the compliance year subsequent to SCAQMD's determination that the facilities exceeded their Compliance Year 2012 allocations.

Impact of Missing Data Procedures

MDP was designed to provide a method for determining emissions when an emission monitoring system fails to 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 Emission 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 emissions being overstated to reflect a "worst case"[1] 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

[1] Based on uncontrolled emission factor at maximum rated capacity of the source and 24 hours per day.

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[2].

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, 95 NOx facilities and 13 SOx facilities used MDP in reporting portions of their annual emissions during Compliance Year 2012. In terms of mass emissions, 7.5% of the total reported NOx emissions and 4.5% of the total reported SOx emissions in the APEP reports were calculated using MDP for Compliance Year 2012. Table 5-1 compares the impact of MDP on reported annual emissions for the last few compliance years and the second compliance year, 1995 (MDP was not fully implemented during Compliance Year 1994).

[2] 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)
2006	2.5% (48 / 220)	0.0% (0 / 0)
2007	5.6% (78 / 489)	7.0% (14 / 262)
2008	7.6% (86 / 625)	7.5% (9 / 242)
2009	7.8% (103 / 554)	13.8% (15 / 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)

* Numbers in parenthesis that are separated by a forward 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, 95 facilities reported NOx emissions using MDP in Compliance Year 2012. Even though this number of facilities is higher than in 1995, the percentage of emissions reported using MDP during Compliance Year 2012 is much lower than it was in 1995 (7.5% compared to 23%). Additionally, in terms of quantity, NOx emissions in Compliance Year 2012 were about 9% of those in Compliance Year 1995 (560 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 8% of reported NOx annual emissions were calculated using MDP in Compliance Year 2012. 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 8% 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. As an example, refineries tend to operate at 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. For Compliance Year 2012, a majority of NOx MDP emissions data (77%) and SOx MDP emissions data (97%) were reported by refineries. Therefore, missing data emissions calculated for such facilities could be more reflective of the actual emissions than those calculated for facilities that do not operate on a continuous basis but, due to low data availability, are required to calculate MDP based upon continuous operation.

Emissions Monitoring

Overview

The reproducibility of reported RECLAIM facility emissions—and thereby the enforceability of the RECLAIM program—is assured through a three-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 NOx sources into major sources, large sources, process units, and equipment exempt from obtaining a written permit pursuant to Rule 219. All SOx 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 Emission Monitoring System (CEMS)	Fuel Meter or Continuous Process Monitoring System (CPMS)	Fuel Meter, Timer, or CPMS
Reporting Frequency	Daily	Monthly	Quarterly

Continuous Emission 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. Even though the number of major sources monitored by either CEMS or Alternative Continuous Emission Monitoring Systems (ACEMS) represent 18% and 62% of all permitted RECLAIM NOx and SOx sources, respectively, reported emissions for Compliance Year 2012 revealed that 76% of all RECLAIM NOx emissions and 97% of all RECLAIM SOx emissions were determined by CEMS or ACEMS.

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 the SCAQMD to be equivalent to CEMS in relative accuracy, reliability, reproducibility, and timeliness.

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 the SCAQMD 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: ±20% for pollutant concentration, ±15% for stack flow rate, and ±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 2012 and 2013 calendar years' passing rates for RATAs of certified CEMS for NOx and SOx concentration, total sulfur in fuel gas concentrations, stack flow rate (in-stack monitors and F-factor based calculations), and NOx and SOx mass emissions. However, the tables do not include SOx 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.

Table 5-3
Passing Rates Based on RATAs of Certified CEMS in 2012[1]

Concentration						Stack Flow Rate				Mass Emissions			
NOx		SO_2		Total[2] Sulfur		In-Stack Monitor		F-Factor Based Calc.		NOx		SOx[3]	
No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass
336	100	84	100	14	100	42	100	341	100	336	100	53	100

1. About one percent of test audits were still submitted in paper form.
2. Includes Cylinder Gas Audit (CGA) tests.
3. Does not include SOx emissions calculated from total sulfur analyzers.

Table 5-4
Passing Rates Based on RATAs of Certified CEMS in 2013[1]

Concentration						Stack Flow Rate				Mass Emissions			
NOx		SO_2		Total[2] Sulfur		In-Stack Monitor		F-Factor Based Calc.		NOx		SOx[3]	
No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass
338	100	89	100	14	100	42	100	348	100	338	100	49	100

1. All passing rates calculated from data submitted before January 10, 2014 and may exclude some data from the fourth quarter of calendar year 2013. About two percent of test audits were still submitted in paper form.
2. Includes Cylinder Gas Audit (CGA) tests.
3. Does not include SOx emissions calculated from total sulfur analyzers.

As indicated in Tables 5-3 and 5-4, the passing rates for NOx/SO_2 concentration, stack flow rate, and mass emissions were all 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. RATA reports for all total sulfur analyzers during calendar years 2012 and 2013 have indicated passing results.

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. Currently, most RATA results are submitted via this system.

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. 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. 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 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 is designed to take advantage of 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 the SCAQMD 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 without human intervention on a daily basis.

- 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, emissions from non-major sources may use the SCAQMD 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 the SCAQMD 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 SCAQMD and RECLAIM participants.

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. 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.

Finally, when the RECLAIM program first began, the ability to electronically transmit emissions data to SCAQMD's Central Station via modem was considered state-of-the-art technology. However, that technology is now antiquated and finding replacement components (*e.g.,* slower baud-rate modems) is becoming increasingly difficult. As such, SCAQMD is evaluating options to either upgrading or replacing the current Central Station. Key factors being considered include ease of implementation and cost impacts on RECLAIM facilities and SCAQMD. Progress on this effort will be presented in future annual program audit reports.

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. There may be additional effects 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) and also factors other than RECLAIM (*e.g.*, the prevailing economic climate), that impact the job market. These factors are not evaluated in this report. Also job losses and job gains are strictly based on RECLAIM facilities' reported information. AQMD is not able to independently verify the reported job impacts information.*

According to the Compliance Year 2012 employment survey data gathered from APEP reports, RECLAIM facilities reported a net gain of 2,026 jobs, representing 2% of their total employment. All of the facilities that reported job losses and job gains cited factors other than RECLAIM as the reasons for these changes in employment figures. Furthermore, none of the five RECLAIM facilities listed as shutdown during Compliance Year 2012 cited RECLAIM as a factor contributing to the decision to shutdown.

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 on the forms the number of jobs at the beginning of Compliance Year 2012 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 2012 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 2012. Those facilities that reported a change in the number of jobs due to RECLAIM were asked to specify the number of jobs lost or gained, and to state why the job loss or creation was attributed to RECLAIM.

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 2012 and clarifying information collected by SCAQMD staff. SCAQMD staff is not able to verify the accuracy of the reported job impacts information.

Job Impacts

Table 6-1 summarizes job impact data gathered from Compliance Year 2012 APEP reports and follow-up contacts with facilities. A total of 123 facilities reported 11,856 job gains, while 129 facilities reported a total of 9,830 job losses. Net job gains were reported in two of the three categories: sales of products (19), and non-manufacturing (2,604), whereas net job losses were reported in the remaining category: manufacturing (597). Table 6-1 shows a total net gain of 2,026 jobs, which represents a net jobs increase of 2% at RECLAIM facilities during Compliance Year 2012.

Table 6-1
Job Impacts at RECLAIM Facilities for Compliance Year 2012

Description	Manufacture	Sales of Products	Non-Manufacture	Total[1]
Initial Jobs	39,983	863	62,542	103,388
Overall Job Gain	3,163	128	8,565	11,856
Overall Job Loss	3,760	109	5,961	9,830
Final Jobs	39,386	882	65,146	105,414
Net Job Change	-597	19	2,604	2,026
Percent (%) Job Change	-1.49%	2.20%	4.16%	1.96%
Facilities Reporting Job Gains	86	23	75	123
Facilities Reporting Job Losses	91	30	81	129

[1] 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 five RECLAIM facilities that were reported to be shut down or ceasing operations in Compliance Year 2012 as listed in Appendix C. One of the shutdown facilities was sold to, and became part of, an adjacent university which is exempt from RECLAIM pursuant to Rule 2001(i)(2)(H). Since the university did not file for a Change of Operator, the original facility is considered shutdown. In the case of the second facility, its operations were consolidated to a new plant in Tennessee. The third facility, a power plant, was shut down as air quality mitigation for another new power plant in the SCAQMD. The last two facilities were shut down because the operations at those facilities were each consolidated at other facilities in the SCAQMD. None of the shutdown facilities attributed job gains or losses to RECLAIM in Compliance Year 2012 (refer to Appendix E).

As with the shutdown facilities described above, none of the RECLAIM facilities that remain in operation attributed any job gains or losses to RECLAIM for Compliance Year 2012. It should also be noted that based on the past few years of data collected from RECLAIM facilities, the job gains or losses attributed only to RECLAIM comprise a very small percentage (less than 2%) of the total number of jobs lost or gained in that period.

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 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. 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 2012 NOx emissions increased slightly (7.0%) relative to Compliance Year 2011 and Compliance Year 2012 SOx emissions were 6.4% less when compared to last year. Quarterly calendar year 2012 NOx emissions fluctuated within four percent of the mean NOx emissions for the year. Quarterly calendar year 2012 SOx emissions fluctuated within ten percent of the year's mean SOx emissions. There was no significant shift in seasonal emissions from the winter season to the summer season.

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 2013, 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 appropriate, to the NSR rule for toxics (Rule 1401). 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 toxics emissions reports are used to identify candidates for the Toxics Hot Spots program (AB2588), which in turn quantifies toxic risk from facilities in the program and identifies those facilities that are required to do public notice and/or reduce their health risk levels to the public. There is no evidence that RECLAIM has caused or allowed higher toxic risk in areas adjacent to RECLAIM facilities.

Background

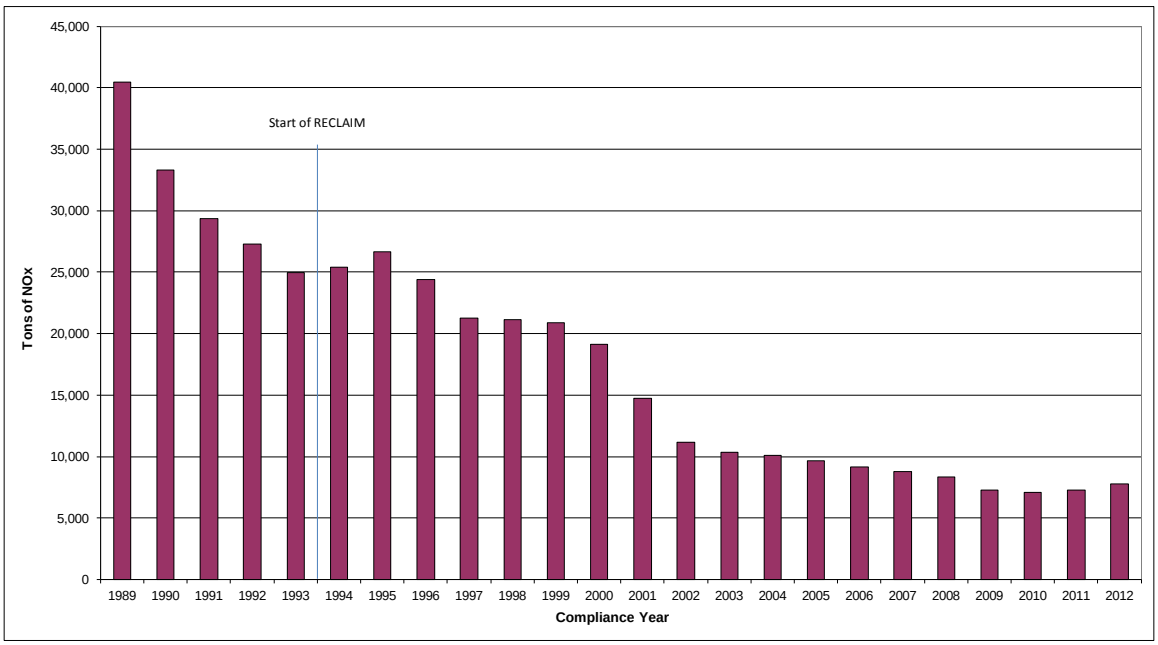
RECLAIM is designed to achieve the same, or higher level of, benefits in terms of air quality and public health as would have been achieved from implementation of the control measures and command-and-control rules that RECLAIM subsumed. Therefore, as a part of each annual program audit, SCAQMD evaluates per capita exposure to air pollution, toxic risk reductions, emission trends, and seasonal fluctuations in emissions. SCAQMD also generates quarterly emissions maps depicting the geographic distribution of RECLAIM emissions. As mentioned in last year's annual report, these maps are generated and posted quarterly on SCAQMD's webpage (http://www.aqmd.gov/reclaim/Qtrly_Maps.htm) including all 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

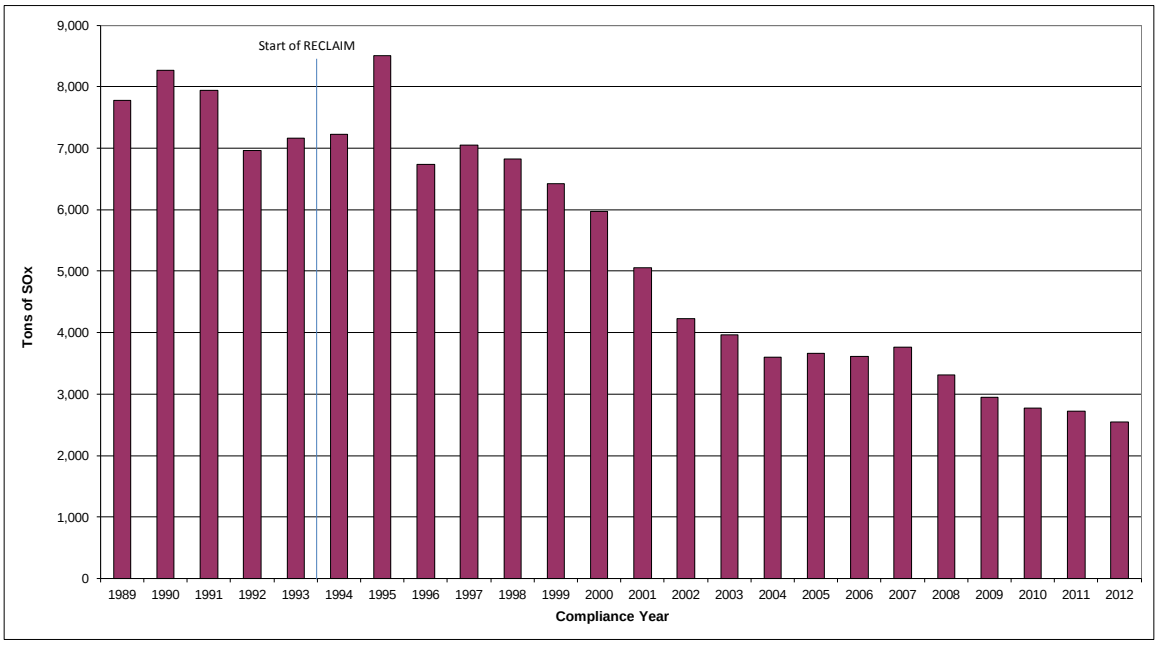
Concerns were expressed during program development that RECLAIM might cause sources to increase their aggregate emissions during the early years of the program due to perceived over-allocation of emissions. In Figures 7-1 and 7-2, which show NOx and SOx emissions from RECLAIM sources since 1989, the analysis of emissions from RECLAIM sources indicates that overall, RECLAIM emissions have been in a downward trend since program inception and the concerns on emission increase during early years of RECLAIM did not materialize.

Figure 7-1
NOx Emission Trend for RECLAIM Sources



Note: 1989-1993 emissions presented in this figure are the emissions from the facilities in the 1994 NOx 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 since Compliance Year 1995 through Compliance Year 2010. Then for Compliance Year 2011 as well as this compliance year, NOx emissions increased slightly each year but were still much lower than the programmatic goal as shown in Table and Figure 3-1. Since Compliance Year 1995, annual SOx emissions have also followed a general downward trend, except for slight increases in Compliance Years 1997, 2005, and 2007 compared to each respective previous compliance year. SOx emissions continued to decrease in Compliance Year 2012 when compared to the previous compliance year.

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 aggregate emissions during the earlier years of the program.

Seasonal Fluctuation in Emissions for RECLAIM Sources

During program development, another concern was that RECLAIM might cause facilities to shift emissions from the winter season into the summer ozone season since RECLAIM emission goals are structured on an annual basis, thus exacerbating poor summer air quality. To address this concern, "seasonal fluctuations" were added as part of the required analysis. 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 2012 RECLAIM emissions to the quarterly variation in emissions from the same universe of sources prior to the implementation of RECLAIM.
2. In the second part, staff analyzed quarterly audited emissions during calendar year 2012 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, 7-4, 7-5, and 7-6.[1]

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. 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.

Summer (third quarter) 2012 RECLAIM NOx and SOx emissions exceed the 2012 quarterly average emissions by about three percent and seven percent, respectively. Based on the foregoing logic, it is clear that these small seasonal fluctuations in RECLAIM emissions are consistent with pre-RECLAIM emissions from the same universe of sources. Therefore, RECLAIM did not cause a shift in

[1] 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.

emissions to the summer months relative to the pre-RECLAIM emissions patterns.

Figure 7-3 shows the 2012 mean quarterly NOx emissions, which is the average of the four quarterly aggregate emissions, and the 2012 actual quarterly emissions and Figure 7-4 compares the 2012 quarterly NOx emissions with the quarterly emissions from 2002 through 2011. During calendar year 2012, aggregate quarterly NOx emissions varied from less than three percent below the mean in the first quarter (January through March) to about three percent above the mean in the third quarter (July through September). Figure 7-4 shows that the fourth quarter of 2012 had the lowest aggregate RECLAIM NOx emission totals of any quarter since the program began in 1994. Figures 7-3 and 7-4, together, show that the RECLAIM program has not caused a significant shift in NOx emissions from the winter season into the summer season in recent years relative to early years of the program.

Figure 7-3
Calendar Year 2012 NOx Quarterly Emissions

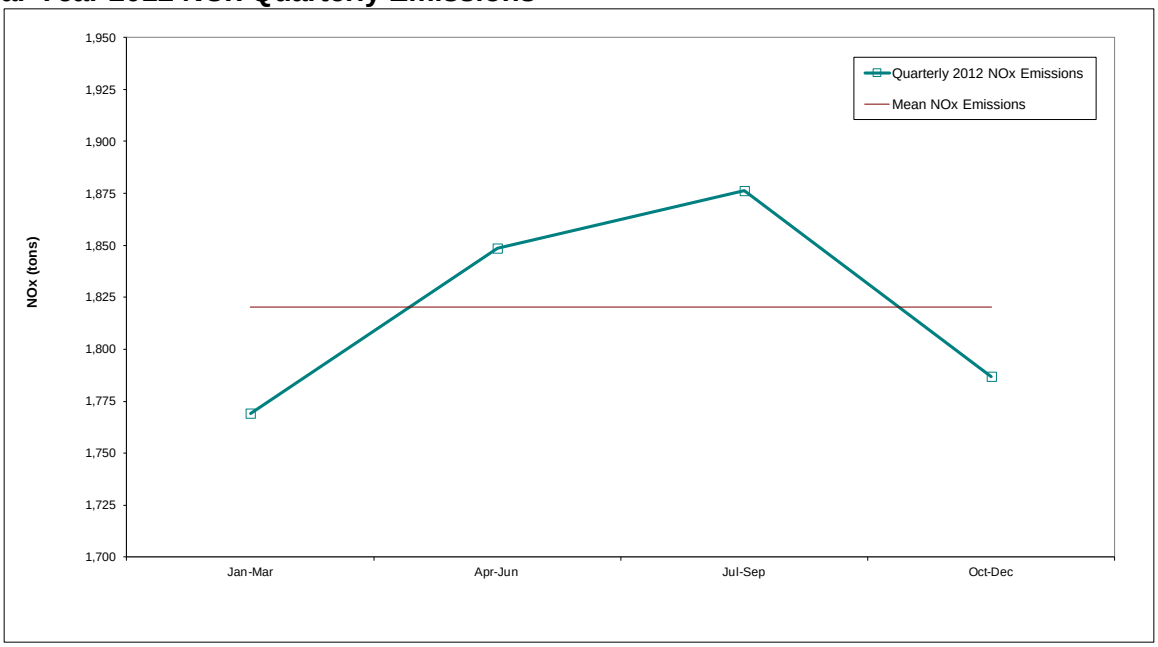


Figure 7-4
Quarterly NOx Emissions from Calendar Years 2002 through 2012

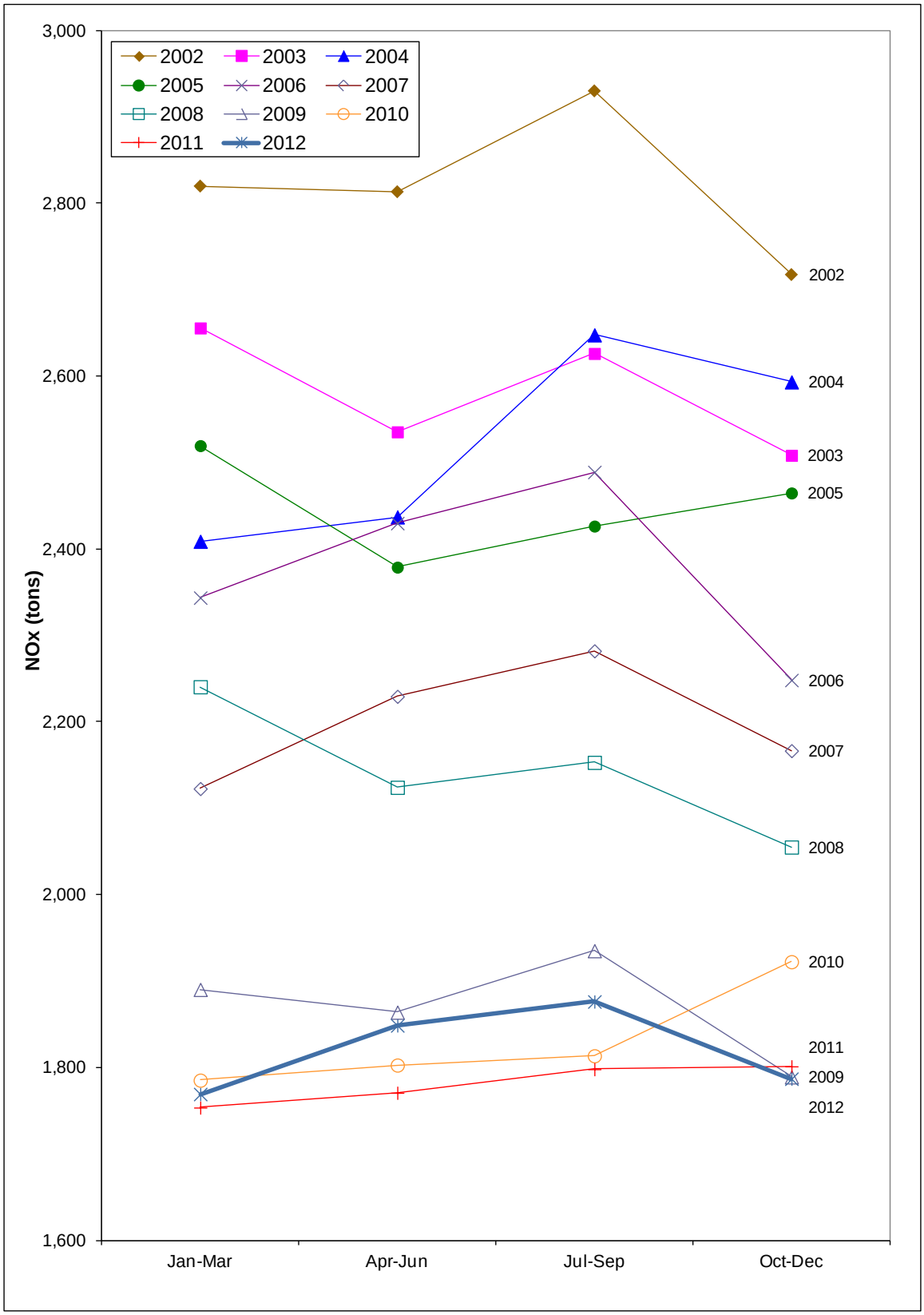


Figure 7-5 presents the 2012 mean quarterly SOx emissions and the 2012 actual quarterly emissions and Figure 7-6 compares the 2012 quarterly SOx emissions with the quarterly emissions from 2002 through 2011. Figure 7-5 shows that quarterly SOx emissions during calendar year 2012 varied from seven percent above the mean in the third quarter (July through September) to nine percent below the mean in the fourth quarter (October through December). Figure 7-6 reveals that the 2012 quarterly aggregate SOx emissions profile was similar to those for previous years and that the first, third, and fourth quarters of 2012 had lower aggregate emissions than the corresponding quarters of any prior year since the program began in 1994.

The decline in SOx emissions from the third quarter to the fourth quarter in Figure 7-5 can be attributed to three facilities. One refinery underwent a turnaround of their sulfur recovery unit (SRU) and pre-treater in July 2012 which increased SOx concentrations during the third quarter; thus increasing third quarter emissions over their normal operation levels. Another refinery added a new SRU with low SOx emissions while reducing the loads of three other SRUs during the fourth quarter. Additionally, a third facility added a wet scrubber in the fourth quarter which greatly reduced fourth quarter emissions. These occurrences led to greater than normal third quarter emissions and lower than normal fourth quarter emissions which explain the decline from third quarter to fourth quarter emissions.

This analysis shows that the RECLAIM program has not caused a significant shift in SOx emissions from the winter season into the summer season in recent years relative to early years of the program and that the calendar year 2012 seasonal emissions profile was similar to the corresponding profiles for other recent years.

Figure 7-5
Calendar Year 2012 SOx Quarterly Emissions

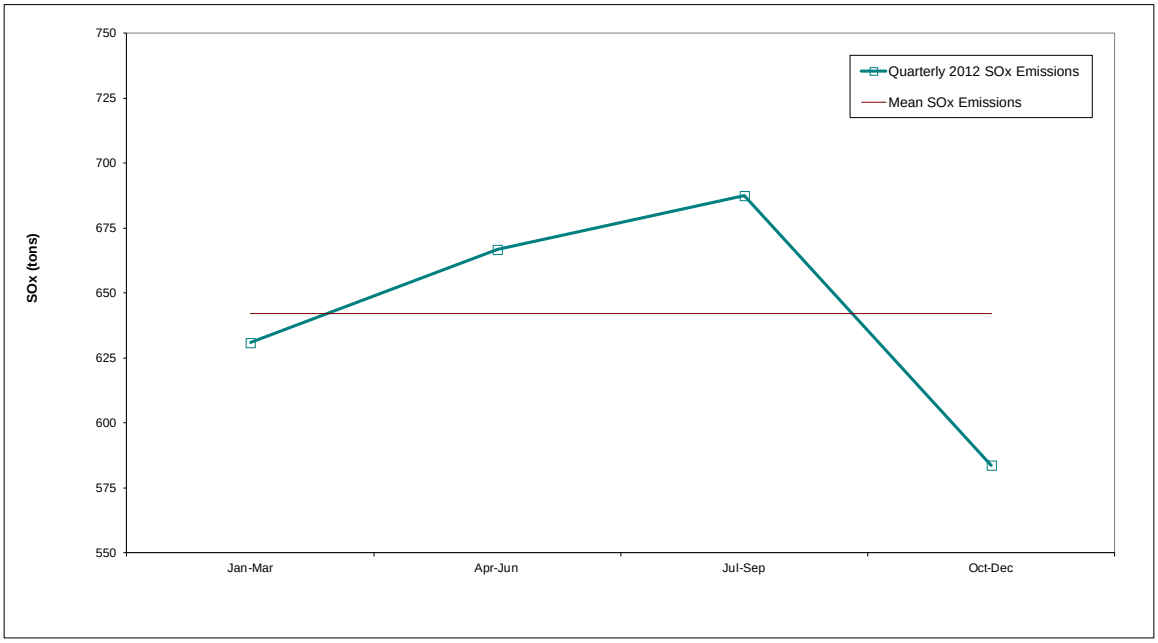
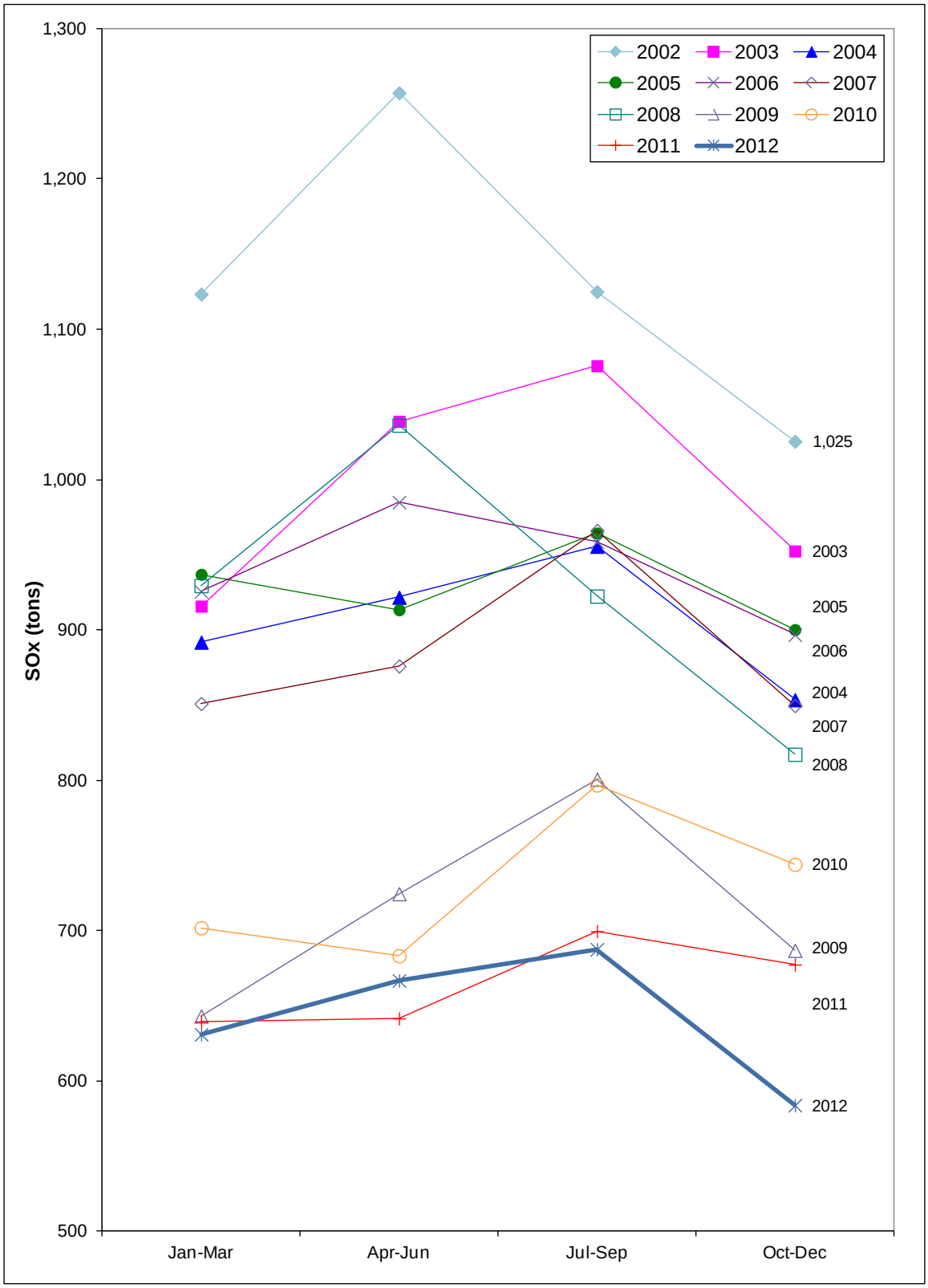


Figure 7-6
Quarterly SOx Emissions from Calendar Years 2002 through 2012



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 projected impacts from continuing traditional command-and-control regulations and 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 Office of Environmental Health Hazard Assessment, 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 new 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 a new 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 ozone standard was reduced to 0.075 ppm. Table 7-1 shows monitoring results based on this revised 8-hour federal standard.

Table 7-1 summarizes ozone data for calendar years 2001 through 2013 in terms of the number of days that exceeded the state and federal ambient ozone standards and the Basin's maximum concentration in each calendar year. This table shows that the number of days that exceeded the state and federal ambient ozone standards from calendar year 2012 to 2013 decreased back to 2011 levels; however, the Basin's maximum ozone concentrations, based on both the 1-hour and 8-hour averaging periods, increased slightly over the same period. Although the Basin's maximum ozone concentrations did increase, the changes were small and both concentrations are similar to the average of the corresponding maximum concentrations for 2010 through 2012.

Table 7-1
Summary of Ozone Data

Year	Days exceeding state 1-hour standard (0.09 ppm)	Days exceeding state new 8-hour standard (0.07 ppm)	Days exceeding federal 8-hour standard (0.075 ppm)	Basin Maximum 1-hour ozone concentration (ppm)	Basin Maximum 8-hour ozone concentration (ppm)
2001	121	156	132	0.191	0.146
2002	118	149	135	0.169	0.148
2003	133	161	141	0.216	0.200
2004	110	161	126	0.163	0.148
2005	111	142	116	0.163	0.145
2006	102	121	114	0.175	0.142
2007	99	128	108	0.171	0.137
2008	98	136	121	0.176	0.131
2009	100	131	113	0.176	0.128
2010	83	128	109	0.143	0.123
2011	94	127	107	0.160	0.136
2012*	97	140	111	0.147	0.112
2013	92	123	106	0.151	0.122

* After finalizing the Annual RECLAIM Audit Report for 2011 Compliance Year, the 2012 ozone data decreased slightly from previously reported values. The 2012 ozone data has been revised to reflect the updated changes. However, these changes did not alter the trends stated in the 2011 RECLAIM Report.

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 number of hours on average a person is exposed ("per capita exposure"[2]) to ozone above the state 1-hour standard of 0.09 ppm. Table 7-2 shows the 1986-88 baseline, 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 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 since RECLAIM started in 1994. For calendar year 2013, the actual per capita exposure for the Basin was 1.314 hours, which represents a 98.4% reduction from the 1986-88 baseline level.

[2] 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.

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[1]	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	2.872	1.538	0.078	3.884	10.539
2010 actual	1.184	0.377	0.107	2.451	4.476
2011 actual	2.099	0.848	0.015	3.456	8.125
2012 actual	2.366	1.050	0.050	2.587	9.776
2013 actual	1.314	0.519	0.067	1.609	5.497
1997 target[2]	48.3	45.5	16.3	56.5	115.6
2000 target[3]	40.2	37.9	13.6	47	96.3

[1] Average over three years, 1986 through 1988.

[2] 60% of the 1986-88 baseline exposures.

[3] 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 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 these rules apply to 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 NOx or SOx emission increases are also required to be equipped with BACT, which minimizes to the best extent feasible NOx and SOx emissions.

Under the AER program, facilities that have the potential to emit: 1) four tons per year or more of VOC, NO_X, SO_X, 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 the SCAQMD. Beginning with the FY 2000-01 reporting cycle, toxics emission reporting for the AB2588 Program was incorporated into the 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 (see SCAQMD website at http://www.aqmd.gov/prdas/AB2588/AB2588_B2.html) into one of three categories: low, intermediate, or high priority. Facilities ranked with low priority are exempt from future reporting. Facilities ranked with intermediate priority are classified as District tracking facilities, which are then required to submit a complete toxics inventory once every four years (or quadrennially). 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. As of April 2013, SCAQMD staff has reviewed and approved 306 facility HRAs. About 95 percent of the facilities have cancer risks below 10 in a million and over 98 percent 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 by AB2588 to conduct a public notice and SCAQMD holds a public meeting to discuss their health risk. To date, the SCAQMD has conducted 47 such public notification meetings for the AB2588 Program.

The Board also established the following action risk levels in Rule 1402: 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. According to the SCAQMD's 2012 Annual Report on AB 2588 Air Toxics "Hot Spots" program[3], 21 facilities were required to reduce risks and all of these facilities have reduced risks well below the action

[3] Data and descriptions about the AB2588 Program were taken from the SCAQMD's April 2013 Annual Report on AB 2588 Air Toxics "Hot Spots" Program. http://www.aqmd.gov/prdas/AB2588/pdf/Annual_Report_2012.pdf

risk levels mandated by Rule 1402[4].

Finally, the SCAQMD staff conducts Multiple Air Toxic Exposure Studies (MATES) periodically to assess cumulative air toxic impacts to the residents and workers of southern California. These studies also help document progress in reducing toxic impacts. The third version of MATES (*i.e.*, MATES III) was conducted over a two year period from April 2004 to March 2006. Monitoring conducted at that time indicated resident and worker exposure to 1,3-butadiene, benzene, perchloroethylene, and methylene chloride was reduced by 50 percent or more since MATES II (conducted from April 1998 to March 1999) and exposure to formaldehyde and acetaldehyde was reduced by 9 percent. Exposure to toxic metals, such as arsenic, cadmium, lead, and nickel, was reduced by over 25 percent from the levels observed in MATES II. Field monitoring for MATES IV was completed in June 2013 and analysis of that data is currently underway.

There have been concerns voiced regarding the potential that trading of RTCs can allow for higher production at a RECLAIM facility which may indirectly cause higher secondary emissions of toxic air contaminants, and thereby, make the health risk in the vicinity of the facility worse. If any facility significantly experiences such circumstances, the above described requirements related to toxic emissions under the AB2588 program and/or Rule 1402 would be triggered and the appropriate risk reduction measures would be required. Also, based on the results of recent MATES studies, the region-wide cumulative air toxic impacts on residents and workers in Southern California have been declining. Nonetheless, air toxic risk did increase in a few areas and, in particular, for those living near the San Pedro Bay ports between 1997 and 2005, those risk increases can be primarily attributed to goods movement related sources that are not part of RECLAIM. Therefore, staff has not found any evidence that would suggest that the substitution of NOx and SOx 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. Staff will continue to monitor and assess toxic impacts as part of future annual program audits.

[4] In March 2013, one additional facility was identified as subject to the risk reduction requirements. It subsequently submitted a risk reduction plan in August 2013 and revised and amended it in November 2013 and January 2014, respectively. In February 2014, the revised and amended risk reduction plan was provisionally and conditionally approved.

APPENDIX A
RECLAIM UNIVERSE OF SOURCES

The RECLAIM universe of active sources as of the end of Compliance Year 2012 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
42676	2	AES PLACERITA INC	NOx
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
800196	2	AMERICAN AIRLINES INC	NOx
145836	2	AMERICAN APPAREL DYEING & FINISHING, 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 INC., (LA BREWERY)	NOx/SOx
117140	2	AOC, LLC	NOx
167066	1	ARLON GRAPHICS L.L.C.	NOx
12155	1	ARMSTRONG WORLD INDUSTRIES INC	NOx
16737	2	ATKINSON BRICK CO	NOx
10094	2	ATLAS CARPET MILLS 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
119907	1	BERRY PETROLEUM COMPANY	NOx
166073	1	BETA OFF SHORE	NOx
155474	2	BICENT (CALIFORNIA) MALBURG LLC	Nox

Facility ID	Cycle	Facility Name	Program
132068	1	BIMBO BAKERIES USA INC	NOx
115241	1	BOEING SATELLITE SYSTEMS INC	NOx
800067	1	BOEING SATELLITE SYSTEMS INC	NOx
174544	2	BREITBURN OPERATION 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
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
119104	1	CALMAT CO	NOx/SOx
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
800373	1	CENCO REFINING COMPANY	NOx/SOx
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
16978	2	CLOUGHERTY PACKING LLC/HORMEL FOODS CORP	NOx
800210	2	CONEXANT SYSTEMS INC	NOx
38440	2	COOPER & BRAIN - BREA	NOx
68042	2	CORONA ENERGY PARTNERS, LTD	NOx
152707	1	CPV SENTINEL LLC	NOx
50098	1	D&D DISPOSAL INC,WEST COAST RENDERING CO	NOx
63180	1	DARLING INTERNATIONAL INC	NOx

Facility ID	Cycle	Facility Name	Program
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
132071	1	DEAN FOODS CO. OF CALIFORNIA	NOx
47771	1	DELEO CLAY TILE CO INC	NOx
800037	2	DEMENNO/KERDOON	NOx
125579	1	DIRECTV	NOx
800189	1	DISNEYLAND RESORT	NOx
174371	2	DP3 HANGARS, LLC	NOx
142536	2	DRS SENSORS & TARGETING SYSTEMS, INC	NOx
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
17344	1	EXXONMOBIL OIL CORP	NOx
25058	2	EXXONMOBIL OIL CORP	NOx
800089	1	EXXONMOBIL OIL CORPORATION	NOx/SOx
800094	1	EXXONMOBIL OIL CORPORATION	NOx
95212	1	FABRICA	NOx
11716	1	FONTANA PAPER MILLS INC	NOx
346	1	FRITO-LAY, INC.	NOx
2418	2	FRUIT GROWERS SUPPLY CO	NOx
142267	2	FS PRECISION TECH LLC	NOx
5814	1	GAINEY CERAMICS INC	NOx
115315	1	GEN ON WEST, INC.	NOx
153033	2	GEORGIA-PACIFIC CORRUGATED LLC	NOx
152857	2	GEORGIA-PACIFIC GYPSUM LLC	NOx
124723	1	GREKA OIL & GAS, INC	NOx
137471	2	GRIFOLS BIOLOGICALS INC	NOx
156741	2	HARBOR COGENERATION CO, LLC	NOx
157359	1	HENKEL CORPORATION	NOx
123774	1	HERAEUS METAL PROCESSING, LLC	NOx
113160	2	HILTON COSTA MESA	NOx

Facility ID	Cycle	Facility Name	Program
160888	1	HINES REIT EL SEGUNDO, LP	NOx
800066	1	HITCO CARBON COMPOSITES INC	NOx
2912	2	HOLLIDAY ROCK CO INC	NOx
800003	2	HONEYWELL INTERNATIONAL INC	NOx
124619	1	IMPRESS USA INC	NOx
124808	2	INEOS POLYPROPYLENE LLC	NOx/SOx
129816	2	INLAND EMPIRE ENERGY CENTER, LLC	NOx
157363	2	INTERNATIONAL PAPER CO	NOx
169678	1	ITT CANNON, LLC	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 WESTERN OPERATING INC	NOx
151532	2	LINN WESTERN OPERATING INC	NOx
152054	1	LINN WESTERN OPERATING INC	NOx
151415	2	LINN WESTERN OPERATING, INC	NOx
115314	2	LONG BEACH PEAKERS LLC	NOx
17623	2	LOS ANGELES ATHLETIC CLUB	NOx
58622	2	LOS ANGELES COLD STORAGE CO	NOx
125015	2	LOS ANGELES TIMES COMMUNICATIONS LLC	NOx
800080	2	LUNDAY-THAGARD COMPANY	NOx/SOx
38872	1	MARS PETCARE U.S., INC.	NOx
14049	2	MARUCHAN INC	NOx
3029	2	MATCHMASTER DYEING & FINISHING INC	NOx
2825	1	MCP FOODS INC	NOx

Facility ID	Cycle	Facility Name	Program
173290	1	MEDICLEAN	NOx
115563	1	METAL COATERS OF CALIFORNIA	NOx
94872	2	METAL CONTAINER CORP	NOx
155877	1	MILLERCOORS, LLC	NOx
12372	1	MISSION CLAY PRODUCTS	NOx
11887	2	NASA JET PROPULSION LAB	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 CORP, AIRCRAFT DIV	NOx
800408	1	NORTHROP GRUMMAN SYSTEMS	NOx
800409	2	NORTHROP GRUMMAN SYSTEMS CORPORATION	NOx
112853	2	NP COGEN INC	NOx
89248	2	OLD COUNTRY MILLWORK INC	NOx
47781	1	OLS ENERGY-CHINO	NOx
35302	2	OWENS CORNING ROOFING AND ASPHALT, LLC	NOx/SOx
7427	1	OWENS-BROCKWAY GLASS CONTAINER INC	NOx/SOx
169754	1	OXY USA INC	NOx
151594	1	OXY USA, INC	NOx
151601	1	OXY USA, INC.	NOx
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	PAPER-PAK INDUSTRIES	NOx
800183	1	PARAMOUNT PETR CORP	NOx/SOx
800168	1	PASADENA CITY, DWP	NOx
168088	1	PCCR USA	NOx
171107	2	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL	NOx/SOx
171109	1	PHILLIPS 66 CO/LOS ANGELESREFINERY	NOx/SOx
133987	1	PLAINS EXPLORATION & PRODUCTION CO, LP	NOx
133996	2	PLAINS EXPLORATION & PRODUCTION COMPANY	NOx
137520	1	PLAINS WEST COAST TERMINALS LLC	NOx
800416	1	PLAINS WEST COAST TERMINALS LLC	NOx
800417	2	PLAINS WEST COAST TERMINALS LLC	NOx

Facility ID	Cycle	Facility Name	Program
800419	2	PLAINS WEST COAST TERMINALS LLC	NOx
800420	2	PLAINS WEST COAST TERMINALS LLC	NOx
800431	1	PRATT & WHITNEY ROCKETDYNE, INC.	NOx
7416	1	PRAXAIR INC	NOx
42630	1	PRAXAIR INC	NOx
152501	1	PRECISION SPECIALTY METALS, INC.	NOx
136	2	PRESS FORGE CO	NOx
105903	1	PRIME WHEEL	NOx
132191	1	PURENERGY OPERATING SERVICES, LLC	NOx
132192	1	PURENERGY OPERATING SERVICES, LLC	NOx
173392	1	QUAD/GRAPHICS MARKETING, 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
115041	1	RAYTHEON COMPANY	NOx
114997	1	RAYTHEON COMPANY	NOx
115172	2	RAYTHEON COMPANY	NOx
800371	2	RAYTHEON SYSTEMS COMPANY - FULLERTON OPS	NOx
15544	2	REICHHOLD INC	NOx
52517	1	REXAM BEVERAGE CAN COMPANY	NOx
114801	1	RHODIA INC.	NOx/SOx
61722	2	RICOH ELECTRONICS INC	NOx
139010	2	RIPON COGENERATION LLC	NOx
800182	1	RIVERSIDE CEMENT CO	NOx/SOx
800113	2	ROHR, INC.	NOx
18455	2	ROYALTY CARPET MILLS 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
20203	2	SCOPE PRODUCTS INC, DEXT CO	NOx
14926	1	SEMPRA ENERGY (THE GAS CO)	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

Facility ID	Cycle	Facility Name	Program
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	SNAK 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
8582	1	SO CAL GAS CO/PLAYA DEL REY STORAGE FACI	NOx
14871	2	SONOCO PRODUCTS CO	NOx
160437	1	SOUTHERN CALIFORNIA EDISON	NOx
800338	2	SPECIALTY PAPER MILLS INC	NOx
126498	2	STEELSCAPE, INC	NOx
105277	2	SULLY MILLER CONTRACTING CO	NOx
19390	1	SULLY-MILLER CONTRACTING CO.	NOx
2083	1	SUPERIOR INDUSTRIES INTERNATIONAL INC	NOx
3968	1	TABC, INC	NOx
18931	2	TAMCO	NOx
14944	1	TECHALLOY CO., INC.	NOx/SOx
174591	1	TESORO REFINING & MARKETING CO LLC, CAL	NOX/SOx
174655	2	TESORO REFINING & MARKETING CO LLC	NOX/SOx
151798	1	TESORO REFINING AND MARKETING CO	NOx/SOx
800436	1	TESORO REFINING AND MARKETING CO	NOx/SOx
96587	1	TEXOLLINI INC	NOx
148340	2	THE BOEING CO. COMMERCIAL AVIATION SRVCS	NOx
14736	2	THE BOEING COMPANY	NOx
16660	2	THE BOEING COMPANY	NOx
800038	2	THE BOEING COMPANY - C17 PROGRAM	NOx
11119	1	THE GAS CO./ SEMPRA ENERGY	NOx
153199	1	THE KROGER CO/RALPHS GROCERY CO	NOx
11435	2	THE PQ CORP	NOx/SOx
97081	1	THE TERMO COMPANY	NOx
800330	1	THUMS LONG BEACH	NOx
129497	1	THUMS LONG BEACH CO	NOx

Facility ID	Cycle	Facility Name	Program
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
53729	1	TREND OFFSET PRINTING SERVICES, INC	NOx
9053	1	TRIGEN- LA ENERGY CORP	NOx
11034	2	TRIGEN-LA ENERGY CORP	NOx
165192	2	TRIUMPH AEROSTRUCTURES, LLC	NOx
43436	1	TST, INC.	NOx
800026	1	ULTRAMAR INC	NOx/SOx
9755	2	UNITED AIRLINES INC	NOx
73022	2	US AIRWAYS INC	NOx
800149	2	US BORAX INC	NOx
800150	1	US GOVT, AF DEPT, MARCH AIR RESERVE BASE	NOx
1073	1	US TILE CO	NOx
800393	1	VALERO WILMINGTON ASPHALT PLANT	NOx
14502	2	VERNON CITY, LIGHT & POWER DEPT	NOx
148896	2	VINTAGE PRODUCTION CALIFORNIA LLC	NOx
148897	2	VINTAGE PRODUCTION CALIFORNIA LLC	NOx
151899	2	VINTAGE PRODUCTION CALIFORNIA LLC	NOx
14495	2	VISTA METALS CORPORATION	NOx
146536	1	WALNUT CREEK ENERGY PARK	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
158950	1	WINDSOR QUALITY FOOD CO. LTD.	NOx

APPENDIX B
FACILITY INCLUSIONS

As discussed in Chapter 1, two facilities were added to the RECLAIM universe between July 1, 2012 and the end of Compliance Year 2012. The included facilities are identified, and the reasons for inclusion are also provided.

Facility ID	Cycle	Facility Name	Market	Date	Reason
119596	2	SNAK KING CORPORATION	NOx	8/23/2012	Opt-in at facility request.
172005	2	NEW- INDY ONTARIO, LLC	NOx	7/3/2012	Partial change of operator from an existing facility.

APPENDIX C
RECLAIM FACILITIES CEASING OPERATION OR EXCLUDED

SCAQMD staff is aware of the following RECLAIM facilities that permanently shut down all operations, inactivated their RECLAIM permits, or were excluded from the RECLAIM universe during Compliance Year 2012. 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	9217
Facility Name	VEOLIA ENERGY LOS ANGELES, INC
City and County	Fullerton, Orange County
SIC	4961
Pollutants	NOx
1994 Allocation	26,274
Reason for Shutdown	The facility shut down all its operations, the only piece of process equipment was rendered inoperable, and the property was sold to Hope University which is exempt from RECLAIM per Rule 2001(i)(2)(H).

Facility ID	111415
Facility Name	VAN CAN COMPANY
City and County	Fontana, San Bernardino County
SIC	3411
Pollutants	NOx
1994 Allocation	8,310
Reason for Shutdown	Operations moved to new plant in Tennessee.

Facility ID	167432
Facility Name	EDISON MISSION HUNTINGTON BEACH, LLC
City and County	Huntington Beach, Orange County
SIC	4911
Pollutants	NOx/SOx
1994 Allocation	1,024,673
Reason for Shutdown	Air quality mitigation for a new power plant (Walnut Creek Energy LLC, ID: 146536) also located in the SCAQMD.

Facility ID	800110
Facility Name	THE BOEING COMPANY
City and County	Anaheim, Orange County
SIC	3812
Pollutants	NOx
1994 Allocation	17,846
Reason for Shutdown	Facility consolidated operations at another Boeing facility in Huntington Beach (ID: 16660).

Facility ID	800343
Facility Name	BOEING SATELLITE SYSTEMS, INC
City and County	El Segundo, Los Angeles County
SIC	3669
Pollutants	NOx
1994 Allocation	6,620
Reason for Shutdown	Facility consolidated operations at another Boeing facility in El Segundo (ID: 800067).

APPENDIX D
FACILITIES THAT EXCEEDED THEIR ANNUAL ALLOCATION FOR COMPLIANCE YEAR 2012

The following is a list of facilities that did not have enough RTCs to cover their NOx and/or SOx emissions in Compliance Year 2012 based on the results of audits conducted by SCAQMD staff.

Facility ID	Facility Name	Compliance Year	Emittant
3704	ALL AMERICAN ASPHALT CORONA	2012	NOx
5998	ALL AMERICAN ASPHALT WESTMINSTER	2012	NOx
17956	WESTERN METAL DECORATING CO	2012	NOx
59618	PACIFIC CONTINENTAL TEXTILES, INC	2012	NOx
73022	US AIRWAYS INC	2012	NOx
101656	AIR PRODUCTS AND CHEMICALS, INC	2012	NOx
118406	CARSON COGENERATION COMPANY	2012	NOx
133996	PLAINS EXPLORATION AND PRODUCTION COMPANY	2012	NOx
145836	AMERICAN APPAREL DYEING & FINISHING, INC	2012	NOx
153199	THE KROGER CO/RALPHS GROCERY CO	2012	NOx
171107	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL	2012	NOx
800182	RIVERSIDE CEMENT CO	2012	NOx/SOx

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. During Compliance Year 2012, no facility reported actual job gains or losses attributable to RECLAIM.

ERRATA SHEET FOR AGENDA #28

Annual RECLAIM Audit Report for 2012 Compliance Year

SCAQMD Governing Board Meeting

March 7, 2014

The following revisions are recommended in the Board Letter and Annual RECLAIM Audit Report for 2012 Compliance Year to change the number of NOx facilities which exceeded their NOx allocations from twelve (12) to thirteen (13).

Board Letter, Page 3:

- ***"Facility Compliance*** – The vast majority of RECLAIM facilities complied with their allocations during the 2012 compliance year (~~96~~95% of NOx facilities and 97% of SOx facilities). ~~Twelve~~ Thirteen facilities (~~4~~5% of total facilities) exceeded their NOx allocations and one of the ~~12~~ 13 facilities also exceeded its SOx allocation during Compliance Year 2012. These ~~12~~ 13 NOx facilities had total NOx emissions of ~~832~~ 1,208 tons and did not have adequate allocations to offset ~~125.9~~361.1 of those tons. The exceedances represent ~~15.1~~29.9% of the sum of the NOx emissions from the ~~12~~ 13 facilities and ~~1.3~~3.7% of total RECLAIM NOx allocations. One facility had SOx emissions that exceeded its SOx allocations by only three pounds. Pursuant to Rule 2010(b)(1)(A), all ~~12~~ 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 2012 allocations."

Annual RECLAIM Audit Report for 2012 Compliance Year

Executive Summary, Page ES-4:

"Chapter 5: Compliance

Of the 278 NOx RECLAIM facilities during Compliance Year 2012, a total of ~~266~~ 265 facilities (~~96~~95%) complied with their NOx allocations, and all but one of the 33 SOx facilities (97%) complied with their SOx allocations. The ~~12~~ 13 NOx facilities that exceeded their NOx allocations had aggregate NOx emissions of ~~832~~ 1,208 tons and did not have adequate allocations to offset ~~125.9~~361.1 tons (or ~~15.1~~29.9%) of their combined emissions. This exceedance amount is small compared to the overall allocations for Compliance Year 2012 (~~1.3~~3.7% of total NOx allocations). One SOx facility had SOx emissions that exceeded its SOx allocations by only three pounds. The exceedances from these ~~12~~ 13 facilities (~~11~~ 12 NOx-only facilities and one NOx and SOx facility) did not impact the overall RECLAIM emission reduction goals. Pursuant to Rule 2010(b)(1)(A), all ~~12~~ 13 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 2012 allocations. The overall RECLAIM NOx and SOx emission reduction targets and goals were met for Compliance Year 2012 (*i.e.*, aggregate emissions for all RECLAIM facilities were well below aggregate allocations)."

Chapter 5, Page 5-1:

"Summary

*Of the 278 NOx RECLAIM facilities during Compliance Year 2012, a total of ~~266~~ 265 facilities (~~96~~95%) complied with their NOx allocations, and all but one of the 33 SOx facilities (97%) complied with their SOx allocations. The ~~12~~ 13 NOx facilities that exceeded their NOx allocations had aggregate NOx emissions of ~~832~~ 1,208 tons and did not have adequate allocations to offset ~~125.9~~361.1 tons (or ~~15.1~~29.9%) of their combined emissions. This exceedance amount is small compared to the overall allocations for Compliance Year 2012 (~~1.3~~3.7% of total NOx allocations). One SOx facility had SOx emissions that exceeded its SOx allocations by only three pounds. The exceedances from these ~~12~~ 13 facilities (~~11~~ 12 NOx-only facilities and one NOx and SOx facility) did not impact the overall RECLAIM emission reduction goals. Pursuant to Rule 2010(b)(1)(A), all ~~12~~ 13 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 2012 allocations. The overall RECLAIM NOx and SOx emission reduction targets and goals were met for Compliance Year 2012 (*i.e.*, aggregate emissions for all RECLAIM facilities were well below aggregate allocations)."*

Chapter 5, Page 5-3:

"Compliance Status

During this compliance year, a total of ~~12~~ 13 RECLAIM facilities failed to reconcile their emissions (~~11~~ 12 NOx-only facilities and one facility that exceeded both its NOx and SOx allocations). Ten of these ~~12~~ 13 facilities failed to secure sufficient RTCs to cover their reported emissions during either the quarterly or annual reconciliation periods. Of these ten facilities, three facilities (two NOx-only facilities and one NOx and SOx facility), had additional reasons for NOx exceedance such as applying incorrect stackflow calculations, using incorrect emission factors, failing to apply MDP, and using incorrect MDP (the facility with a SOx exceedance failed to secure sufficient SOx RTCs to cover reported SOx emissions). Of the remaining ~~two~~ three facilities, one exceeded its allocations because the facility failed to apply bias adjustment factors to its calculated major source emissions. The second facility failed to account for emissions from two reportable sources, failed to report all of the emissions from equipment that are exempt from obtaining SCAQMD permit pursuant to Rule 219, and failed to apply a pressure correction factor in order to standardize its process unit fuel usage. The third facility failed to replace its major source turbines emissions data as reported by their CEMS with MDP based emissions because the facility failed to conduct RATA tests until about two and a half months beyond the rule-specified deadline.

Overall, the Compliance Year 2012 allocation compliance rate is ~~96~~95% (~~266~~ 265 out of 278 facilities) for NOx RECLAIM facilities and 97% (32 out of 33 facilities) for SOx RECLAIM facilities. For purposes of comparison, the allocation compliance rates for Compliance Year 2011 were 93% and 100% for NOx and SOx RECLAIM facilities, respectively. The ~~12~~ 13 facilities that had NOx emissions in excess of their individual

NOx allocations had ~~832~~ 1,208 tons of NOx emissions and did not have adequate RTCs to cover ~~125.9~~361.1 of those tons (or ~~15.1~~29.9%). This exceedance amount (~~1.3~~3.7% of aggregate NOx allocations) is small compared to the overall allocations for Compliance Year 2012. One SOx facility had SOx emissions that exceeded its SOx allocations by only three pounds. Pursuant to Rule 2010(b)(1)(A), all ~~12~~ 13 facilities had their respective exceedances deducted from their annual emissions allocations for the compliance year subsequent to SCAQMD's determination that the facilities exceeded their Compliance Year 2012 allocations."

APPENDIX D
FACILITIES THAT EXCEEDED THEIR ANNUAL ALLOCATION FOR COMPLIANCE YEAR 2012

The following is a list of facilities that did not have enough RTCs to cover their NOx and/or SOx emissions in Compliance Year 2012 based on the results of audits conducted by SCAQMD staff.

Facility ID	Facility Name	Compliance Year	Emittant
3704	ALL AMERICAN ASPHALT CORONA	2012	NOx
5998	ALL AMERICAN ASPHALT WESTMINSTER	2012	NOx
17956	WESTERN METAL DECORATING CO	2012	NOx
59618	PACIFIC CONTINENTAL TEXTILES, INC	2012	NOx
73022	US AIRWAYS INC	2012	NOx
101656	AIR PRODUCTS AND CHEMICALS, INC	2012	NOx
118406	CARSON COGENERATION COMPANY	2012	NOx
129816	INLAND EMPIRE ENERGY CENTER, LLC	2012	NOx
133996	PLAINS EXPLORATION AND PRODUCTION COMPANY	2012	NOx
145836	AMERICAN APPAREL DYEING & FINISHING, INC	2012	NOx
153199	THE KROGER CO/RALPHS GROCERY CO	2012	NOx
171107	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL	2012	NOx
800182	RIVERSIDE CEMENT CO	2012	NOx/SOx

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 29

PROPOSAL: Approve and Adopt Technology Advancement Office Clean Fuels Program Annual Report and Plan Update, Resolution and Revised Membership of the Clean Fuels Advisory Group

SYNOPSIS: Each year by March 31st the Technology Advancement Office must submit to the California Legislative Analyst of an approved Annual Report for the past year and a Plan Update for the current calendar year. Staff has reviewed the 2013 Clean Fuels Program with the Clean Fuels Advisory Group, the Technology Advancement Advisory Group and other technical experts. Additionally, the 2014 Clean Fuels Program Draft Plan Update was presented to the Board for review and comment at its October 4, 2013 meeting. Staff recommends the Board approve and adopt the final Technology Advancement Clean Fuels Program Annual Report for 2013 and 2014 Plan Update as well as the resolution finding that proposed projects do not duplicate any past or present programs and the revised membership of the Clean Fuels Advisory Group.

COMMITTEE: No Committee Review; the February 21, 2014 Technology Committee meeting was cancelled.

RECOMMENDED ACTIONS:

1. Adopt the attached Technology Advancement Office Clean Fuels Program Plan Update for 2014 and include it in the SCAQMD's Clean Fuels Program;
2. Approve the attached Technology Advancement Office Annual Report for 2013;
3. Approve the attached Resolution finding that the update of the Technology Advancement Office Clean Fuels Program Plan and its proposed projects do not duplicate any past or present programs of specified organizations; and
4. Approve the membership changes to the Clean Fuels Advisory Group and receive and file membership changes to the Technology Advancement Advisory Group.

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:DAH

Background

Achieving federal and state clean air standards in the South Coast Air Basin will require emission reductions from both mobile and stationary sources beyond those available from current technologies. The 2012 Air Quality Management Plan (AQMP) relies on a mix of currently available technology as well as the expedited development and commercialization of cleaner mobile and stationary advanced technologies in the Basin to achieve these standards. Specifically, the 2012 AQMP identifies the need for 200 tons/day NO_x reductions to be adopted by 2020 for full implementation by 2023 and in large part focuses control measures on transportation technologies and cleaner fuels with zero and near-zero emissions in order to achieve these reductions. This will require the SCAQMD Clean Fuels Program, first initiated in 1988 along with establishment of the Technology Advancement Office (TAO), to encourage and accelerate advancement of transformative transportation technologies and commercialization of progressively lower-emitting vehicles and fuels.

The SCAQMD Clean Fuels Program is implemented as a public-private partnership in conjunction with private industry, technology developers, academic institutions, research institutions and government agencies. This public-private partnership has enabled the SCAQMD to historically leverage public funds with outside investment in a ratio of about $3-$4 of outside funding to every dollar of SCAQMD funding.

Health and Safety Code (H&SC) Section 40448.5.1 requires that the SCAQMD adopt a plan that describes the expected cost and benefits of proposed projects prior to any Clean Fuels Program expenditure 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 and 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. This annual report requires the review and approval by an advisory group and the Board, prior to submittal to specified offices of the California Legislature by March 31st of each year. This legislation also specifies the make-up of the Clean Fuels Advisory Group (CFAG) and its primary responsibilities to make recommendations regarding the most cost-effective projects that advance and implement clean fuels technology and improve public health. The membership of the CFAG was initially approved by the Board in September 1999. Changes to the composition are reviewed by the Board's Technology Committee on an as-needed basis, and were considered last year, with changes to the membership approved by the Board on May 4, 2012. Prior to formation of the CFAG, 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 revisited in 1999 with formation of the CFAG so their function would complement each other. The TAAG's charter specifies membership changes must be approved by the Board's Technology Committee.

Proposal
This package includes an adoption resolution (Attachment A), proposed new advisory group members (Attachment B) and one combined document comprising the TAO Clean Fuels Program 2013 Annual Report and 2014 Plan Update (Attachment C). Staff recommends the Board approve and adopt the TAO Clean Fuels Program Annual Report and Plan Update, and as part of the Board's consideration of the Plan Update, the Board must make a finding that the update to the TAO Clean Fuels Program 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 meet in-person twice a year and are also emailed the documents to review. The advisors are all experts in different fields and are members of national laboratories, state or federal agencies and academicians. Staff is also intimately involved with specific technologies through efforts at state and federal collaboratives, partnerships and industrial coalitions. Finally, staff also invites technical experts to review the Annual Report and Plan Update. Through this wide network, staff is confident there is no duplication of technology projects represented in the Plan Update as required in the H&SC. Attachment A is an adoption resolution making such a finding. Furthermore, staff recommends the Board approve membership changes, which are necessitated by retirements and departures, to the Clean Fuels Advisory Group and receive and file membership changes to the Technology Advancement Advisory Group.

Clean Fuels Program Annual Report 2013
The Annual Report covers projects and progress of the Program for Calendar Year (CY) 2013. As discussed earlier, this report addresses all of the requirements specified in H&SC 40448.5.1(d). Specifically, the report includes the following required elements:

- 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 commercialization barriers;
- 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 automobile and energy firms, as determined by the SCAQMD;
- A description of projects funded by the SCAQMD, including a list of recipients, subcontractors, co-funders, 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 subcontractors involved in each project and the amount of money expended 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 2013, the Clean Fuels Program executed 45 new projects or studies and modified 3 continuing contracts adding additional dollars to sponsor research, development, demonstration and deployment projects of alternative fuel and clean fuel technologies. The SCAQMD's contribution to these projects was approximately $7.5 million, with total project costs of more than $23 million that includes funding from other governmental agencies, private sector, academia and research institutions. 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 2013. It should be noted that the 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 calendar year.

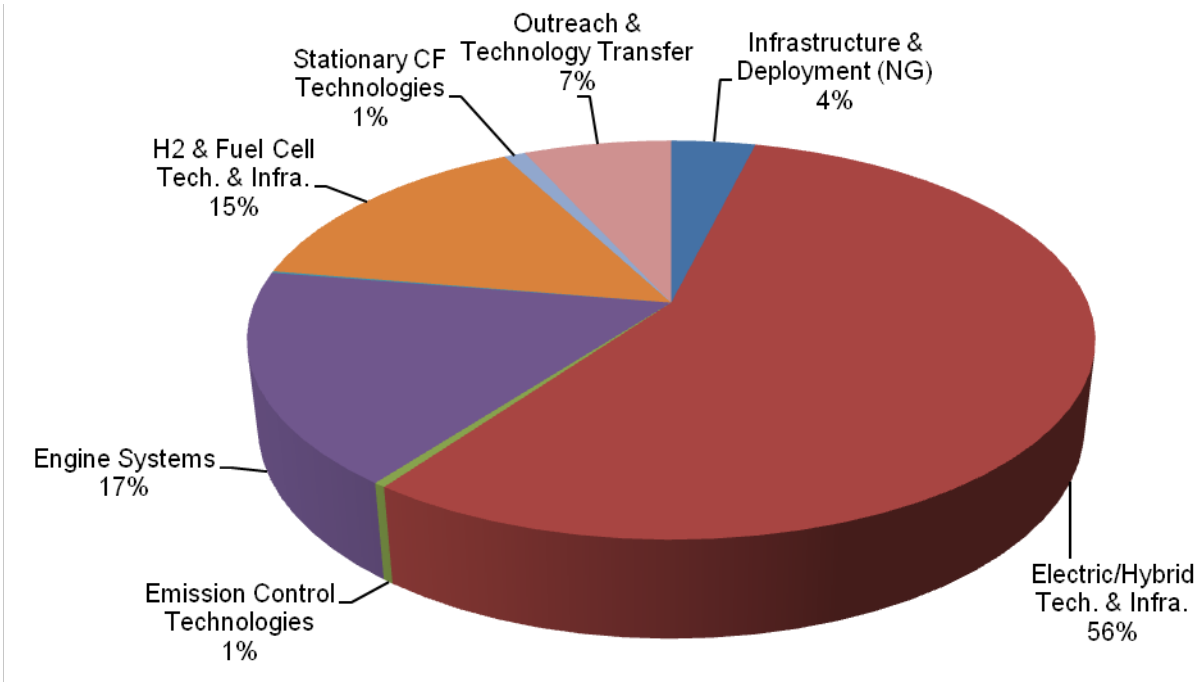


Figure 1: Distribution of Clean Fuels Program Funds in CY 2013 ($7.5 Million)

During CY 2013, the SCAQMD supported a variety of projects and technologies, ranging from near-term to long-term research, development, demonstration and deployment 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 in CY 2013 included continued development and

demonstration of electric and hybrid technologies and infrastructure with an emphasis on zero emission goods movement technologies, development and demonstration of heavy-duty natural gas engines and vehicles and development and demonstration of hydrogen technologies and infrastructure.

In addition to the new projects, 24 research, development and demonstration projects or studies and 13 technology assessment and transfer projects were completed in CY 2013. Summaries for each of the technical projects are provided in Appendix C of the Annual Report.

The Clean Fuels Program in CY 2013 has continued to leverage other outside opportunities, with the SCAQMD securing awards totaling more than $15.8 million from federal and state funding. Similar to the nearly $111 million awarded to the SCAQMD between 2009 and 2012 through the American Recovery and Reinvestment Act and other federal and state programs, the $15.8 million awarded in 2013 are for projects that align well with and are complementary to the Clean Fuels Program. Staff will continue to look for and pursue applicable funding opportunities.

Clean Fuels Program Plan Update 2014

Every year TAO staff re-evaluates the Clean Fuels Program to craft a Plan Update which essentially serves to re-calibrate the compass. The attached Plan Update for the Clean Fuels Program identifies potential projects to be considered for funding during 2014 and beyond. The proposed projects reflect promising low and near-zero- or 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. Projects not funded in 2014 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:

- Hybrid and Electric Vehicle Technologies and Related Infrastructure (emphasizing electric and hybrid electric trucks and zero-emission container transport technologies)
- Hydrogen and Mobile Fuel Cell Technologies and Infrastructure
- Engine Systems (emphasizing heavy-duty natural gas engines for truck and rail applications)
- Fueling Infrastructure and Deployment (predominantly compressed and liquid natural gas)
- Fuels and Emission Studies

- Health Impacts Studies
- Stationary Clean Fuels Technologies (including renewables)
- Emission Control Technologies
- Outreach and Technology Transfer

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; or (3) incorporate findings from studies, such as SCAQMD's MATES IV study results which will be available mid-2014.

These technical priorities will necessarily be balanced by funding availability and the availability of qualified projects. Revenues from several sources support the SCAQMD's Technology Advancement program. The principal revenue source is the Clean Fuels Program, which, under H&SC Section 40448.5 and Vehicle Code Section 9250.11, establishes mechanisms to collect revenues from mobile and stationary sources to support the program's objectives, albeit with constraints on the use of the funds. Grants and cost-sharing revenue contracts from various government agencies, such as the California Air Resources Board, the California Energy Commission, the National Renewable Energy Laboratory and the U.S. Departments of Energy and Transportation, also support technology advancement efforts.

The proposed Plan Update is the result of a comprehensive planning and review process. This process included consideration of the 2012 AQMP control measures which represent new challenges and methodologies from the prior AQMP. It also incorporates coordination activities involving outside organizations including consideration of federal, state and local activities and proposed integrated solutions ranging from CARB's freight strategies to SB 375 requirements which call for sustainable communities. As part of this process, staff hosted two retreats in August 2013 and February 2014 to solicit input from the Clean Fuels Advisory Group, the Technical Advancement Advisory Group and other technical experts. During these retreats, the participants reviewed the current Technology Advancement projects and discussed near-term and long-term technologies as potential projects. In November 2013, the SCAQMD also hosted a technology forum on near road mitigation measures and technologies. Additionally, staff attended meetings with CARB, CEC, the California Fuel Cell Partnership 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 appear to 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.

Finally, staff presented the Draft 2013 Clean Fuels Program Plan Update to the Technology Committee on September 20, 2013, and to the full SCAQMD Board for review and comment at its October 4, 2013 meeting. Feedback from Board Members at the public hearing was used to further refine allocations among the funding priority categories. Figure 2 graphically depicts the potential distribution of SCAQMD Clean Fuels funds, based on projected program costs of $16.4 million, for the nine project areas discussed above.

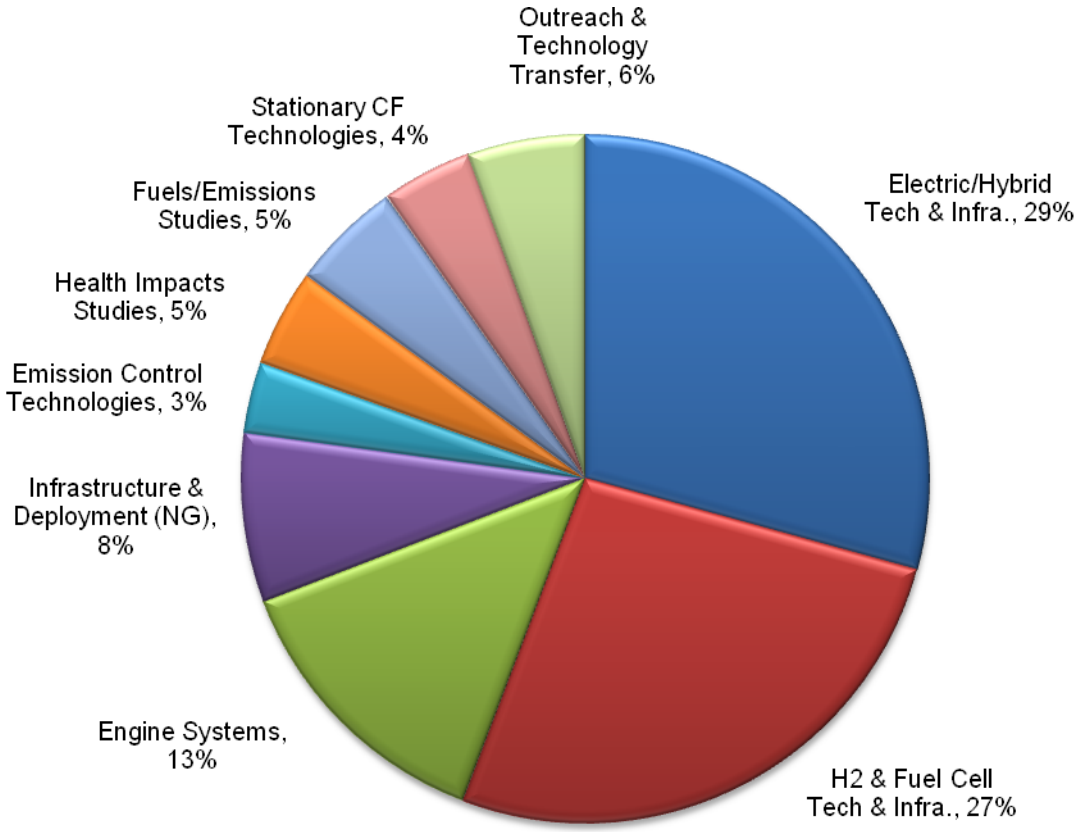


Figure 2: Projected Cost Distribution for Potential Projects in 2014 ($16.4 million)

The expected actual program expenditures for 2014 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 SCAQMD funding. Specific contract awards throughout 2014 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 2013 and adopt the Clean Fuels Plan Update for 2014 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 and approved by the SB 98 Clean Fuels Advisory Group and is due to the state by March 31, 2014.

Attachments

A. Resolution
B. Qualifications and Expertise of Proposed New Advisory Group Members
C. TAO Clean Fuels Program 2013 Annual Report and 2014 Plan Update

ATTACHMENT A

RESOLUTION NO. 14-

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 2013 and adopting the Clean Fuels Program Plan Update for 2014.

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 south coast district 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 south coast district 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.

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 south coast district, 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 south coast district board is to approve 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 2013.

BE IT FURTHER RESOLVED, that the Board adopts the Technology Advancement Office Clean Fuels Program Plan Update for 2014.

BE IT FURTHER RESOLVED, that the Board hereby directs staff to forward the Technology Advancement Office Clean Fuels Program Annual Report 2013 and Plan Update 2014 to the California Legislature and the Legislative Analyst by March 31, 2014.

_____ _____

Dated: Saundra McDaniel, Clerk of the Board

ATTACHMENT B
Qualifications and Expertise of Proposed New Advisory Group Members

Clean Fuels Advisory Group*

Kevin Walkowicz, NREL	Kevin Walkowicz is the Manager of the Vehicle Testing and Analysis Group within NREL's Transportation and Hydrogen Systems Center. His group primarily supports and manages research projects for the U.S. Department of Energy's Vehicle Technology Office. His group focuses on managing advanced data acquisition efforts, developing data analysis, simulation & visualization tools as well as conducting vehicle and infrastructure testing projects. He is also one of the Principle Investigators for the U.S. Department of Energy's Advanced Vehicle Testing Activity. His primary focus has been on capturing, analyzing and reporting in-use data from advanced technology vehicles and understanding vehicle performance as it relates to usage and duty cycle. Prior to joining NREL in January 2001 he worked at General Motors Corporation to lead fuel system and advanced evaporative emission control system projects in order to meet new stringent EPA emission requirements. He holds a B.S.M.E from Lawrence Technological University and a M.S. in engineering from Rensselaer Polytechnic Institute.

**The charter for the CFAG requires membership changes to be approved by the Board.*

Technology Advancement Advisory Group**

Alberto Ayala, CARB	Alberto Ayala is the Deputy Executive Officer of the California Air Resources Board. In this capacity, Alberto is responsible for the Board's ambient monitoring and laboratory activities and mobile source program. Alberto became a member of CARB's Research staff in 2000 and has since held various management assignments in programs such as Carl Moyer Incentives, AB 32 early actions, mobile refrigerant rules, diesel retrofits, and car, truck, and bus emissions research. Alberto oversees the full range of policy, regulatory, and research efforts of over 400 professionals focused on achieving CARB's goals for clean, zero-emission, and low-carbon transportation; state-of-the-art monitoring for air and climate pollution; and a widely recognized motor vehicle emissions and fuels testing program. He contributed to the first car GHG emissions regulation in 2004 and is now directing one of CARB's most important efforts, the Advanced Clean Cars program.
Patricia Ochoa, Coalition for Clean Air	Patricia Ochoa is the Deputy Policy Director for Coalition for Clean Air which oversees the organization's efforts to improve the air quality in Southern California by working to ensure that the region's freight network is sustainable and cleaner. Prior to joining CCA, Patty worked on developing healthier and equitable land-use policies for the region and spearheaded an effort to improve local auto-dismantler's environmental practices through education and outreach. Patty has a bachelor's degree in English and Chicano/a Studies and a master's degree in Chicano/a Studies from California State University Northridge.
Ed Kjaer, SCE	Edward Kjaer is the Director of SCE's Transportation Electrification program. In his role, Ed is responsible for this broad corporate wide effort supporting transportation connecting to the SCE's electrical system. Ed's responsibilities include; company strategy, external stakeholder engagement, regulatory and legislative strategy, and internal company wide program coordination. Prior to this position, Ed has been a leading proponent of electric transportation at Edison holding key leadership positions since joining the company in 1996. In 2011, Ed received the prestigious "Hall of Fame" award from the Electric Drive Transportation Association and has been named to the Automotive News "Electrifying 100" most influential people leading industry towards a more electric powered transportation future.
WSPA rep	*Appointment Pending*

***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
2013 ANNUAL REPORT AND
2014 PLAN UPDATE

DRAFT

South Coast Air Quality Management District
March 2014

DRAFT

South Coast Air Quality Management District

Governing Board

Chairman

William A. Burke, Ed.D.
Assembly Speaker Appointee

County Representatives

Michael D. Antonovich
Supervisor, Los Angeles County

Shawn Nelson
Supervisor, Orange County

Josie Gonzales
Supervisor, San Bernardino County

John J. Benoit**
Supervisor, Riverside County

State Representatives

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

Joseph K. Lyou, Ph.D.
Governor's Appointee

Vice Chairman

Dennis R. Yates*
Mayor, City of Chino
San Bernardino County Cities

Cities Representatives

Joe Buscaino*
Councilmember, City of Los Angeles
City of Los Angeles

Michael Cacciotti
Councilmember, City of South Pasadena
Los Angeles County, Eastern Region

Judith Mitchell*
Mayor, City of Rolling Hills Estates
Los Angeles County, Western Region

Miguel A. Pulido*
Mayor, City of Santa Ana
Orange County Cities

Ben Benoit
Mayor Pro Tem, City of Wildomar
Riverside County Cities

Executive Officer
Barry R. Wallerstein, D.Env.

*Technology Committee Members **Technology Committee Chairman

South Coast Air Quality Management District
Technology Advancement Office

Matt Miyasato, Ph.D., Deputy Executive Officer, Science & Technology Advancement
Henry Hogo, Assistant Deputy Executive Officer, Mobile Sources
Laki T. Tisopulos, Ph.D., P.E., Assistant Deputy Executive Officer, Source Testing, Ambient Monitoring & Laboratory Analysis

Fred Minassian, Director of Technology Implementation
Lourdes Cordova Martinez, Community Relations Manager

Al Baez, Program Supervisor
Connie Day, Program Supervisor
Ranji George, Program Supervisor
Joseph Impullitti, Program Supervisor
Lisa Mirisola, Program Supervisor
Larry Watkins, Program Supervisor
Vicki White, Program Supervisor

Vasken Yardemian, Sr. Staff Specialist

Brian Choe, Air Quality Specialist
Mark Coleman, Air Quality Specialist
Jeff Cox, Air Quality Specialist
Patricia Kwon, Air Quality Specialist
Von Loveland, Air Quality Specialist
Ashkaan Nikravan, Air Quality Specialist
Shashi Singeetham, Air Quality Specialist
Greg Ushijima, Air Quality Specialist
Mei Wang, Air Quality Specialist
Andrew Yoon, Air Quality Specialist

Greta Grier, Air Quality Inspector II
Arun Kumar, Air Quality Inspector II

Drue Hargis, Senior Public Information Specialist

Laurie Diton, Senior Administrative Secretary
Pat Krayser, Senior Administrative Secretary
Marjorie Eaton, Secretary
Penny Shaw Cedillo, Secretary
Donna Vernon, Secretary
Lani Montojo, Staff Assistant
Michelle White, Staff Assistant
Christina Kusnandar, Contracts Assistant
Benigna Taylor, Contracts Assistant
Ana Troccoli, Contracts Assistant
Deanna Doerr, Senior Office Assistant
Lizette Acosta, Office Assistant

Other Staff Contributors
Philip Barroca, Air Quality Specialist
Lori Berard, Air Quality Specialist
Richard Carlson, Air Quality Specialist
David Coel, Program Supervisor
Wei Li, Air Quality Specialist
Frank Motavassel, Air Quality Specialist
Adewale Oshinuga, Program Supervisor
Jean Ospital, Ph.D., Health Effects Officer, Planning, Rule Development & Area Sources
Randall Pasek, Ph.D., Off-Road Mobile Source Manager
Dean Saito, On-Road Mobile Source Manager

Table of Contents

EXECUTIVE SUMMARY EX-1

CLEAN FUELS PROGRAM 1

Program Background 1
2013 Overview 1
The Need for Advanced Technologies & Clean Fuels 2
Program Funding 4
Core Technologies 5
Program Review 8

PROGRAM STRATEGY AND IMPACT 11

Scope and Benefits of the Clean Fuels Program 11
Overcoming Barriers 12
Strategy and Impact 13
Research, Development and Demonstration 14
Technology Deployment and Commercialization 18

2013 FINANCIAL SUMMARY 21

Funding Commitments by Core Technologies 21
Review of Audit Findings 22
Project Funding Detail by Core Technologies 23
Project Summaries by Core Technologies 31
Infrastructure and Deployment 31
Fuels/Emission Studies 32
Emission Control Technologies 32
Electric/Hybrid Technologies & Infrastructure 33
Engine Systems 37
Mobile Fuel Cell Technologies 37
Hydrogen Technologies & Infrastructure 39
Stationary Clean Fuel Technologies 41
Outreach and Technology Transfer 42

PROGRESS AND RESULTS IN 2013 45

Key Projects Completed 45

2014 PLAN UPDATE 55

Technology Funding Priorities for 2014 55
Technical Priorities (Core Technologies) 57
Target Allocations to Core Technology Areas 63

PROGRAM PLAN UPDATE FOR 2014 65

Funding Summary of Potential Projects 65
Technical Summaries of Potential Projects 69
Electric/Hybrid Technologies & Infrastructure 69
Engine Systems 75
Hydrogen and Fuel Cell Technologies & Infrastructure 77
Infrastructure and Deployment (NG) 81
Emission Control Technologies 84
Fuels/Emission Studies 86
Health Impacts Studies 89
Stationary Clean Fuel Technologies 92
Outreach and Technology Transfer 95

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, 2014 ..... B-1

Appendix C

Final Reports for 2013 ..... C-1

Appendix D

Acronyms D-1

Figures

Figure 1: 2023 NO_x Emissions by Category 2
Figure 2: NOx Contributors by Sector 2
Figure 3: Stages of Clean Fuels Program Projects 11
Figure 4: Diagram of the Microturbine Generator's Major Components 15
Figure 5: Prototype Class 7 Hybrid Truck 15
Figure 6: TransPower Truck at Facility in Poway, CA 16
Figure 7: Heavy-Duty Engine 17
Figure 8: South Coast PEV Atlas of Deployed EV Infrastructure 18
Figure 9: Giant Steps Forward in 2013 for Fuel Cell Electric Vehicles and Hydrogen Stations 20
Figure 10: Distribution of Funds for Executed Clean Fuels Projects CY 2013 ($7.5 million) 22
Figure 11: Portable In-Use Emissions Mobile Unit 45
Figure 12: 2,500-Mile Route of In-Use Emissions Study 46
Figure 13: Vehicle test matrix of engine technologies and vehicle vocations 46
Figure 14: Foothill Transit's Electric Bus Charging in Pomona 48
Figure 15: American Fuel Cell Bus In Service SunLine Transit 48
Figure 16: City of San Bernardino's East Valley Regional Fueling Facility 49
Figure 17: Projected Cost Distribution for Potential SCAQMD Projects 2014 & Beyond 63

Tables

Table 1: SCAQMD Major Funding Partners in CY 2013 14
Table 2: Contracts Executed or Amended (w/$) between January 1 & December 31, 2013 24
Table 3: Supplemental Revenue Grants Received into Clean Fuels Fund (31) 26
Table 4: Summary of Federal & State Funding Awarded between Jan. 1 & Dec. 31, 2013 26
Table 5: Update of Federal & State Funding Awarded between Jan. 1, 2009 & Dec. 31, 2012 27
Table 6: Projects Completed between January 1 & December 31, 2013 51
Table 7: Summary of Potential Projects for 2014 67

EXECUTIVE SUMMARY

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. Recognizing this challenge, in 1988 the state established the SCAQMD's Clean Fuels Program (along with establishment of the Technology Advancement Office), which affords the SCAQMD the ability to fund the development, demonstration and accelerated deployment of clean technologies. For over 20 years, using funding received through a $1 motor vehicle registration fee, the Clean Fuels Program has encouraged, fostered and supported technologies such as hydrogen and fuel cells, natural gas engines and infrastructure, battery electric vehicles, plug-in hybrid electric vehicles and related fueling infrastructure. The SCAQMD continues to support a wide variety of technologies, in different stages of maturity, to provide a continuum of emission reductions and health benefits over time.

The Clean Fuels Program is implemented as a public-private partnership in conjunction with private industry, technology developers, academic institutions, research institutions and government agencies.

The overall strategy of the SCAQMD's Clean Fuels Program is based in large part on technology needs identified through the Air Quality Management Plan (AQMP) process and the SCAQMD Board's directives to protect the health of residents in Southern California, which encompasses approximately 16.8 million people (nearly half the population of California). The AQMP is the long-term "blueprint" that defines:

- the basin-wide emission reductions needed to achieve federal ambient air quality standards;
- the regulatory measures to achieve those reductions;
- the timeframes to implement these proposed measures; and
- the technologies required to meet these future proposed regulations.

The 2012 AQMP identifies the need for 200 tons/day oxides of nitrogen (NO_x) reductions to be adopted by 2020 for full implementation by 2023 and in large part focuses control measures on transportation technologies and cleaner fuels. Moreover, the SCAQMD is currently only one of two regions in the nation recognized as an extreme ozone nonattainment area (the other is San Joaquin Valley). This is especially noteworthy because the largest contributor to ozone is NO_x emissions, and mobile sources (on- and off-road as well as aircraft and ships) contribute to more than three-fourths of the NO_x emissions in this region. These emission reduction needs are further identified in a joint SCAQMD, California Air Resources Board (CARB) and San Joaquin Air Pollution Control District effort, "Vision for Clean Air: A Framework for Air Quality and Climate Control Planning."[1] The overwhelming hurdles to reduce ozone and NO_x will require the Clean Fuels Program to encourage and accelerate advancement of transformative transportation technologies and commercialization of progressively lower-emitting vehicles and fuels. The Program must also remain flexible to address the needs which will be identified during the current planning process for the 2016 AQMP which will focus on addressing ozone standards. Furthermore, volatile organic compounds (VOCs) and fine particulate matter ($PM_{2.5}$) produced from mobile sources must also be addressed. The NO_x and VOC emission sources of greatest concern to this region are heavy-duty on-road and off-road vehicles as well as to a lesser extent light- and medium-duty on-road vehicles. And while it is anticipated that the

[1] http://www.arb.ca.gov/planning/vision/docs/vision_for_clean_air_public_review_draft.pdf

2014 standard for $PM_{2.5}$ will be attained for this region, it is contingent upon compliance and implementation of existing and proposed rules and regulations.

In recent years, it has become increasingly clear that the effect of containers through the Ports of Los Angeles and Long Beach and the subsequent movement of goods throughout the region not only have a dramatic impact on air quality but also the quality of life to the communities along the major goods movement corridors. In recognition of these impacts, the SCAQMD has initiated a concerted effort in the last couple of years to actively develop and demonstrate zero and near-zero emissions goods movement technologies, such as electric trucks, plug-in hybrid trucks with all-electric range, zero emission container transport technologies, trucks operating from wayside power including catenary technology and heavy-duty technologies.

The prioritization of these types of projects as well as potential technologies which assist with their further development and deployment are emphasized in the 2014 Plan Update portion of the report. The 2013 Annual Report highlights the projects contracted during the previous calendar year and reflects the current status of the program.

2013 Annual Report

During Calendar Year (CY) 2013 the SCAQMD executed 45 new contracts, projects or studies and modified 3 continuing projects adding additional dollars toward research, development, demonstration and deployment (RDD&D) of alternative fuel and clean fuel technologies. Table 2 (page 24) lists these 48 projects or studies, which are further described in this report. The SCAQMD Clean Fuels Program contributed approximately $7.5 million in partnership with other governmental organizations, private industry, academia and research institutes, and interested parties, with total project costs of nearly $23.3 million. Table 3 (page 26) provides information on outside funding received into the Clean Fuels Fund (approximately $2 million in 2013) as cost-share for the contracts executed in CY 2013. Table 4 (page 26) provides a comprehensive summary of federal and state revenue awarded to the SCAQMD during CY 2013 ($15.8 million) for projects to be included within the Clean Fuels Program or which align well with and are complementary to the Clean Fuels Program. Table 5 (page 27) provides a comprehensive summary of federal and state revenue awarded to SCAQMD during CYs 2009 through 2012 (nearly $111 million); some of these projects were undertaken as part of the Clean Fuels Program, while some of the revenue was recognized into other special funds but similar to those reflected in Table 4 align well and are complementary to the Clean Fuels Program.

The projects or studies executed in 2013 addressed a wide range of issues and opportunities with a diverse mix of advanced technologies. The following core areas of technology advancement include:

- Electric and Hybrid Vehicle Technologies and Related Infrastructure (emphasizing electric and hybrid electric trucks and zero emission container transport technologies)
- Hydrogen and Mobile Fuel Cell Technologies and Infrastructure
- Engine Systems (particularly heavy-duty natural gas engines for truck and rail applications)
- Fueling Infrastructure and Deployment (predominantly compressed and liquid natural gas)
- Fuels and Emission Studies
- Health Impacts Studies
- Stationary Clean Fuels Technology (including renewables)
- Emission Control Technologies
- Outreach and Technology Transfer

During CY 2013, the SCAQMD supported a variety of projects and technologies, ranging from near-term to long-term research, development, demonstration and deployment 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 in CY 2013 included continued development and demonstration of electric and hybrid technologies with an emphasis on zero emission goods movement technologies, development and demonstration of heavy-duty natural gas engines and vehicles and development and demonstration of hydrogen technologies and infrastructure.

As of January 1, 2014, there were 124 open contracts in the Clean Fuels Program; these are summarized in Appendix B.

Twenty four research, development, demonstration and deployment projects or studies and 13 technology assessment and transfer contracts were completed in 2013, as listed in Table 6 (page 51). Appendix C comprises two-page summaries of the technical projects completed in 2013. In accordance with California Health and Safety Code Section 40448.5.1(d), this report must be submitted to the state legislature by March 31, 2014, after approval by the SCAQMD Governing Board.

2014 Plan Update

Every year TAO staff re-evaluates the Clean Fuels Program (Program) to craft a Plan Update which essentially serves to re-calibrate the compass. The Program continually seeks to support the 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 co-funding opportunity. The SCAQMD Program is significant, especially during these economically tough times when both public and private funding available for technology research and development are limited. However, since national and international activities affect the direction of technology trends, the real challenge for the SCAQMD is to identify project or technology opportunities in which its available funding can make a significant difference in deploying progressively cleaner technologies in the Basin. The SCAQMD employs a number of outreach and networking activities to overcome this challenge, ranging from intimate involvement with state and federal collaboratives, partnerships and industrial coalitions to issuing Program Opportunity Notices to essentially throw out a wide net to solicit project ideas and concepts and Requests for Information to determine the state of various technologies and what is needed to advance those technologies.

As mentioned, the overall strategy is based in large part on technology needs identified in the SCAQMD's AQMP and the SCAQMD Governing Board's directives to protect the health of residents in the Basin. The NO_x, volatile organic compounds (VOC) and PM emission sources of greatest concern are heavy-duty on-road vehicles, light-duty on-road vehicles and off-road equipment.

The Plan Update includes projects to develop, demonstrate and commercialize a variety of technologies, from near term to long term, that are intended to provide solutions to the emission control needs identified in the 2012 AQMP. While modest NO_x and $PM_{2.5}$ reductions will be necessary to meet the federal $PM_{2.5}$ standards by 2014, significant NO_x and $PM_{2.5}$ reductions will be necessary to meet the federal 8-hour ozone standard of 80 ppb by 2023 and 75 ppb by 2032; the 1-hour ozone standard of 0.125 ppm by 2022, which must be met as a result of a 2012 court case even though EPA had previously revoked this standard; and the newly revised federal annual $PM_{2.5}$ standard of 12 $\mu g/m^3$. Given the need for these significant reductions over the next 10-20 year timeframe, mid- and longer-term alternative fuels, hybrid, electric and fuel cell based technologies are emphasized. Several of the technology areas of focus include:

- reducing emissions from port-related activities, such as cargo handling equipment and container movement technologies, including demonstration and deployment of zero emission cargo container movement systems;

- mitigating criteria pollutant increases from renewable fuels, such as low-blend ethanol and high-blend biodiesel;
- increased activities in electric, hybrid, battery and plug-in hybrid technologies across light-, medium- and heavy-duty platforms; and
- production of transportation fuels and energy from renewable biowaste sources.

Table 7 lists the potential projects across the core technologies identified in this report. Potential projects for 2014 total more than $16.4 million, with anticipated leveraging of nearly $76 million. The proposed projects may also be funded by revenue sources other than the Clean Fuels Program, especially VOC and incentive projects.

CLEAN FUELS PROGRAM
2013 ANNUAL REPORT

Program Background

The Basin, which comprises the Los Angeles, Orange, 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 Basin and geographic and atmospheric conditions favorable for photochemical oxidant (smog) formation. Due to these challenges, the state legislature enabled the SCAQMD to implement the Clean Fuels Program to accelerate the implementation and commercialization of clean fuels and advanced technologies in the Basin. In 1999, state legislation was passed which amended and extended 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, on or before March 31 of each year, to the Legislature 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, co-funding 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.

2013 Overview

This report summarizes the progress of the SCAQMD Clean Fuels Program for CY 2013. This SCAQMD program co-sponsors 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.

During the period between January 1 and December 31, 2013, the SCAQMD executed 45 new contracts, projects or studies and modified 3 continuing projects adding additional dollars during CY 2013 that support clean fuels and advanced zero, near-zero and low emission technologies. The SCAQMD Clean Fuels Program contribution for these projects was approximately $7.5 million, with total project costs of more than $23 million. These projects address a wide range of issues with a diverse technology mix. This report highlights achievements and summarizes project costs of the SCAQMD Clean Fuels Program in this period. The report also provides information on outside funding received into the Clean Fuels Fund (approximately $2 million) as

cost-share for contracts executed in this period as well as 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 ($15.8 million in 2013). A comprehensive summary update on the nearly $111 million in federal and state funding awarded to the SCAQMD between 2009 and 2012, again for projects that were included as part of the Clean Fuels Program or which align well and are complementary with the Clean Fuels Program, is also provided. The SCAQMD will continue to pursue federal and state funding opportunities in 2014 to amplify leverage.

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 technologies and clean fuels is best illustrated by Figure 1 below, which identifies NO_x emissions by category and identifies just how far those emissions must be reduced to meet federal standards by 2023 and 2032.

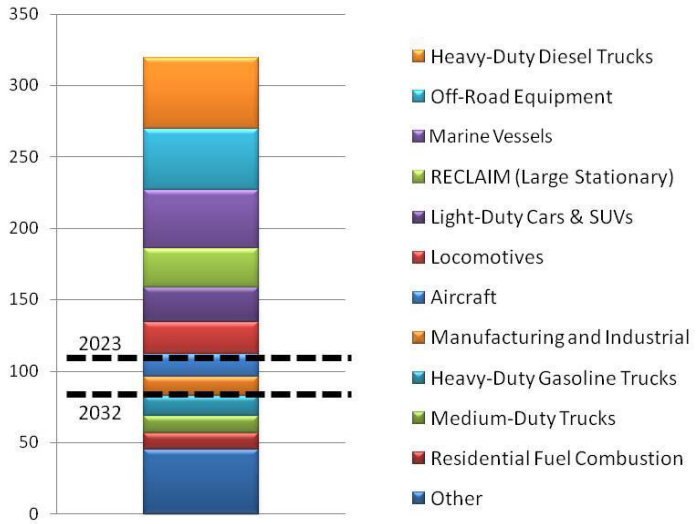


Figure 1: 2023 NO_x Emissions by Category

Additionally, the following piechart reflects NO_x contributors by sector, sharply illustrating the impact of mobile sources on air quality and why the 2012 AQMP calls for the reduction of 200 tons/day of NO_x by 2020 as well as why this region is recognized as an extreme ozone nonattainment area.

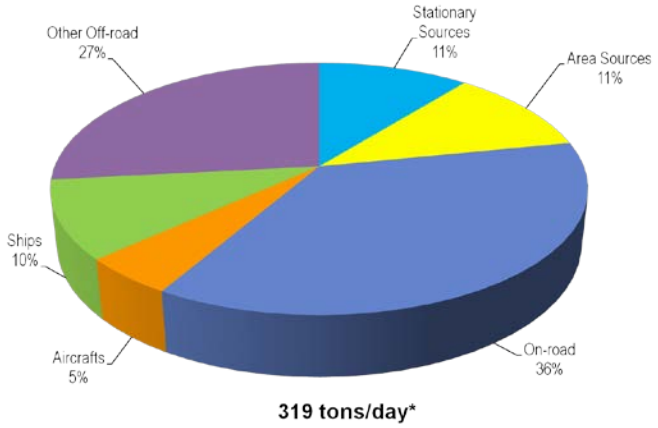


Figure 2: NOx Contributors by Sector

To fulfill long-term emission reduction targets, the 2012 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 (0.08 ppm, 8-hour average) and fine particulate matter, promulgated by the U.S. Environmental Protection Agency (U.S. EPA) in 1997 and 2006, are projected to require additional long-term control measures for both NO_x and VOC. The 2012 AQMP's estimate of needed NO_x reductions will require the SCAQMD Clean Fuels Program to encourage and accelerate advancement of cleaner, transformative transportation technologies that can be used as control strategies in the AQMP.

Recent health studies also indicate a greater need to reduce NO_x emissions and toxic air contaminant emissions. More importantly, the CARB listed diesel exhaust emissions as a toxic air contaminant in 1998. Subsequently, in 1999, the SCAQMD completed the Multiple Air Toxics Exposure Study (MATES-II) and found that diesel combustion sources (primarily from heavy-duty vehicles) contribute approximately 70 percent to the estimated potential cancer risk from air toxics in the Basin. A follow-on study, MATES-III, in which air quality sampling was initiated in spring 2004 and ended in 2006, was undertaken to evaluate air toxic exposure trends, expand the list of known air toxics and assess local impacts from industrial, commercial and mobile sources. The results have shown a decrease in stationary emitted air toxics and gasoline related air toxics, but continued high levels of emissions from diesel engine sources. The MATES-III report was finalized in spring 2008. Although results showed an overall decrease in toxics exposures throughout the basin, there were localized areas that had increased risk, most notably around the Ports of Los Angeles and Long Beach. This increased risk is likely a result of uncontrolled diesel emissions from goods movement activities, specifically emissions from trucks and cargo handling equipment, locomotives and marine vessels. A MATES IV study was launched in 2012, and while the goal of MATES IV, like the prior studies, will be to assess air toxic levels, update risk characterization, and determine gradients from selected sources, MATES IV has an added ultrafine PM and black carbon monitoring component as well. It is anticipated that a draft report on the findings will be available by mid-2014.

Greenhouse gas (GHG) emissions and petroleum dependency arising from the heavy use of conventional technologies continue to be a concern and focal point for state and federal government as well as the general public. In response to these concerns, the federal government has launched several programs (the Hydrogen, Fuel Cells and Infrastructure Technologies Program and the FreedomCAR and Vehicle Technologies Program) to investigate and develop increased efficiency and alternative fuel (including hydrogen) technologies. Independently, the State has adopted goals to reduce long-term dependence on petroleum-based fuels (AB 2076) and the transition to alternative fuels based on life-cycle analyses (AB 1007).

The Global Warming Solutions Act of 2006 (AB 32) requires California's greenhouse gas emissions to be capped at 1990 levels by 2020. The 2007 Low-Carbon Fuel Standard (LCFS) for transportation fuels will necessitate increased research into alternatives to oil and traditional fuels. And in September 2008, SB 375 was adopted requiring CARB to set regional targets reducing GHG's from cars and light trucks by 2020 and 2035 and directs regional planning agencies to develop land-use strategies to meet the targets. In 2012 California Governor Brown also set a California target for reductions of GHG emissions from the transportation sector of 80 percent less than 1990 levels by 2050 and called for establishment of benchmarks for the penetration of zero emission vehicles and infrastructure for 2015, 2020 and 2025. Governor Brown's FY 2013-14 state budget also consolidates programs funding bicycle, pedestrian and mitigation projects to fund high-priority projects that reduce GHGs consistent with SB 375 objectives. The budget also

identifies areas for AB 32 cap-and-trade proceeds including reducing transportation emissions and energy efficiency projects for the electricity and commercial/residential energy sector.

To achieve the goals established by these landmark efforts, in 2012 CARB adopted a LEV III program for Model Year (MY) 2015 to 2025 light- and medium-duty vehicles, amended the Zero Emission Vehicle Regulation and amended the Clean Fuels Outlet requirements. These tighter standards for passenger cars and light- and medium-duty trucks will require reduced tailpipe emissions and nearly no evaporative emissions. CARB also proposed new requirements for zeroemission vehicles lowering the threshold requirement, which means automakers must begin producing zero emission vehicles by 2016. To achieve the Governor's Executive Order, CARB envisions that 80 percent of vehicles must be all electric, battery electric, hydrogen and/or fuel cell by 2050. In late 2011 CARB also adopted amendments to low-sulfur marine fuel requirements to extend the nautical zone and loosened cargo handling equipment and transportation refrigeration regulations because sufficient retrofit technologies aren't available in the marketplace. In 2011 the Federal government adopted fuel economy and GHG emissions standards for medium- and heavy-duty vehicles for MYs 2014-2018 and propose to move forward with Tier 3 levels for light- and medium-duty trucks and tighter criteria pollutant standards for passenger vehicles.

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 Governing Board continues to aggressively carry out the Clean Fuels Program and promote alternative fuels through its Technology Advancement Office (TAO).

This Program is intended to assist in the rapid development and deployment of progressively lower-emitting technologies and fuels through innovative public-private partnership. Since its inception, SCAQMD's TAO has co-funded projects in cooperative partnerships with private industry, technology developers, academic and research institutions and local, state and federal agencies. The following sections describe funding, core technologies and advisory oversight 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 previous cap of two-and-half percent.

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 2013 the funds available through each of these mechanisms were as follows:

- Mobile sources (DMV revenues) $12,433,490
- Stationary sources (emission fee surcharge) $275,708

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 26) lists supplemental grants and revenues totaling more than $2 million for contracts executed in CY 2013. Table 4 (page 26) lists federal and state revenue totaling more than $15.8 million awarded to the SCAQMD in 2013 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 2013, excluding ARRA and other one-time federal opportunities, one-time settlement funds and incentive funding, the Clean Fuels Program leveraged each $1 to slightly more than $3 of outside funding. 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. 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 2013 are listed in Table 1 (page 14).

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:

- Electric and Hybrid Vehicle Technologies and Infrastructure (emphasizing electric and hybrid electric trucks and zero emission container transport technologies)
- Hydrogen and Fuel Cell Technologies and Infrastructure
- Infrastructure and Deployment (predominantly compressed and liquid natural gas)
- Engine Systems (particularly heavy-duty natural gas engines for truck and rail applications)
- Emission Control Technologies
- Fuels/Emissions Studies
- Health Impacts
- Stationary Clean Fuels Technologies

The SCAQMD continually seeks to support the deployment of lower-emitting technologies. The Clean Fuels Program is shaped by two basic factors:

1. Low 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. Although the SCAQMD program is significant, especially at a time when both public and private funding available for technology research and development are limited, 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. This is especially true given the current economic climate which while in the beginnings of recovery remains sluggish. The ultimate challenge for the SCAQMD is to identify project or technology opportunities in which its available funding can make a difference in achieving progressively cleaner air in the Basin. While employing a number of creative outreach and networking activities to try to overcome these challenges, SCAQMD's Technology Advancement Office annually develops a comprehensive plan to encourage and accelerate the development and demonstration of cleaner technologies. This comprehensive plan (referred to as the 2014 Plan Update within this document) essentially re-calibrates the Clean Fuels Program for the upcoming year.

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 NO_x technologies and clean energy alternatives such as fuel cells, solar power and other renewable energy systems.

Specific projects are selected for co-funding 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 impact or benefit, commercialization and business development potential, cost sharing and consistency with program goals and funding constraints. The core technologies for the SCAQMD programs that meet both the funding constraints as well as 2012 AQMP needs for achieving clean air are briefly described below.

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 electric vehicles by almost all of the automakers, volatility in oil prices and increased public attention on global warming. In January 2012, CARB adopted the California Zero Emission Vehicle (ZEV) III requirements and amended the ZEV and Clean Fuels Outlet (CFO) regulations. There are alternative strategies allowed to comply with the ZEV regulation, including producing battery electric vehicles, plug-in hybrid electric vehicles (PHEVs), and hydrogen-fueled internal combustion engine (ICE) 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 PHEV, medium- and heavy-duty hybrid vehicle deployment, energy storage technologies, 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, ethanol and hydrogen) and propulsion systems (e.g., ICEs and fuel cells). Electric and hybrid technologies are also being explored to address one of the SCAQMD's 2013 and 2014 priorities, which is to continue demonstration and deployment of zero emission cargo container movement technologies.

Infrastructure and Deployment

A key element for the widespread acceptance and resulting increased use of alternative fueled vehicles 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, hydrogen-natural gas mixtures and even electricity are much less available or accessible, whereas natural gas has recently become more readily available in light of fracking technologies being employed to access the abundant shale gas deposits throughout North America. Nonetheless, to realize emissions reduction benefits, alternative fuel infrastructure must be developed in tandem with the growth in alternative fueled vehicles. 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 compressed and liquid natural gas infrastructure and deployment, with the related infrastructure for electric and hybrid and hydrogen and fuel cell included within their technology category.

Hydrogen and Fuel Cell Technologies and Infrastructure

Most of the automobile manufacturers have conceded that mass commercial introduction of fuel cell vehicles (FCVs) are likely to be delayed due to the cost, durability and infrastructure issues associated with hydrogen fueling. A survey of the major automakers conducted by the California Fuel Cell Partnership (CaFCP) estimates that there will be approximately 53,000 fuel cell vehicles by 2017, if sufficient hydrogen infrastructure is available. The SCAQMD continues to support the infrastructure required to refuel these demonstration fuel cell vehicles, but is also actively engaged in finding alternatives to the costly and potential longer term fuel cell power plant technology. As mentioned previously, plug-in hybrid technology could help enable fuel cells by reducing the capacity, complexity and cost of the fuel cell vehicle system. Further bridging technologies being investigated are hybrid or plug-in hybrid hydrogen ICE vehicles and hydrogen-CNG blended ICE vehicles.

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 and to a lesser extent with the SCAQMD.

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, selective catalytic reduction (SCR) and

emulsified fuels that have been developed from 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. The CARB, U.S. EPA and the SCAQMD have also promulgated regulations that lower the sulfur content of diesel fuels, which provides a direct fuel related PM reduction and improves the efficiency of particulate reduction aftertreatment devices.

Engine Systems

Medium- and heavy-duty on-road vehicles contributed approximately 36 percent of the Basin's NO_x based on 2007 AQMP data. More importantly, on-road heavy-duty diesel engines contributed almost 60 percent of the on-road mobile source $PM_{2.5}$, which has known toxic effects. These figures notably do not include the significant contribution from off-road mobile sources. In fact, CARB's off-road 2006 emission model estimates that diesel-powered off-road construction equipment alone emits 120 tons per day of NO_x and 7.5 tons per day of PM emissions in the Basin. 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_x and particulate emissions. The current NO_x 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 heavy-duty engine technologies, using compressed natural gas (CNG) and liquefied natural gas (LNG), 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.

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. Boilers and heaters vary in size, heat input, process conditions and operating ranges. Gas turbines vary greatly in size and application and are typically natural gas-fired with add-on controls to clean up the flue gas. Stationary ICEs can be either rich-burn or lean-burn. The core 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.

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 approval of the required annual report prior to submittal to the SCAQMD Governing Board. Also in 1999, in light of the formation of the 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. In 2012 membership changes were considered and approved by the SCAQMD Board on May 4, 2012. Subsequent membership changes to both advisory groups will be considered by the SCAQMD Board and its Technology Committee, respectively, as part of consideration of the 2013 Annual Report and 2014 Plan Update. The current proposed members of the SB 98 Clean Fuels Advisory Group and Technology Advancement Advisory Group are listed in Appendix A.

The review process of the Clean Fuels Program now includes at least two full-day retreats of the two Advisory Groups, review by other technical experts, review by the Technology Committee of the SCAQMD Governing Board, a public hearing of the Annual Report and Plan Update before the full SCAQMD Governing Board and finally submittal of the Annual Report to the Legislature by March 31 of every year.

PROGRAM STRATEGY AND IMPACT

Scope and Benefits of the Clean Fuels Program

To reap the maximum emissions benefits from any technology, widespread deployment and thus end-user acceptance must occur. The product manufacturers must overcome technical and market barriers to ensure a competitive and sustainable business. Unfortunately, the time needed to overcome these barriers can be long and the costs high, which tends to discourage both manufacturers and end-users from considering advanced technologies. A combination of real-world demonstrations, education, outreach and regulatory impetus and incentives is necessary to catalyze new, clean technologies. The Clean Fuels Program addresses these needs by co-funding 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.

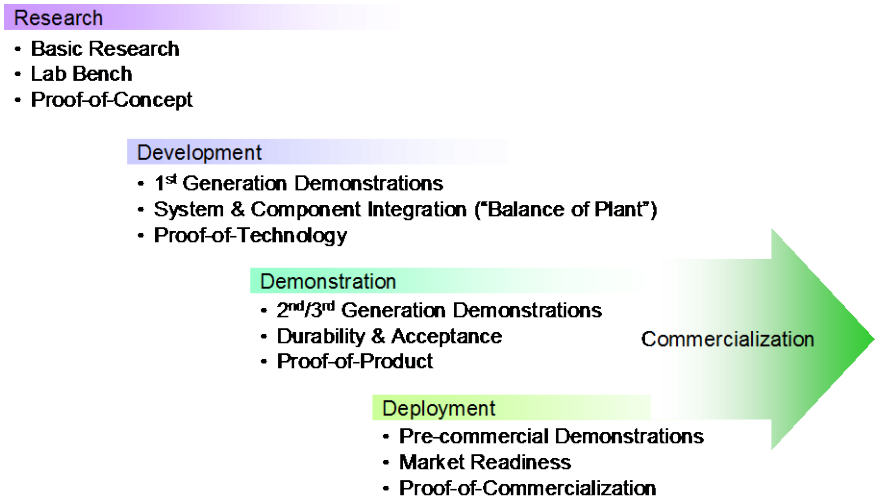


Figure 3: Stages of Clean Fuels Program Projects

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
  - Emission Solutions: 7.6L (NG)
  - Cummins Westport: C8.3L (CNG, LNG), B5.9L (CNG) L10 (CNG), ISL G 8.9L (CNG, LNG)
  - Westport Power: ISX 15L (LNG), Westport GX 15 L (dual fuel)
  - Detroit Diesel: Series 60G (CNG/LNG), Series 50G (CNG/LNG);

- John Deere: 6068 (CNG), 6081 (CNG);
- Mack: E7-400G (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);
- ISE/ThunderPower Fuel Cell Bus;
- Sunline Transit Agency Advanced Fuel Cell Bus projects;
- Commercial Stationary Fuel Cell Demonstration with UTC and SoCalGas (first of its kind); and
- Orange County Sanitation District hydrogen and combined heat and power generation from biogas using molten carbonate fuel cell technology.

➢ Electric and Hybrid Electric Vehicle Development and Demonstrations
- EPRI hybrid vehicle evaluation study;
- Hybrid electric vehicle demonstrations with SCE, UC Davis and AC Propulsion;
- Plug-in Hybrid Electric Van with EPRI, DaimlerChrysler and SCE;
- Hybrid electric delivery trucks with Azure Dynamics, NREL and FedEx;
- Plug-in hybrid work truck with Odyne Systems;
- 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; and
- TransPower battery electric heavy-duty truck

➢ Aftertreatment Technologies for Heavy-Duty Vehicles
- Johnson Matthey and Engelhard trap demonstrations on buses and construction equipment; and
- Johnson Matthey SCRT and SCCRT NOx and PM reduction control devices on heavy-duty on-road trucks.

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.

Overcoming Barriers

Commercialization and implementation of advanced technologies come with a variety of real-world challenges and barriers. These include project-specific issues as well as general technology concerns.

Technology Implementation Barriers

- Viable commercialization path
- Technology price/performance parity with conventional technology
- Consumer acceptance

Project-Specific Issues

- Identifying a committed demonstration site
- Overall project cost and cost-share using public monies
- Securing the fuel

- Fuel availability/convenience issues
- Certification, safety and regulatory barriers
- Quantifying emissions benefits
- Sustainability of market and technology
- Identifying and resolving real & 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.

Strategy and Impact

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 U.S. DOE and several of its 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, such as the Manufacturers of Emission Controls Association (MECA), the California Fuel Cell Partnership (CaFCP), the California Stationary Fuel Cell Collaborative and the California Natural Gas Vehicle Partnership (CNGVP). The coordination efforts with these various stakeholders have resulted in a number of co-sponsored projects.

Descriptions of some of the key contracts executed in CY 2013 are provided in the next section of this report. It is noteworthy that most of the projects are co-sponsored by various funding organizations and include the active involvement of manufacturers. 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 2013 Project Summaries (beginning page 31) contained within this report.

Table 1: SCAQMD Major Funding Partners in CY 2013

Research Funding Organizations	Major Manufacturers/Providers
California Air Resources Board	Ports of Los Angeles & Long Beach
California Energy Commission	Southern California Gas Company
U.S. & California Departments of Transportation	University of California Riverside/ CE-CERT
U.S. Department of Energy	West Virginia University
U.S. Environmental Protection Agency	

The following two subsections broadly address the SCAQMD's impact and benefits by describing specific examples of accomplishments and commercial—or near-commercial—products supported by the Clean Fuels Program in CY 2013. Such examples are provided in the following sections on Technology Advancement'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 are: (a) development of hybrid system for Class 7 heavy-duty vehicle applications; (b) development and demonstration of catenary Class 8 trucks; and (c) development, integration and demonstration of heavy-duty natural gas engines and vehicles.

Develop Hybrid System for Class 7 Heavy-Duty Vehicle Applications

The Capstone project will develop a Class 7 series hybrid refrigeration truck. The series hybrid refrigeration truck will feature up to ten miles of zero "tailpipe" emissions driving, as well as provide auxiliary electric power to the refrigeration unit; thereafter, switching to ultra-low emission series hybrid drive for full purpose duties after the battery has been depleted. The series hybrid drive system includes a diesel-fueled microturbine which is anticipated to yield emissions that are significantly below CARB 2010 standards.

The technology used on this truck is an electric drive series hybrid truck with a microturbine serving as the range extender or auxiliary power unit. The series hybrid architecture allows the electric motor to provide the full motive propulsion force for the vehicle, using on-board energy stored in a lithium ion battery that will be charged from the grid. The electrical energy stored in the on-board battery will also be used to power the refrigeration system for the box unit that will be installed on the vehicle. Upon breaching the battery's lower state of charge threshold, the microturbine generator will be used to provide power to the vehicle's DC bus to maintain the battery's lower state of charge threshold, which will extend the driving range and refrigeration capabilities of the vehicle. The figure below shows a simplified diagram of the major components.

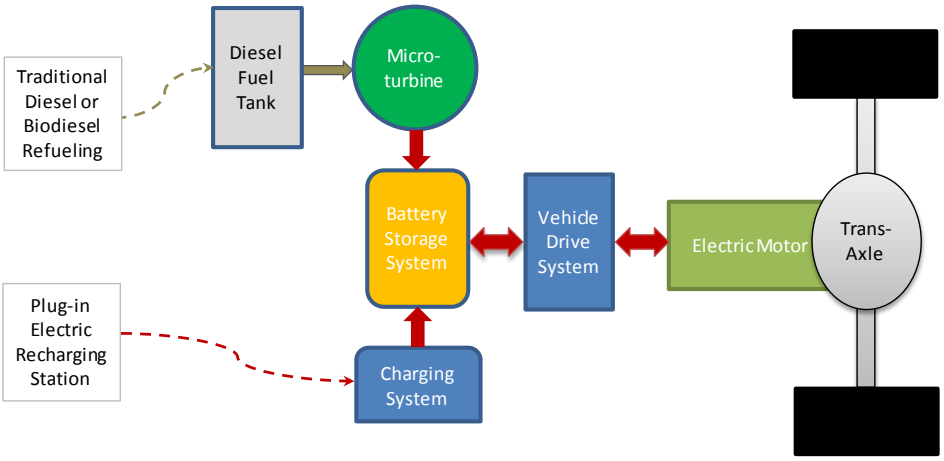


Figure 4: Diagram of the Microturbine Generator's Major Components

The battery storage system in this series hybrid drive system can be recharged or maintained in three ways:

- Utility Power – by plugging the vehicle into the utility grid. The vehicle therefore has some "battery only" range that depends on the size of the battery storage and the drive cycle.
- Microturbine – acting as a range extender, the microturbine can be turned on to recharge the batteries while the vehicle is in use, thereby significantly extending the utilization of the vehicle compared to relying only on the battery storage system.
- Regenerative Braking – the motor and vehicle drive system are able to pass power both to the wheels to propel the truck, but also take power from the wheels to recover a significant amount of the vehicle momentum during braking. Capturing this braking energy can have a significant impact on overall vehicle efficiency, especially in Pickup and Delivery drive cycles that involve a moderate amount of stop and go.

The electric drive system is well suited for trucks with significant auxiliary loads; such as the refrigeration truck being built for this project. The photo below shows the prototype Class 7 hybrid truck with key drive components installed, but prior to the installation of the refrigeration box unit that will be demonstrated as part of this program.

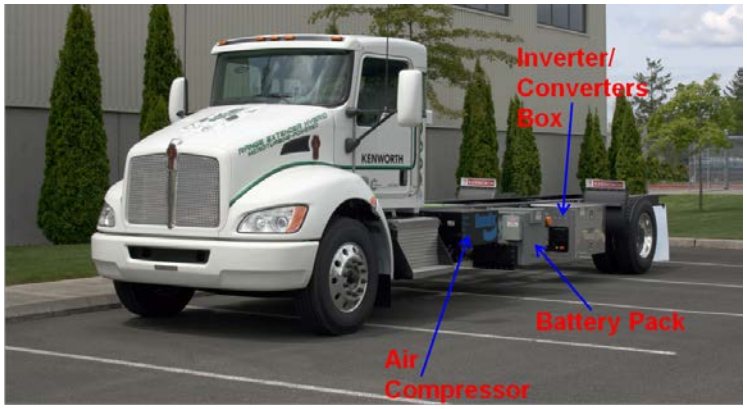


Figure 5: Prototype Class 7 Hybrid Truck

Develop and Demonstrate Catenary Class 8 Trucks

The electrification of transportation technologies has the potential to significantly reduce criteria pollutant and greenhouse gas emissions. This can provide substantial benefits to communities, neighborhoods and school areas where these vehicles operate. The TransPower "ElecTruck" drive system is a zero emission solution that eliminates 100% of the harmful emissions produced by road vehicles, at the point of operation. TransPower has selected port trucks as its initial target market because of the high potential for environmental benefits if these vehicles can be converted to electric propulsion.

TransPower will demonstrate two zero emission battery electric Class 8 truck at the Ports of Los Angeles and Long Beach and intermodal facilities. TransPower will integrate electric drive components into two Class 8 trucks. One truck will be used as a static test vehicle to test new components, and the other will be placed into revenue service carrying cargo containers at the Ports of Los Angeles and Long Beach to intermodal facilities. The battery-electric drive system will utilize high-power drive motors and inverters and energy will be stored in high-energy lithium battery packs. The revenue service vehicle will be operated by a leading drayage firm and closely monitored under real-world operating conditions. In parallel with the initial demonstration, TransPower will work with a subcontractor to develop a power converter using new high-frequency silicon insulated gate bipolar transistors and liquid-cooled heat sinks, leapfrog technologies that offer significant potential benefits including size and weight reductions that will eliminate the need for a separate battery charger.

Figure 6: TransPower Truck at Facility in Poway, CA

The "ElecTruck" project has two overarching objectives: (1) to demonstrate a superior electric drive technology for heavy-duty trucks, and (2) to use this demonstration project as a springboard for rapid commercialization of a modular electric drive system. TransPower's strategy is to develop and demonstrate a reliable electric propulsion system for heavy-duty vehicles and be the first to market with a system sufficiently reliable and cost-effective for everyday use in large trucks. The initial focus will be on the port drayage market, where vehicles have short operating range requirements and where environmental concerns are forcing the ports and others to offer substantial incentives for adoption of clean vehicle technology.

In July 2010, TransPower received a $1 million grant from the California Energy Commission (CEC), which TransPower and its partners will match with $1 million in cash and in-kind contributions. This will enable development of the new integrated converter-charger and a high-energy battery pack, and testing of these components in a static test truck.

Develop, Integrate and Demonstrate Heavy-Duty Natural Gas Engines and Vehicles

The SCAQMD Board adopted a series of clean fuel fleet rules to reduce mobile source emissions within the SCAQMD's regulatory jurisdiction. The fleet rules require certain public entities and special districts, such as air, water, sanitation and school districts, with fifteen or more heavy-duty vehicles to acquire CARB-certified alternative-fueled heavy-duty vehicles when adding new vehicles or forming a new fleet. These rules have helped to advance natural gas engine technology and to expand the natural gas engine market into a wider range of heavy-duty vehicle

applications. Specifically, on-road natural gas engines are now being used on a limited basis as an alternative to diesel engines in transit, refuse and goods movement applications. While the number of natural gas engines has grown, there is still a need to develop natural gas engines in the 11- to 14-liter range to fill the wide array of fleet applications currently served solely by diesel engines. As such, the SCAQMD has been working with NREL, the CEC and Southern California Gas Company (SoCalGas) to accelerate the development, integration and demonstration of natural gas engines ranging in sizes from 11 to 14 liters suitable for transit, refuse and goods movement applications. In 2011, the Board awarded a contract to U.S. DOE's NREL for $3,055,000 to develop, integrate and demonstrate three different heavy-duty natural gas engines. The three engines will be used in refuse, transit and Class 8 heavy-duty truck applications and comply with the U.S. EPA 2010 heavy-duty emissions standards of 0.01 g/bhp-hr PM and 0.2 g/bhp-hr NO_x. The contract, executed in the form of modification to NREL's CRADA, was executed in 2013.

Figure 7: Heavy-Duty Engine

The first project is with Cummins Westport, Inc. (CWI) to develop and optimize a spark-ignited 11.9-liter ISX12 G CNG engine suitable for refuse and Class 8 applications. CWI successfully completed the project, with development of the ISX12 G engine as a spark-ignited, stoichiometric, cooled exhaust gas recirculation (SI-EGR), natural gas engine certified to the EPA/CARB heavy-duty on-highway 2013 emission standards. CWI commercially launched the ISX12 G engine with ratings up to 350 HP and 1450 lb-ft beginning in mid-April 2013, and with ratings up to 400 HP and 1450 lb-ft in August 2013. This engine is targeted at regional haul tractor and vocational (e.g. refuse collection, concrete mixer) truck customers. The ISX12 G engine also meets EPA greenhouse gas legislated requirements and Engine Manufacturer's Diagnostics (EMD+) certification. The ISX12 G engine met final certification (including Deterioration Factor) at:

- 0.15 g/bhp-hr NO_x for both EPA and CARB (vs. 0.20 limit)
- 0.03 g/bhp-hr NMHC for both EPA and CARB (vs. 0.14 limit)
- 8.4 g/bhp-hr (EPA) and 8.7g/bhp-hr (CARB) CO (vs. 15.5 limit)
- 0.001 g/bhp-hr (EPA) and 0.003 g/bhp-hr (CARB) PM (vs. 0.01 limit)

The ISX12 G engine is now available as a factory-installed option in a number of Class 8 truck and tractor models from different OEMs including Autocar, Freightliner, Kenworth, Mack, Peterbilt and Volvo.

The second project is Emissions Solutions, Inc., (ESI) to develop engine hardware and controls to convert a 13-liter Navister diesel engine to a CNG engine. This project has been discontinued because ESI is no longer in business.

Finally, the third project is with Southwest Research Institute (SwRI) to convert an 11-liter Doosan lean-burn engine to a stoichiometric engine and integrate it into a refuse chassis. This project is on-going with an anticipated completion date in 2015.

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.

The following projects contracted during the CY 2013 reporting period illustrate the impact of the SCAQMD's technology deployment and commercialization efforts.

California PEV Readiness Planning

DOE's Clean Cities Program awarded California $1 million for PEV infrastructure planning, one of 16 awards nationwide out of a total of $8.5 million made through the Clean Cities' Community Readiness and Planning for PEV and Charging Infrastructure. A statewide partnership with SCAQMD, BAAQMD, PEVC, Clean Cities Coalitions in California and other regional entities enabled the state of California to work together towards PEV readiness, with this joint effort being led by SCAQMD. The statewide partnership consisted of six regional collaborations, many of which also received CEC funding on Regional Plans to Support PEV Readiness, designed to support DOE Clean Cities Program funding for PEV infrastructure planning. The South Coast region received three CEC planning grants to support subregional studies by the Coachella Valley Association of Governments, South Bay Cities Council of Governments, and Western Riverside Council of Governments.

The California PEV Readiness Project advanced the state of PEV readiness in California by creating six regional PEV infrastructure plans for the South Coast, Bay Area, San Diego, Sacramento, Central Coast, and San Joaquin Valley regions, and a statewide PEV readiness guidelines document. The California PEV Readiness Collaborative created a PEV readiness toolkit to assist local government agencies in becoming PEV ready. There were six education outreach workshops to communicate the benefits of PEV readiness to local communities. These project elements helped to ensure a unified statewide approach to planning and implementing critical PEV infrastructure activities to support the California PEV market.

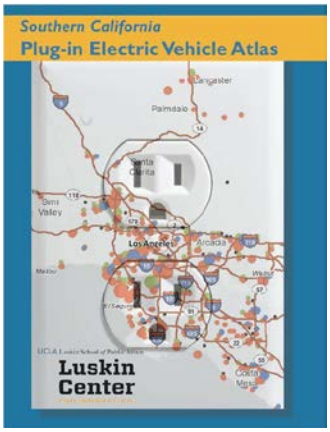


Figure 8: South Coast PEV Atlas of Deployed EV Infrastructure

As part of the California PEV Readiness Project, the UCLA Luskin Center was engaged by SCAG to develop the South Coast PEV readiness plan through a competitive RFP process. The UCLA Luskin Center has significant expertise on PEV readiness issues and has authored several policy documents, including the PEV market in Los Angeles and addressing challenges to installing infrastructure in multi-unit dwellings. The Southern California PEV Readiness Plan was the winner of the 2013 Planning Excellence Award by the Los Angeles section of the American Planning Association. This supplemental project, executed in 2013 at the request of SCAG, was to develop additional PEV readiness elements for the South Coast PEV readiness plan for the DOE Clean Cities grant, including an analysis of barriers of required and optional PEV readiness elements such as permitting and inspection, training and education, workplace and fleet charging, and multi-unit dwelling charging. It also provides a much needed analysis of two challenge areas

identified by the California PEV Collaborative in multi-unit dwelling and workplace charging, for which two new working groups have been created.

Develop Hydrogen Network Investment Plan

California has committed to transition the light-duty vehicle fleet to electric drive, including both "plug-in" battery electric vehicles (BEVs) and fuel cell electric vehicles (FCEVs), in order to meet long term greenhouse gas, air quality and energy diversity goals. FCEVs, which run on hydrogen gas, are widely accepted as a critical component of this transition. They alone provide the same performance, range and utility as gasoline vehicles, while reducing greenhouse emissions between 50-100 percent, depending on how the hydrogen is made. The leading automakers have committed to fuel cell technology and have announced plans to commercialize FCEVs in the 2015 to 2017 timeframe. The remaining barrier is fueling infrastructure - stations need to be built in advance of the cars to enable automakers to sell the cars to consumers.

State government is providing leadership of the hydrogen transition in many ways, including having provided grants covering 65% of capital costs (up to $1.5 million per station), in the hope that this will be sufficient to attract these investors. Private stakeholders have not responded to the CEC grant program at the scale or timeframe needed to provide sufficient coverage for the early market FCEV launch. The latest grant solicitation was undersubscribed, and previously awarded stations are taking a long time to open. The Hydrogen Network Investment Plan (HNIP) attempts to explain why. The findings are based on 18 months of detailed stakeholder interaction and lessons from a financial model built by Energy Independence Now (EIN) to understand the economic impacts of a variety of incentives under a range of plausible market scenarios and determine what is needed to stimulate investment in the hydrogen network. Discussion with potential investors show that uncertainty remains high and confidence low, and that funding alone cannot compensate for the current uncertainty about when a large scale, FCEV market will emerge. Given the high operating costs of stations, early station investors face possible long, negative financial cash flows as they wait for cars to appear, capital costs-aside. At the same time, automakers fear these stations might close before they have time to get cars to market.

To neutralize both of these risks, the HNIP shows how the government could modify its grant program to share in the financial risk of market delays, including the addition of market assurance grants (MAGs), regular payments that would support operations and maintenance expenses until they can be covered by revenues from hydrogen sales. MAGs can be a difference maker if investors see a credible pathway and plan to reach long-term FCEV success.

Even with significant capital cost-share and downside protection such as MAG grants, it remains unclear if the government can attract appropriate "first-movers" into this sector, namely entities that want to build and operate dozens of stations on a long-term basis. Some investors suggest that this market is one where a "fast-follower" will be more successful, gaining market share by building bigger and better stations with much greater market certainty once cars are on the road. To counter this problem, the state needs to explore what kind of "upside" it can create for early investors, in the form of non-monetary, strategic advantages that come from being a government-backed first mover. Unless the government can bring these investors off the sideline or increase investment of existing participants, early market investment may remain stalled.

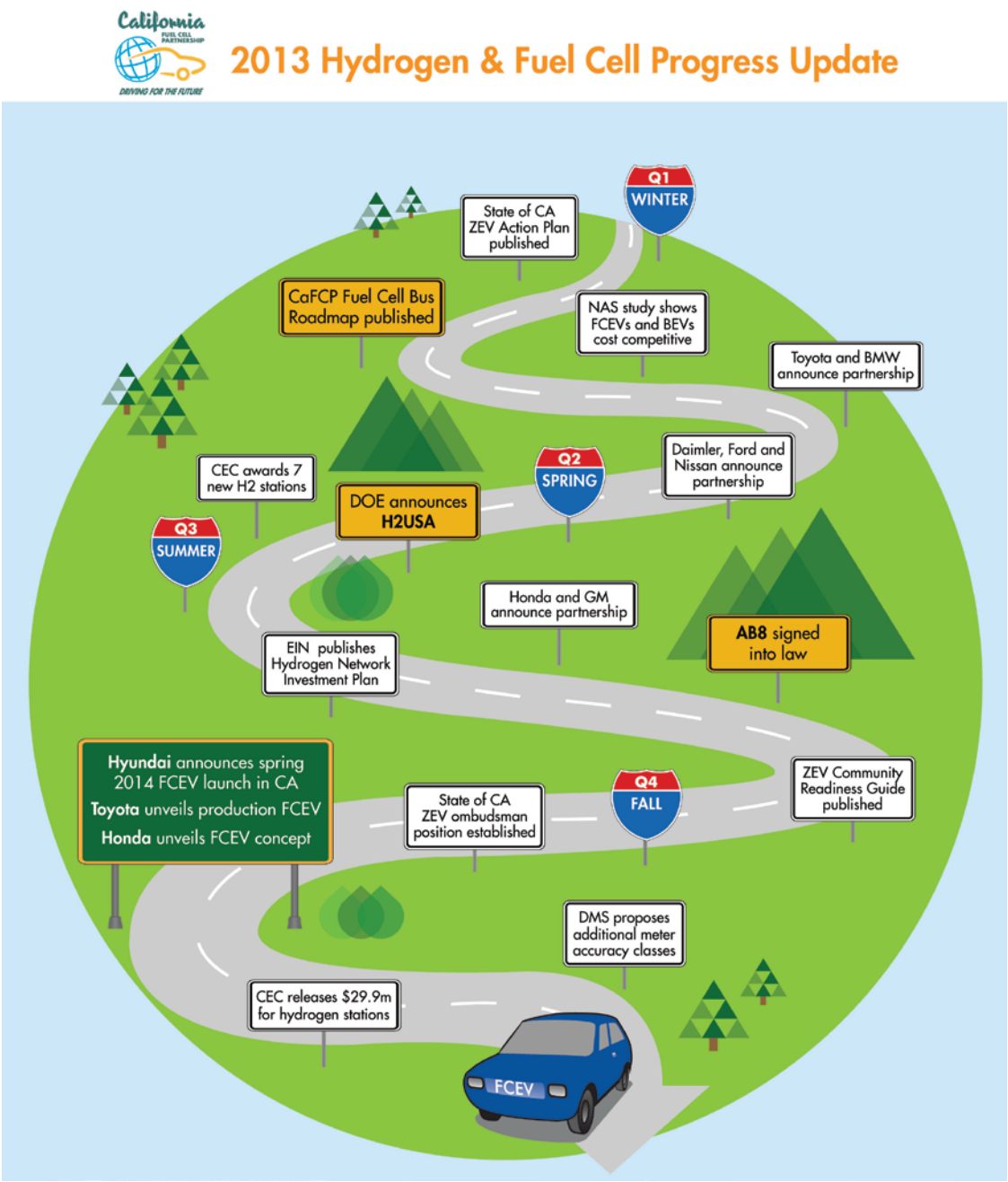


Figure 9: Giant Steps Forward in 2013 for Fuel Cell Electric Vehicles and Hydrogen Stations

It is anticipated that Phase 2 of this effort will begin in 2014. Phase 2 would refine the draft HNIP and coordinate with government and industry to build the hydrogen market and participation and influence hydrogen infrastructure deployment.

2013 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 Governing Board.

As projects are approved by the 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, 2013.

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 January 1 through December 31, 2013, a total of 48 contracts, projects or studies that support clean fuels were executed or amended, as shown in Table 2 (page 24). The major technology areas summarized are: hybrid/electric technologies, infrastructure and deployment, fuels/emission studies, emission control technologies, hydrogen technology and infrastructure, mobile fuel cell technologies, engine systems, stationary clean fuel technologies, health impacts studies, outreach and technology transfer. The distribution of funds based on technology area is shown graphically in Figure 10 (page 22). 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 2013 reporting period are shown below with the total projected project costs:

- SCAQMD Clean Fuels Fund Contribution $7,542,654
- Total Cost of Clean Fuels Projects $23,263,776

Each year, the SCAQMD Governing Board approves funds to be transferred to the General Fund Budget for Clean Fuels administration. For 2013, the Board transferred $800,000 for workshops, conferences, co-sponsorships and outreach activities as well as postage, supplies and costs for special conferences. Only the funds committed by December 31, 2013, are included within this report. Any portion of the Clean Fuels Funds not spent by the end of Fiscal Year 2013-14 ending June 30, 2014, 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 2013 totaling $2,040,750 is listed within Table 3 (page 26) for contract.

Appendix B lists the 124 Clean Fuels Fund contracts that were open and active as of January 1, 2014.

For Clean Fuels executed and amended contracts, projects and studies in 2013, the average SCAQMD contribution is approximately 32 percent of the total cost of the projects, identifying

that each dollar from the SCAQMD was leveraged with more than three dollars of outside investment.

During 2013, the distribution of funds for SCAQMD executed contracts, purchases and contract amendments with additional funding for the Clean Fuels Program totaling approximately $7.5 million are shown in Figure 10 below.

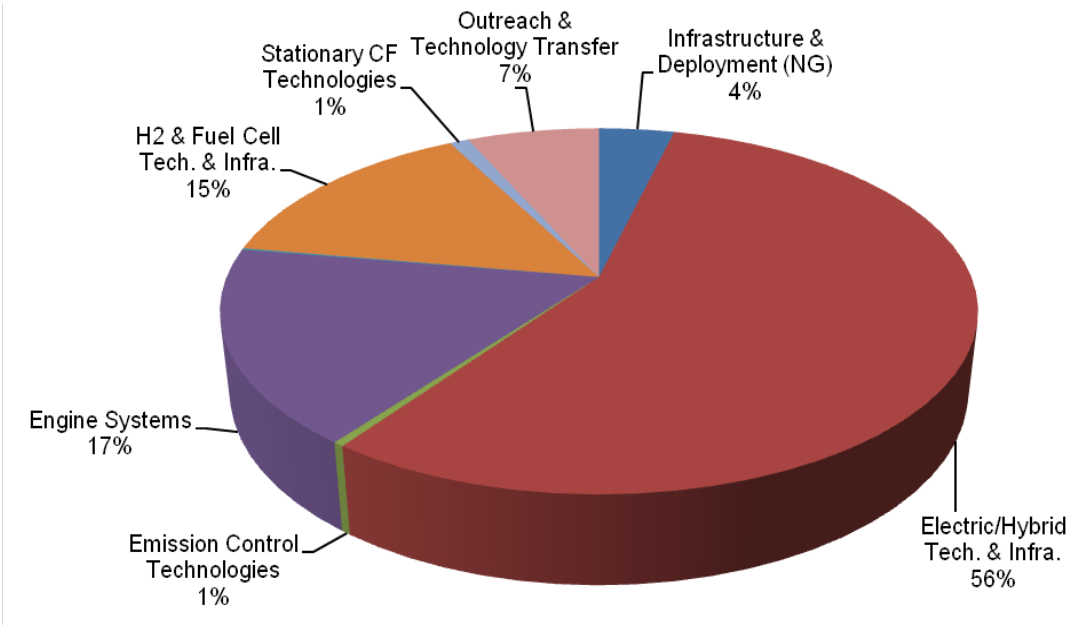


Figure 10: Distribution of Funds for Executed Clean Fuels Projects CY 2013 ($7.5 million)

Table 2 (page 26) provides a breakdown of these $7.5 million awards. Table 3 (page 26) provides information on outside funding recognized and received into the Clean Fuels Fund (approximately $2 million) for contracts executed in CY 2013. Additionally, the SCAQMD continued to seek funding opportunities and Table 4 (page 26) lists the additional $15,810,828 awarded in 2013 for projects that will be implemented as part of the Clean Fuels Program or which align well or are complementary to the Clean Fuels Program. Table 5 (page 27) provides a comprehensive summary and project status of the nearly $111 million in federal and state revenue awarded (including awards made through the American Recovery and Reinvestment Act) to SCAQMD from 2009 and 2012.

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, 2013, the firm of Simpson and Simpson, CPAs 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. Simpson and Simpson CPAs gave the SCAQMD an "unqualified opinion," the highest obtainable. Notably, the SCAQMD has achieved this rating on all prior annual financial audits.

Project Funding Detail by Core Technologies

The 48 new and continuing contracts, projects and studies that received SCAQMD funding in 2013 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 January 1 & December 31, 2013

Contract	Contractor	Project Title	Start Term	End Term	AQMD $	Project Total $
Infrastructure and Deployment						
12853	Rainbow Disposal Company, Inc.	Upgrade CNG Fueling Station	03/08/13	12/31/18	200,000	400,000
13401	Nite-Hawk Sweepers LLC	Demonstrate Natural Gas-Powered Parking Lot Sweepers	08/28/13	12/31/15	90,000	200,000
Fuels/Emissions Studies						
13451	Energy Solutions	Perform Passenger Vehicle Tire Efficiency Study	06/28/13	12/27/13	10,000	16,000
Emission Control Technologies						
13407	Chaffey Joint Union High School District	Demonstrate Diesel Particulate Filter Technology on Two Diesel School Buses	05/18/13	03/31/14	30,000	45,000
Electric/Hybrid Technologies & Infrastructure						
11615	Parker Hannifin	Develop & Demonstrate Up to Four Heavy-Duty Hydraulic Hybrid Vehicles	01/18/13	12/31/14	250,000	2,000,000
13058	Capstone Turbine Corporation	Develop Microturbine Series Hybrid System for Class 7 Heavy-Duty Vehicle Applications	08/12/13	11/30/14	360,000	1,210,000
13149	University of California, Los Angeles	Develop South Coast PEV Readiness Plan	01/18/13	06/30/14	32,000	63,500
13404	Penske Honda of Ontario	Lease Two Honda Fit Electric Vehicles for Three Years	05/02/13	05/01/16	31,307	31,307
13410	Selman Chevrolet Company	Lease Three 2013 Chevrolet Volt Extended-Range Electric Vehicles for Three Years	04/03/13	04/02/16	41,084	41,084
Various	Various	Install & Upgrade EV Charging Infrastructure (Administer SoCalEV Infrastructure Project)	01/01/13	06/30/15	840,750	840,750
13426	Transportation Power, Inc.	Develop & Demonstrate Catenary Class 8 Trucks (1 Electric & 1 CNG Platform)	06/07/13	06/06/16	2,617,887	3,182,795
13429	Longo Toyota	Lease One Toyota RAV4 Electric Vehicle for Three Years	04/19/13	04/18/16	19,618	19,618
13439	City of Carson	MOU for Catenary Zero Emission Goods Movement Project	10/01/13	09/30/16	0	0
Purchase Order	ATVLS, Inc.	Install Electric Vehicle Chargers	02/13/13	02/13/13	19,985	19,985
Purchase Order	Clean Fuel Connection, Inc.	Install Electric Vehicle Chargers	01/29/13	02/20/13	17,389	17,389
Engine Systems						
13168	National Renewable Energy Laboratory	Develop, Integrate & Demonstrate Heavy-Duty Natural Gas Engines and Vehicles	05/22/13	12/31/15	1,300,000	1,300,000
Mobile Fuel Cell Technologies						
10501	American Honda Motor Company, Inc.	Lease One Clarity Fuel Cell Vehicle for Three Years	01/21/10	09/11/13	5,232	5,232

Table 2: Contracts Executed or Amended (w/$) between January 1 & December 31, 2013

Contract	Contractor	Project Title	Start Term	End Term	AQMD $	Project Total $
Mobile Fuel Cell Technologies (cont'd)						
13155	Fletcher Jones Motor Cars Inc. (Mercedes-Benz)	Lease Two F-Cell Fuel Fell Vehicles for Two Years	02/08/13	02/08/15	30,397	30,397
14054	Bevilacqua-Knight, Inc.	Participate in California Fuel Cell Partnership for Calendar Year 2013 and Provide Support for Regional Coordinator	01/01/13	12/31/13	137,800	1,676,800
14139	Hyundai America Technical Center Inc.	No-Cost Lease of Fuel Cell Vehicle for Two Years	12/13/13	12/12/15	0	0
Hydrogen Technologies & Infrastructure						
10061	Hydrogenics Corporation	Maintenance & Data Management for the SCAQMD Hydrogen Fueling Station	10/30/09	01/31/15	100,000	100,000
11150	Hydrogen Frontier, Inc.	Maintain & Operate City of Burbank Hydrogen Fueling Station	11/24/10	01/23/16	275,000	275,000
13259	Air Products and Chemicals, Inc.	Hydrogen Station Operation & Maintenance for Five Cities Hydrogen Program	03/26/13	09/25/14	300,000	300,000
13400	Energy Independence Now	Develop Hydrogen Network Investment Plan	04/05/13	01/04/15	50,000	130,000
14067	University of California, Irvine	Develop Hydrogen Storage Capability for the Gas-Blending Faciilty	12/31/13	07/16/15	200,000	688,000
Purchase Order	Gas Technology Institute	Hydrogen Quality Sampling Adaptor Repair	04/02/13	04/02/13	1,125	1,125
Stationary Clean Fuel Technologies						
13078	University of California, Riverside	Steam Hydrogasification Reaction Demonstration to Generate Substitute Natural Gas from Biomass Waste	03/07/13	06/07/14	72,916	922,130
Outreach & Technology Transfer						
12486	ICF Resources LLC	Technical Assistance with Goods Movement and Zero Emission Transportation Technologies	09/24/13	09/23/15	50,000	50,000
13256	Three Squares Inc.	Develop, Initiate & Implement Clean Vehicle Outreach Project	01/05/13	12/31/13	21,500	21,500
13408	University of California, Irvine	Demonstrate Building Integration of Electric Vehicles, Photovoltaics and Stationary Fuel Cells	09/30/13	09/29/15	150,000	270,000
Transfer	Transfer from Clean Fuels	Participation in California Natural Gas Vehicle Partnership for Fiscal Years 2012-13 and 2013-14	03/01/13	03/01/13	25,000	160,000
Direct Pay	Transportation Research Board	Participation for CY 2013 Membership in Transportation Research Board and Support Minority Student Fellows Program	01/01/13	12/31/13	37,500	4,000,000
Direct Pay	Various	Cosponsor 15 Conferences, Workshops & Events, plus 1 Membership	Various	Various	226,164	5,246,164

Table 3: Supplemental Revenue Grants Received into Clean Fuels Fund (31)

Revenue Agreement #	Revenue Source	Project Title	Contractor	SCAQMD Contract #	Award Total $
#A00909413 (#13443)	U.S. EPA	Develop & Demonstrate Catenary Class 8 Trucks-1 Electric & 1 CNG Platform	Transportation Power Inc.	#13426	500,000
#5660020940/ #11722	Southern California Gas Company (augments U.S. DOE funding to NREL)	Develop, Integrate & Demonstrate Heavy-Duty Natural Gas Engines and Vehicles	National Renewable Energy Laboratory	#13168	500,000
#12152	CEC AB 118 Program	Upgrade CNG Fueling Station	Rainbow Disposal Company Inc.	#12853	200,000
#13462	CEC ARV-10-045	Install & Upgrade EV Charging Stations (Administer SoCalV Infrastructure Project)	SoCalEV Regional Collaborative Members	#13418-21, et al	840,750
Table 3 lists revenue recognized by SCAQMD into the Clean Fuels Fund (31) only if the pass-through contract was executed during the reporting CY (2013).					**$2,040,750**

Table 4: Summary of Federal & State Funding Awarded between Jan. 1 & Dec. 31, 2013

Awarding Entity or Program	Award Date	Purpose	Contractors	Award Total $/Fund
U.S. EPA A00909413	05/09/13	Develop & Demonstrate Catenary Class 8 Trucks-1 Electric & 1 CNG Platform (Revenue Agreement #13443 - Executed; Project Officer-J.Impullitti) – Project in progress	Transportation Power Inc.	500,000/ Clean Fuels Fund
CEC	04/05/13	Construct One Mile of Catenary System and Develop & Demonstrate Diesel Catenary Hybrid Electric Class 8 Truck ($1.6M Revenue Agreement #14024 - Executed 08/23/13; $1.4M supplemental revenue agreement pending; Project Officer - J.Impullitti) – Contract under negotiation	Siemens Industry Inc.	3,000,000/ Clean Fuels Fund
CEC AB 118 Program	06/07/13	Refurbish & Upgrade Existing, Publicly Accessible Hydrogen Fueling Stations (Revenue Agreement #13468 - Executed 08/08/13; Project Officer – L.Watkins) – Awards pending	TBD	6,690,828/ Fund 63
Bay Area AQMD (thru U.S. DOE/ Clean Cities Program)	09/06/13	Alternative Fuel Infrastructure Planning (Revenue Agreement #14148 – Executed 01/09/14; Project Officer – P.Kwon) – Contracts pending execution	5 Contractors	320,000/ Fund 17
CEC AB 118 Program	09/06/13	Installation of DC Fast Charging Network (Revenue Agreement #14051 – Executed 11/11/13; Project Officer – P.Kwon) – Contracts pending execution	CFCI and Three Squares	300,000/ Clean Fuels Fund
CEC	10/04/13	Develop, Integrate & Demonstrate Ultra-Low Emission Natural Gas Engines for On-Road Heavy-Duty Vehicles (Revenue Agreement – not yet received; Project Officer – J.Cox) – Contracts pending execution	Cummins Westport Inc. and Cummins Inc.	4,000,000/ Clean Fuels Fund
Southern California Gas Company	10/04/13	Develop, Integrate & Demonstrate Ultra-Low Emission Natural Gas Engines for On-Road Heavy-Duty Vehicles (Revenue Agreement #14146 – Pending execution; Project Officer – J.Cox)	Same as above	1,000,000/ Clean Fuels Fund
Table 4 provides a comprehensive summary of revenue awarded to SCAQMD during the reporting CY (2013) if it will be considered part of, or complementary to, the Clean Fuels Program, regardless of whether the pass-through contract has been executed.				**$15,810,828**

Table 5: Update of Federal & State Funding Awarded between Jan. 1, 2009 & Dec. 31, 2012

Awarding Entity or Program	Award Date	Purpose	Contractors	Award Total $
U.S. EPA/DERA Program DE 96085601	02/03/09	Retrofit 200 Heavy-Duty Trucks with Diesel Particulate Filters (Revenue Agreement #09320 – Executed 02/18/09; Project Officer – A.Oshinuga) – All trucks retrofitted	11 Contractors	1,000,000/ Clean Fuels Fund
City of Los Angeles (POLB/POLA)	03/06/09	Install LNG Fueling Station at the Ports (Revenue Agreement #09349 – Executed 01/19/10; Project Officer – L.Watkins) – Station in operation	California Cartage Co.	532,500/ Clean Fuels Fund
U.S. EPA DE 83420301	04/28/09	Develop & Demonstrate SCRT® for NO_x and PM Emissions Control (Revenue Agreement #09405 - Executed 06/02/09; Project Officer – J.Cox) – Project complete	Johnson Matthey, Inc.	900,000/ Clean Fuels Fund
CARB (from U.S. EPA/DERA Program) G08-DERA-02	05/22/09	Placement of up to 43 aftertreatment devices (retrofit traps) on public school buses operating on diesel fuel (Revenue Agreement #G-08-DERA-02 – Executed 05/22/09; Project Officer – R.George) – Project complete	3 School Districts	898,000/ Fund 33
U.S. EPA/DERA Program (Emerging Technologies) 2A 83442501 2A 83442101	08/31/09	Implement program to optimize and demonstrate selective catalytic regenerating and selective catalytic continuously regenerating technologies on on-road heavy-duty diesel trucks (Revenue Agreements #10064 & #10063 - Executed 10/20/09; Project Officer – J.Cox) - Project complete	Johnson Matthey Inc.	4,000,000/ Clean Fuels Fund
U.S. EPA/DERA Program EM-00T16601	09/25/09	Implement Heavy-Duty Diesel Drayage Truck Replacement Program (Revenue Agreement #10119 – Executed 10/28/09; Project Officer – A.Oshinuga) - Project complete	Various	7,500,000/ Fund 81
DOE Transportation Electrification Program DE-EE0002549	12/14/09	Develop U.S. manufactured next-generation batteries and electric vehicles and to fully integrate plug-in hybrid electric vehicle systems for 378 medium-duty utility and delivery trucks and shuttle buses (Revenue Agreement #10193 - Executed 03/25/10; Project Officer – J.Cox) – Project in progress	Electric Power Research Institute	45,443,332/ Fund 50
DOE Clean Cities Program DE-EE0002562	12/18/09	Expansion of an LNG corridor from Ontario to Las Vegas, which would include both vehicles and infrastructure and be implemented in conjunction with the UPS (Revenue Agreement #10467 - Executed 03/04/10; Project Officer – L.Watkins) – Project in progress	4 Contractors	5,591,611/ Fund 51
DOE Clean Cities Program DE-EE0002547	12/18/09	Implement a natural gas drayage truck replacement program (Revenue Agreement #10480 - Executed 1/26/10; Project Officer – V.White) – 219 trucks replaced	Various	9,408,389/ Fund 81
DOE Clean Cities Petroleum Reduction Technologies	12/31/09	Purchase of CNG Taxicabs and Shuttle Vans (Revenue Agreement #10739 – Executed 11/12/10; Project Officer – P.Barroca) – Partially complete	3 Contractors	500,000/ Clean Fuels Fund
CARB AB 118 AQIP Program	02/05/10	Purchase of cordless electric lawn mowers (Revenue Agreement #10592 – Executed 2/4/10; Project Officer – S.Singeetham) – Project complete	Neuton and Black & Decker	816,000/ Fund 27

Table 5: Update of Federal & State Funding Awarded between Jan. 1, 2009 & Dec. 31, 2012 (cont'd)

Awarding Entity or Program	Award Date	Purpose	Contractors	Award Total $/Fund
DOE Clean Cities Program DE-EE0002545	03/12/10	Ontario LNG Station Upgrade (Revenue Agreement #10685 - Executed 05/07/10; Project Officer – L.Watkins) – Pass-through contract pending	UPS	150,000/ Fund 01
U.S. EPA EM 00T34701	04/21/10	Truck Replacement (diesel to diesel and diesel to zero emission), install shorepower to two ships, demonstrate a combined diesel particulate filter and selective catalytic reduction system on two tugboat engines (Revenue Agreement #10707 – Executed 05/06/10; Project Officer – A.Oshinuga) – Projects in progress	4 Contractors	3,600,000/ Fund 32 & Clean Fuels Fund ($1.4M)
U.S. EPA DE-83468501	06/23/10	Demonstrate Emerging Technologies Advanced Maritime Emissions Controls (Revenue Agreement #11030 – Executed 07/23/10; Project Officer – R.Carlson) – Project complete	ACTI	1,500,000/ Fund 17
U.S. EPA DE 00T37701	06/30/10	National Clean Diesel Program – School Bus Replacement (Revenue Agreement #11029 - Executed 07/16/10; Project Officer – R.George) – Deliverables complete0	11 School Districts	1,065,465/ Fund 33
Southern California Gas Company	07/09/10	Develop Prototype Natural-Gas-Fired, Fan-Type Central Furnaces with Reduced NOx Emissions (Revenue Agreement #11539 – Executed 12/10/10; Project Officer – A.Baez) – Projects partially complete	4 Contractors	447,737/ Fund 27
CEC ARV-09-003	09/02/10	Develop U.S. manufactured next-generation batteries and electric vehicles and to fully integrate plug-in hybrid electric vehicle systems for 378 medium-duty utility and delivery trucks and shuttle buses (Revenue Agreement #11043 - Executed 09/02/10; Project Officer – J.Cox) – Project in progress	Electric Power Research Institute	5,000,000/ Fund 50
San Joaquin Valley Air Pollution Control District	10/01/10	Develop Prototype Natural-Gas-Fired, Fan-Type Central Furnaces with Reduced NOx Emissions (Revenue Agreement #11195 – Executed 10/29/10; Project Officer – A.Baez) – Projects partially complete	4 Contractors	50,000/ Fund 27
CEC AB118 Program	09/10/10	Alternative and Renewable Fuel and Vehicle Technology Program – Construct & Install 10 NG Fueling Station (Revenue Agreement #12152 –Executed 11/08/11; Project Officer – L.Watkins) – Partially complete	6-7 Contractors	2,600,000/ Clean Fuels Fund
CEC AB118 Program	09/10/10	Alternative and Renewable Fuel and Vehicle Technology Program – Construct & Install One NG Fueling Station (Revenue Agreement #12286 –Executed 02/22/12; Project Officer – L.Watkins) – Pass-through contract pending	UPS	300,000/ Clean Fuels Fund
CEC ARV-09-002	10/07/10	Implement LNG Drayage Truck Replacement Program (Revenue Agreement #11040 - Executed 10/07/10); Project Officer – V.White) – 132 trucks replaced	Various	5,142,000/ Fund 81

Table 5: Update of Federal & State Funding Awarded between Jan. 1, 2009 & Dec. 31, 2012 (cont'd)

Awarding Entity or Program	Award Date	Purpose	Contractors	Award Total $/Fund
CARB AB 118 AQIP Program G10-AQIP-09	04/05/11	Purchase Cordless Electric Lawnmowers (Revenue Agreement #11595 – Executed 04/05/11; Project Officer – S.Singeetham) – Projects complete	4 Contractors	494,314/ Fund 27
U.S. EPA Clean Air Technology Initiative Program A 00909411	12/15/10	Demonstrate Battery Electric Heavy-Duty Trucks & Install Air Filtration Systems at Schools or Community Centers (Revenue Agreement #11530 – Executed 01/11/11; Project Officers – J.Impullitti & P.Kwon) – Projects partially complete	TransPower and IQAir North America	400,000/ Fund 17
Southern California Gas Company	04/22/11	Natural Gas-Powered Vehicle Training and Safety and Fuel Cylinder Inspection Program (Revenue Agreement #11617 – Executed 6/23/11; Project Officer – P.Barroca) – Projects in progress	CSA America Inc. and San Diego Community College on behalf of ATTE	67,100/ Clean Fuels Fund
U.S. EPA Targeted Air Shed Grant EM-83493501	07/14/11	Yard Equipment Exchange Program (Residential and Commercial); and Boiler and Process Heater Efficiency Upgrades to Demonstrate Reductions in Ozone and PM2.5 Air Pollution in LA-San Bernardino Nonattainment Areas (Revenue Agreement #11598 – Executed 3/25/11; Project Officer – S.Singeetham) - Projects partially complete	Various	1,270,000/ Fund 17
CEC ARV-10-045	05/20/11	Install & Upgrade EV Charging Infrastructure Stations (Administer the SoCalEV Infrastructure Project to Install Up to 315 EV Chargers throughout Southern California (Revenue Agreement #12295 – Executed 03/22/12; Project Officer – P.Kwon) – Projects in progress	SoCalEV Regional Collaborative Members	840,750/ Clean Fuels Fund
CARB AB 118 AQIP G10-AQIP-10	08/10/11	Demonstrate Combined DPF and SCR Technologies on Marine Vessels (Revenue Agreement #12022 – Executed 08/10/11; Project Officer – R.Carlson) – Project in progress	Hug Engineering	439,000/ Fund 27
U.S. DOE Clean Cities Program E-EE0005588	09/26/11	Plug-In Electric Vehicle Infrastructure Planning (Revenue Agreement #12167 – Executed 11/12/11; Project Officer – P.Kwon) – Projects complete	7 Contractors	1,000,000/ Fund 60
Southern California Gas Company 5660020940 (augmenting U.S.DOE funding to NREL)	06/24/11	Develop, Integrate & Demonstrate Heavy-Duty Natural Gas Engines and Vehicles (Revenue Agreement #11722 – Executed 06/24/11; Project Officer – A.Oshinuga) – Project in progress	National Renewable Energy Laboratory	500,000/ Clean Fuels Fund
California Department of Transportation 07-6373R	06/15/11	Replace Existing Heavy-Duty Diesel Trucks with New Heavy-Duty Natural Gas Trucks (Revenue Agreement #11458 – Executed 07/12/11; Project Officer – A.Oshinuga)- Projects in progress	Various	1,799,612/ Fund 81

Table 5: Update of Federal & State Funding Awarded between Jan. 1, 2009 & Dec. 31, 2012 (cont'd)

Awarding Entity or Program	Award Date	Purpose	Contractors	Award Total $/Fund
Ports of Los Angeles & Long Beach	10/07/11	In-Use Emissions Testing & Demonstration of Retrofit Technology of On-Road Heavy-Duty Engines (Revenue Agreement #12877 – Executed 07/20/12; Project Officer –	WVU and UCR/CE-CERT	281,006/ Clean Fuels Fund
DOE DE-FC26-08NT06812	Orig: 9/30/08 Current: 07/01/12	Plug-In Hybrid Electric Urban Delivery Truck Technology Demonstration (Revenue Agreement #09160 – Executed 10/22/08; Project Officer – J.Cox) – Project in	Volvo Technology of America, Inc.	984,000/ Fund 61
CEC AB 118 Program	07/25/12	Construct CNG Fueling Station I in Murrietta (Revenue Agreement # 13034- Executed 09/09/12; Project Officer – L.Watkins) – Pass-through contract pending	Southern California Gas Company	217,000/ Clean Fuels Fund
U.S. EPA/DERA DE-00T96201-1	09/11/12	Replace 50 Medium Heavy-Duty Diesel Trucks with New Full Electric Battery-Powered Medium Heavy-Duty Vehicles (Revenue Agreement #13153 – Executed 10/30/12; Project Officer – B.Choe) – Pass-through contract pending	Electric Vehicle International Inc.	1,045,993/ Fund 17
DOE Vehicle Technologies Program DE-EE0005961	09/28/12	Develop, Demonstrate and Deploy at least 13 Class 8 Battery Electric Heavy-Duty Trucks and Fuel Cell Hybrid Electric Trucks (Revenue Agreement #13082 – Executed 10/30/12; Project Officer – B.Choe) – Project in progress	5 Contractors	4,169,000/ Fund 61
CARB AB 118 AQIP Program	Orig:7/8/11Current: 12/07/12	Demonstrate the commercial use of cordless zero-emission lawn and garden equipment (Revenue Agreement #12018 – Executed 8/10/11; Project Officer – S.Singeetham) –	Mean Green	51,667/ Fund 27
Table 5 provides a comprehensive summary of revenue awarded to SCAQMD during CYs 2009 through 2012, if it is part of, or complementary to, the Clean Fuels Program, regardless of whether the pass-through contract has been executed and regardless of which special fund the revenue was recognized into.				**$110,876,746**

Project Summaries by Core Technologies

The following represents summaries of the contracts, projects and studies executed or amended with additional dollars in 2013. They are listed in the order found in Table 2 by category and contract number. The summaries provide the project title, contractors and subcontractors, SCAQMD cost-share, co-sponsors and their respective contributions, contract term and a description of the projects as required by H&SC Section 40448.5.1(d).

Infrastructure and Deployment

12853: Upgrade CNG Fueling Station

Contractor: Rainbow Disposal Company, Inc.	SCAQMD Cost-Share	$ 200,000
	Cosponsor:	
	Rainbow Disposal Company, Inc.	200,000
Term: 03/08/13 – 12/31/18	Total Cost	$ 400,000

Rainbow Disposal has operated a public access CNG fueling station in Huntington Beach for many years. As the number of CNG vehicles has grown so has the utilization of the station. The ability to adequately service all of the customers from that area has diminished so that there are now waiting lines of up to 30 minutes. To upgrade Rainbow Disposal's existing CNG station, the SCAQMD applied for infrastructure funding through CEC's AB 118 Program and was awarded $200,000, which was recognized into the Clean Fuels Fund, as noted in the incoming revenue table (Table 3). The upgrade includes the addition of a second, larger compressor and dispenser in order to meet the demand of Rainbow Disposal's growing natural gas fleet.

13401: Demonstrate Natural Gas-Powered Parking Lot Sweeper Vehicles

Contractor: Nite-Hawk Sweepers LLC	SCAQMD Cost-Share	$ 90,000
	Cosponsors:	
	Nite-Hawk Sweepers LLC	42,000
	Go Natural CNG	60,000
	ProSales	3,500
	Haaker Equipment	3,500
	Isuzu	1,000
Term: 08/28/13 – 12/31/15	Total Cost	$ 200,000

Parking lot sweeper vehicles are typically classified as medium-duty vehicles (less than 14,000-lbs gross vehicle weight rating or GVWR), and although many parking lot sweepers provide service to public entities, their weight classification and their vocation (non-street sweeping activities), exempts them from SCAQMD Fleet Rule 1186.1 and Rule 1186 (combined, these two Rules ensure that the cleanest vehicles are being used in the SCAQMD for street sweeping activities). The number of parking lot sweepers operating in this region is estimated between 500 to 700 and can accrue as many as 60,000 miles annually, representing a significant amount of emissions in this region. Parking lot sweeper vehicles range from a converted pick-up truck to

more sophisticated chassis conversions and operate on conventional fuel such as gasoline or diesel. This project is to demonstrate a CNG-powered prototype parking lot sweeper that will be built by Nite-Hawk Sweepers LLC based in Seattle, WA, using an Isuzu NPR-HD chassis, powered by a 6.0L GM spark-ignited engine that will be converted to dedicated CNG using a conversion system developed by Go Natural CNG based in Utah that will operate under a CARB Experimental Permit. Demonstration is expected to commence in May 2014. The vehicle will be demonstrated to both public and private parties over a two-year period. The project is expected to result in CARB certification for converting this vehicle to operate on dedicated natural gas as well as commercial availability of a dedicated natural gas powered parking lot sweeper vehicle.

Fuels/Emission Studies

13451: Perform Passenger Vehicle Tire Efficiency Study

Contractor: Energy Solutions	SCAQMD Cost-Share	$ 10,000
	Cosponsor:	
	Energy Solutions	6,000
Term: 06/28/13 – 12/27/13	Total Cost	$ 16,000

This study was to identify how low rolling resistance passenger vehicle replacement tires could provide a significant opportunity to reduce air pollutants and carbon dioxide while saving consumers fuel and money. Across the United States, passenger vehicle tires are being replaced with tires less efficient than those originally installed by the factory. This is, in part, likely due to passenger vehicle tires not having a standardized labeling system that allows consumers to easily identify lower rolling resistance tires, the higher upfront cost of fuel efficient tires and lack of outreach and education on the longer term payback of using more efficient tires. This study would review the air quality and greenhouse gas benefits of increasing the sales of fuel efficient tires. A 4% increase in overall efficiency of the vehicle was used when fuel efficient tires were evaluated over the average replacement tire. Using this efficiency assumption, and applying it to passenger vehicles in the Basin for model year 2010 and older needing replacement tires, the study projected a reduction of 1,500 tons of ozone precursors (612 VOC, 715 NO_x) and a CO_2 reduction of 1.6 million tons. The study also reviewed the cost benefits to consumers and emissions from implementing an incentive program buy down program for purchasing higher efficiency tires.

Emission Control Technologies

13407: Demonstrate Diesel Particulate Filter Technology on Two Diesel School Buses

Contractor: Chaffey Joint Union High School District	SCAQMD Cost-Share	$ 30,000
	Cosponsor	
	Chaffey Joint Union High School District	15,000
Term: 05/28/13 – 03/31/14	Total Cost:	$ 45,000

Chaffey Joint Union High School District (Chaffey) previously received funding to retrofit diesel school buses with Cleaire Horizon diesel particulate filters (DPFs). Within a year of installation,

the buses equipped with hydraulic electronic unit injector (HEUI) engines began to experience higher rates of engine-related problems than normal including fuel injector failures, oil leaks, turbocharger failures and loss of power. These engine problems were attributed to high back pressure caused by plugged Horizon DPFs. The objective of this project was to evaluate two alternate DPF technologies and determine if one would be better suited to the Chaffey buses and provide better bus operation and less maintenance.

Electric/Hybrid Technologies & Infrastructure

11615: Develop & Demonstrate Up to Four Heavy-Duty Hydraulic Hybrid Vehicles

Contractor: Parker Hannifin	SCAQMD Cost-Share	$ 250,000
	Cosponsors:	
	California Energy Commission	750,000
	Parker Hannifin	354,000
	Coca-Cola Company	515,000
	Freightliner	131,000
Term: 01/18/13 – 12/31/14	Total Cost	$ 2,000,000

Parker Hannifin proposes to partner with Coca-Cola, Daimler Trucks North America, Inc., Freightliner Truck Division, Cummins, Inc. and the FEV Group to design, integrate, rollout and field test up to four hybrid hydraulic beverage delivery tractors used by Coca-Cola Enterprises on urban delivery routes within the South Coast Air Basin. The stop-and-go driving associated with urban delivery routes will allow a hydraulic hybrid-equipped vehicle to capture a significant amount of braking energy that would have otherwise been wasted as heat through the vehicles friction brakes. The Parker Hannifin hydraulic hybrid drive system is designed to recover brake energy and store it for later use using hydraulic accumulators instead of chemical energy storage systems used in hybrid electric systems today. Upon braking, the hydraulic hybrid system allows vehicle inertia to be converted and stored as high pressure energy within hydraulic accumulators. Accumulated energy is then made available for use when the vehicle is next accelerated, to supplement or displace the power that would otherwise be supplied by the diesel engine.

13058: Develop Microturbine Series Hybrid System for Class 7 Heavy-Duty Vehicle Applications

Contractor: Capstone Turbine Corporation	SCAQMD Cost-Share	$ 360,000
	Cosponsors:	
	Capstone, Kenworth & Costco	850,000
Term: 08/23/13 – 11/30/14	Total Cost	$ 1,210,000

Kenworth and Capstone Turbine Corporation (Capstone) are working to advance the development of their microtubine generator (MTG) hybrid on a Class 7 refrigeration truck chassis and demonstrate the potential benefits of the drive system architecture in a real-world application. The proposed vehicle will utilize a series hybrid electric drive system that will afford it up to 10 miles of all-electric driving range. After the vehicle breaches the battery's lower state of charge threshold, an on-board MTG will be utilized to provide extended range driving beyond the initial

10 miles. The vehicle is expected to be deployed within Costco's fleet to evaluate its operational and performance benefits.

13149: Develop South Coast PEV Readiness Plan

Contractor: University of California, Los Angeles	SCAQMD Cost-Share	$ 32,000
	Cosponsor:	
	SCAG	$31,500
Term: 01/18/13 – 06/30/14	Total Cost	$ 63,500

As part of a $1,000,000 grant received by SCAQMD from the DOE Clean Cities program for PEV readiness, $200,000 went towards funding the UCLA Luskin Center to create a South Coast PEV Readiness Plan. The UCLA Luskin Center was engaged by SCAG to develop the South Coast PEV Readiness Plan through a competitive RFP process. The UCLA Luskin Center has significant expertise on PEV readiness issues and has authored several policy documents, including one on the PEV market in Los Angeles and addressing challenges to installing infrastructure in multi-unit dwellings. The Southern California PEV Readiness Plan was the winner of the 2013 Planning Excellence Award by the Los Angeles section of the American Planning Association. This project is to develop additional PEV readiness elements for the South Coast PEV Readiness Plan for the DOE Clean Cities grant, including an analysis of barriers of required and optional PEV readiness elements such as permitting and inspection, training and education, workplace and fleet charging, and multi-unit dwelling charging. It will also provide a much needed analysis of two challenge areas identified by the California PEV Collaborative in multi-unit dwelling and workplace charging, for which two new working groups have been created. Using funds from a U.S. DOE grant, SCAG cosponsored the additional elements, along with the SCAQMD.

13404: Lease Two Honda Fit Electric Vehicles for Three Years

Contractor: Penske Honda of Ontario	SCAQMD Cost-Share	$ 31,307
Term: 05/02/13 – 05/01/16	Total Cost	$ 31,307

The SCAQMD leased two Honda Fit EVs from Penske Honda due to limited supply in stock. Honda plans to lease the Fit EV to approximately 1,100 customers over a two-year period to residents of California, Oregon, New York, New Jersey, Connecticut, Massachusetts, Maryland and Rhode Island. The AC induction motor provides 123 hp with a top speed of 90 mph, and there are three drive modes - normal, econ and sport. The U.S. EPA estimated range is 82 miles using a 20 kWh, air-cooled Li-Ion battery pack. The Fit EV is 700 pounds heavier than the gasoline version, and cargo capacity is reduced slightly from 57 to 50 cubic feet in a 5-passenger hatchback.

13410: Lease Three 2013 Chevrolet Volt Extended-Range Electric Vehicles for Three Years

Contractor: Selman Chevrolet Company	SCAQMD Cost-Share	$ 41,084
Term: 04/03/13 – 04/02/16	Total Cost	$ 41,084

The SCAQMD is leasing three additional 2013 Chevrolet Volt extended-range electric vehicles (also known as plug-in hybrid electric vehicles or PHEVs) to add to its demonstration fleet of advanced technology vehicles, which are operated to increase public awareness of clean vehicle technologies and for display at public outreach events. PHEVs are vehicles with an all-electric, zero-emission range, followed by an efficient, gasoline-burning hybrid mode. The 2013 Volt has a zero-emission range of 38 miles, which can meet the needs of most trips so that the Volt can operate for extended periods of time without starting the engine. Upon depleting the zero-emission mode, the gasoline-burning "range extending" hybrid mode would allow drivers to take longer trips. Previously, SCAQMD leased two 2013 Chevy Volts for $31,373, making the Chevy Volt one of the most cost-effective PEVs.

Various: Install & Upgrade EV Charging Infrastructure (Administer SoCalEV Infrastructure Project)

Contractor: Various	SCAQMD Cost-Share	$ 840,750
Term: 01/01/13 – 06/30/15	Total Cost	$ 840,750

State, federal and local funds are currently being invested to support battery EV, plug-in hybrid EV and charging infrastructure. And while Southern California has an established network of public charging for EVs, the infrastructure is mostly obsolete. Consequently, in 2010, on behalf of the Southern California Electric Vehicle (SoCalEV) Regional Collaborative, the LADWP applied for and was awarded $840,750 by the CEC to install public EV infrastructure at key Southern California locations. LADWP, however, asked the SCAQMD to administer the project. The funds were recognized into the Clean Fuels Fund, as noted in the incoming revenue table (Table 3), and in 2013 the SCAQMD executed the first half dozen of up to 30 agreements with members of the SoCalEV Regional Collaborative to install as well as upgrade existing public EV charging infrastructure at key Southern California locations. Data will also be collected on charger utilization, charging use patterns, operating costs, electricity used and real world electric range of EVs.

13426: Develop & Demonstrate Catenary Class 8 Trucks (1 Electric & 1 CNG Platform)

Contractor: Transportation Power, Inc.	SCAQMD Cost-Share	$ 2,617,887
	Cosponsor:	
	Transportation Power, Inc. (in-kind)	564,908
Term: 06/07/13 – 06/06/16	Total Cost	$ 3,182,795

Transportation Power, Inc. (TransPower) has contracted to deliver two trucks equipped with overhead catenary accessibility. The first truck is an existing vehicle that utilizes a battery electric drive system and will be converted to operate on the catenary system. The second truck will be designed and developed as a purpose built CNG-hybrid electric truck to incorporate TransPower's electric drive system on a major OEM chassis. TransPower will integrate pantographs and associated components into both vehicles. TransPower will perform design, development and testing of new components that enable trucks using their electric drive architecture to acquire and convert power from overhead catenary lines (similar to those used by

metro rail lines). The U.S. EPA also supported this project in the amount of $500,000, with their pass-through funds recognized into the Clean Fuels Fund, as noted in the incoming revenue table (Table 3). The contract with TransPower is part of a larger project being undertaken by the SCAQMD, which will include development and demonstration of additional vehicles and construction of one mile of a catenary system along Alameida to develop and demonstrate a catenary zero emissions goods movement system.

13429: Lease One Toyota RAV4 Electric Vehicle for Three Years

Contractor: Longo Toyota	SCAQMD Cost-Share	$ 19,618
Term: 04/19/13 – 04/18/16	Total Cost	$ 19,618

The SCAQMD leased one Toyota Rav4 EV from Longo Toyota which provided the lowest of three bidders. Toyota plans to produce 2,500 Rav4 EVs for model years 2012, 2013 and 2014, using 41.8 kWh LiIon battery packs with 10 kW onboard chargers provided by Tesla Motors, integrated in Fremont, California. The AC induction motor provides 154 hp at 2,800 rpm. The U.S. EPA estimated range is 103 miles for this EV. There is also an extended charge mode that provides about a 120 mile range and a sport mode that increases torque from 218 lb.-ft to 273 lb.-ft. The Rav4 EV is 470 pounds heavier than the gasoline version but no interior space is lost. It seats 5 adults or provides 73 cubic feet of cargo volume behind the front seat with fold flat rear seats.

13439: MOU for Catenary Zero Emission Goods Movement Project

Contractor: City of Carson	SCAQMD Cost-Share	$ 0
Term: 10/01/13 – 09/30/16	Total Cost	$ 0

Development and demonstration of zero emissions technologies for goods movement is one of SCAQMD's top priorities. In April 2013 the Board approved a project to develop and demonstrate a catenary zero emissions goods movement system. The project includes construction of one mile of catenary system and development and demonstration of diesel and CNG catenary hybrid electric class 8 trucks and integration of a catenary pantograph system on an existing battery electric class 8 truck. The one mile of catenary system will be constructed along Alameda Street from E. Lomita Blvd to the Dominguez channel in Carson, in coordination with the Ports of Los Angeles and Long Beach. This no-cost MOU between the City of Carson and SCAQMD facilitates the City of Carson's participation and assistance with permitting and the CEQA process.

Purchase Order: Install Electric Vehicle Chargers

Contractor: ATVLS, Inc.	SCAQMD Cost-Share	$ 19,985
Term: 02/13/13 – 02/13/13	Total Cost	$ 19,985

This project provided funds for the demonstration of Level 2 electric vehicle charging infrastructure from several manufacturers including Coulomb Technologies, ECOtality and Clipper Creek. Two chargers were installed at the Coachella Valley Association of Governments' facility in Palm Desert as part of SCAQMD's Fleet Demonstration Program.

Purchase Order: Install Electric Vehicle Chargers

Contractor: Clean Fuel Connection,	SCAQMD Cost-Share	$ 17,389

Inc.		
Term: 01/29/13 – 02/20/13	Total Cost	$ 17,389

This project provided funds for the demonstration of Level 2 electric vehicle charging infrastructure from several manufacturers including Coulomb Technologies, ECOtality and Clipper Creek. Charging infrastructure was placed at two SCAQMD Board Member residences as part of SCAQMD's Fleet Demonstration Program.

Engine Systems

13168: Develop, Integrate & Demonstrate Heavy-Duty Natural Gas Engines

Contractor: National Renewable Energy Laboratory	SCAQMD Cost-Share	$ 1,300,000
Term: 05/22/13 – 12/31/15	Total Cost	$ 1,300,000

The SCAQMD Board adopted a series of clean fuel fleet rules to reduce mobile source emissions within the SCAQMD's regulatory jurisdiction. The fleet rules require certain public entities and special districts, such as air, water, sanitation and school districts, with fifteen or more heavy-duty vehicles to acquire CARB-certified alternative-fueled heavy-duty vehicles when adding new vehicles or forming a new fleet. These rules have helped to advance natural gas engine technology and to expand the natural gas engine market into a wider range of heavy-duty vehicle applications. Specifically, on-road natural gas engines are now being used on a limited basis as an alternative to diesel engines in transit, refuse and goods movement applications. While the number of natural gas engines has grown, there is still a need to develop natural gas engines in the 11- to 14-liter range to fill the wide array of fleet applications currently served solely by diesel engines. As such, the SCAQMD has been working with NREL, the CEC and Southern California Gas Company (SoCalGas) to accelerate the development, integration and demonstration of natural gas engines ranging in sizes from 11 to 14 liters suitable for transit, refuse and goods movement applications. In 2011, the Board awarded a contract to U.S. DOE's NREL for $3,055,000 to develop, integrate and demonstrate three different heavy-duty natural gas engines. The three engines will be used in refuse, transit and Class 8 heavy-duty truck applications and comply with the U.S. EPA 2010 heavy-duty emissions standards of 0.01 g/bhp-hr PM and 0.2 g/bhp-hr NO_x. The first project is with Cummins Westport to develop and optimize a spark-ignited 11.9-liter CNG engine suitable for refuse and Class 8 application, and has been fully executed under a Cooperative Research and Development Agreement (CRADA) between SCAQMD and NREL. SoCalGas supported this first project with Cummins Westport in the amount of $500,000, with their pass-through funds recognized into the Clean Fuels Fund, as noted in the incoming revenue table (Table 3). The CRADA will be modified again at a later date to include the remaining two projects.

Mobile Fuel Cell Technologies

10501: Lease One Clarity Fuel Cell Vehicle for Three Years

Contractor: American Honda Motor Company, Inc.	SCAQMD Cost-Share	$ 5,232
Term: 01/21/10 – 09/11/13	Total Cost	$ 5,232

The Executive Officer approved a short-term extension of the lease contract with Honda for the 2009 Honda Clarity FCX. The Clarity has been in the SCAQMD demonstration fleet and is primarily used at outreach events and public meetings to demonstrate state-of-the-art hydrogen fuel cell vehicles.

13155: Lease Two F-Cell Fuel Cell Vehicles for Two Years

Contractor: Fletcher Jones Motor Cars Inc. (Mercedes-Benz)	SCAQMD Cost-Share	$ 30,397
Term: 02/08/13 – 02/08/15	Total Cost	$ 30,397

The SCAQMD leased two Mercedes F-Cell fuel cell vehicles from Fletcher Jones MotorCars which is conveniently located near the UC Irvine hydrogen fueling station. SCAQMD previously demonstrated Mercedes A-class (smaller) F-Cell vehicles from 2005 to 2009. Mercedes plans to demonstrate about 200 F-Cells as part of this pilot program in the US and Europe. This new B-Class F-Cell provides 136 hp and a top speed of 106 mph. Range is improved to about 200 miles compared to the previous A-Class version when refueling at a higher pressure of 700 bar. The vehicle will be placed into our alternative fuel vehicle fleet to demonstrate new clean fuel vehicles to public and private organizations to promote zero- and low-emission technologies.

14054: Participate in California Fuel Cell Partnership for Calendar Year 2013 and Provide Support for Regional Coordinator

Contractor: Bevilacqua-Knight, Inc.	SCAQMD Cost-Share	$ 137,800
	Cosponsors:	
	8 automakers; 6 government agencies; 1 fuel cell provider; and 19 associate members	1,539,000
Term: 01/01//13 – 12/31/13	Total Cost	$ 1,676,800

The SCAQMD has been a member of the California Fuel Cell Partnership (CaFCP) since 2000. The CaFCP and its members are demonstrating 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 Bevilacqua-Knight, Inc. (BKI) for their portion of CaFCP administration. For Calendar Year 2013 the SCAQMD contributed $87,800 for its membership participation and up to $50,000, along with office space at SCAQMD Headquarters, to provide support for the CaFCP Regional Coordinator.

13059: No-Cost Lease of Fuel Cell Vehicle for Two-Years

Contractor: Hyundai America Technical Center Inc.	SCAQMD Cost-Share	$ 0
Term: 12/13/13 – 12/12/15	Total Cost	$ 0

SCAQMD has been working with Hyundai America Technical Center Inc. to become a partner in their fuel cell vehicle demonstration program. In 2013 Hyundai approached the SCAQMD and requested its participation in the on-road testing of their new fuel cell electric vehicle. The on-road testing program is being funded by a grant from the U.S. DOE. Hyundai provides fuel cell

vehicles in-kind as their cost-share to secure U.S. DOE funding. This no-cost lease with Hyundai will allow the SCAQMD to participate in the development of this technology and demonstrate its effectiveness. The vehicle will be placed into our alternative fuel vehicle fleet to demonstrate new clean fuel vehicles to public and private organizations to promote low-emission technologies.

Hydrogen Technologies & Infrastructure

10061: Maintenance & Data Management for the SCAQMD Hydrogen Fueling Station

Contractor: Hydrogenics Corporation	SCAQMD Cost-Share	$ 100,000
Term: 10/30/09 – 01/31/15	Total Cost	$ 100,000

The SCAQMD, in partnership with Hydrogenics Corporation, installed a hydrogen generation and fueling station at SCAQMD Headquarters. This system uses electrolysis of water to produce the hydrogen and includes the capability to produce backup electrical power using a hydrogen-powered internal combustion engine. This system has been used extensively by the SCAQMD hydrogen-powered vehicle fleet and other hydrogen vehicles for other demonstration programs throughout Southern California. The hydrogen fuel quality has been tested and shown to meet the needs of fuel cell vehicle manufacturers and of the SCAQMD. SCAQMD has become a vital location as part of the California Hydrogen Highway network. In order to continue maintenance and data management of the existing SCAQMD hydrogen station, an amendment of the contract with Hydrogenics Corporation was required. This contract extends beyond the original scope of the project and will ensure the station is maintained while plans are made for the station's upgrade.

11150: Maintain & Operate City of Burbank Hydrogen Fueling Station

Contractor: Hydrogen Frontier, Inc.	SCAQMD Cost-Share	$ 275,000
Term: 11/24/10 – 01/23/16	Total Cost	$ 275,000

The City of Burbank hydrogen fueling station was one of the original stations under the Five Cities Hydrogen Program. Pursuant to a DOE Program, the original electrolyzer station was removed and a new steam methane reformer (SMR) based station was installed. When the DOE project was completed, the SCAQMD in partnership with the CARB and NREL funded the ongoing operation of the station. The station has now become an important connector station for all FCVs in Southern California and is now fueling up to 60 kg per day. This amendment provides funding to continue operation and maintenance as well as pay for increased costs associated with utility services (electricity and natural gas) for this station. This contract extends beyond the original scope of the project and will ensure that the station is maintained and will meet the increased demand for hydrogen fuel.

13259: Hydrogen Station Operation & Maintenance for Five Cities Hydrogen Program

Contractor: Air Products and Chemicals, Inc.	SCAQMD Cost-Share	$ 300,000
Term: 03/26/13 – 09/25/14	Total Cost	$ 300,000

Air Products and Chemicals, Inc. (APCI) designed and constructed five hydrogen fueling stations under the Five Cities Hydrogen Program, which included three electrolyzers and two mobile fuelers. APCI has provided operation, repair and general maintenance services for the stations since the program began. This contract is to continue ongoing maintenance and operation including equipment repair or replacement for another two years for electrolyzer stations located in the cities of Santa Monica and Riverside plus a mobile fueler in the City of Santa Ana. The Ontario Station was dismantled and shut down and operation and maintenance of the City of Burbank station was taken over by Hydrogen Frontier, Inc.

13400: Develop Hydrogen Network Investment Plan

Contractor: Energy Independence Now	SCAQMD Cost-Share	$ 50,000
	Cosponsors:	
	Energy Independence Now	15,000
	California Fuel Cell Partnership	25,000
	Daimler	15,000
	Toyota	25,000
Term: 04/05/13 – 01/04/15	Total Cost	$ 130,000

California does not have a clear plan to open and maintain the early commercial hydrogen fueling infrastructure needed to launch the fuel cell electric vehicle (FCEV) market. The CaFCP Roadmap clearly establishes the need for 68 hydrogen stations by the beginning of 2016 to reach California's early market potential for FCEVs. It does not, however, define how to get there. Initially, the success of the Roadmap completely depended upon the CEC's oversubscribed AB 118 Program, which even using optimistic assumptions, would provide for only about half of these stations by 2016. While Assembly Bill 8, which was chaptered in September 2013, dedicates additional funding to build up to 100 hydrogen stations, the Roadmap target can only be achieved with a clear plan on how the additional stations will be financed, including evaluating the evolving market dynamics and potential incentive options. To develop and outline a methodology on how to move forward, Energy Independence Now, in conjunction with the CaFCP and its partners, will develop a Hydrogen Network Investment Plan (HNIP) that will include a pathway for Market Assurance Grant (MAG) implementation, operating guidelines and the next steps for implementation of a proposed funding mechanism to administer these grants, ultimately leading to complement CEC grants.

14067: Develop Hydrogen Storage Capability for the Gas-Blending Facility

Contractor: University of California, Irvine	SCAQMD Cost-Share	$ 200,000
	Cosponsors:	
	U.S. Department of Energy	134,000
	California Energy Commission	241,000
	NFCRC	53,000
	Air Products & Chemicals, Inc.	60,000
Term: 12/31/13 – 07/16/15	Total Cost	$ 688,000

Hydrogen fuel cell vehicles have zero emissions, and hydrogen blended with other fuels, such as natural gas, has shown the potential to reduce emissions in mobile and stationary combustion sources. Hydrogen and natural gas blends may provide a near-term opportunity to displace petroleum-based fuels while reducing emissions. Testing of distributed generation devices, including microturbines and fuel cells, on different blends of hydrogen is a focus of the U.S. DOE and CEC. This project will develop hydrogen storage capability for a gas blending facility at UCI's Advanced Power and Energy Program. It will enable the study of hydrogen and hydrogen/natural gas blends for distributed generation applications. The capacity will be 100,000 cu.ft. of compressed hydrogen stored at 2,200 psi. This capacity will allow the continuous operation of 30 kW of distributed generation devices given a normal hydrogen delivery schedule and intermittent operation of a 250 kW distributed generation on an aggressive delivery schedule.

Purchase Order: Hydrogen Quality Sampling Adaptor Repair

Contractor: Gas Technology Institute	SCAQMD Cost-Share	$ 1,125
Term: 04/02/13 – 04/02/13	Total Cost	$ 1,125

The SCAQMD performs hydrogen quality sampling at demonstration hydrogen stations demonstrated in its jurisdiction including the one maintained at SCAQMD Headquarters. The apparatus used to perform the sampling began leaking, creating a safety hazard and contamination concern. A purchase order was issued for, and payment made to, GTI to repair the sampling apparatus.

Stationary Clean Fuel Technologies

13078: Steam Hydrogasification Reaction Demonstration to Generate Substitute Natural Gas from Biomass Waste

Contractor: University of California, Riverside	SCAQMD Cost-Share	$ 72,916
	Cosponsors:	
	California Energy Commission	649,214
	Synergy, Inc. (in-kind)	200,000
Term: 03/07/13 – 06/07/14	Total Cost	$ 922,130

Utilization of renewable energy sources, including biomass waste, has the potential to make a significant contribution in providing sustainable power and transportation fuel for the future. Steam Hydrogasification Reaction (SHR) is a thermo-chemical process, developed by the University of California, Riverside, to convert carbonaceous matter in biomass waste into methane in a hydrogen rich environment. The SHR process is capable of generating product gas with 90% or higher methane content in a cost effective and efficient manner. It is also capable of handling wet feedstocks without drying, providing an attractive and viable solution to utilize wet sludge and green waste in lieu of landfill disposal. The objectives of this project are to demonstrate the SHR technology in a Process Demonstration Unit using biosolids comingled with food waste and green waste to produce Substitute Natural Gas and to provide preliminary modeling evaluation and design for a five ton-per-day pilot plant for the next phase.

Outreach and Technology Transfer

12486: Technical Assistance with Goods Movement and Zero-Emission Transportation Technologies

Contractor: ICF Resources LLC	SCAQMD Cost-Share	$ 50,000
Term: 09/24/13 – 09/23/15	Total Cost	$ 50,000

The Clean Fuels Program supports projects to research, develop, demonstrate, and deploy technologies to accelerate commercialization of clean, new technologies. Due to constant and rapid changes in technologies and the sheer breadth of the potential projects, staff occasionally requires input from experts and practitioners in the field to aid in selecting and establishing projects for funding through the Clean Fuels Program as well as the many incentive programs the SCAQMD administers. ICF International is a leading technology firm with over 40 years of experience and will provide technical assistance with goods movement technologies, alternative fuels, and zero-emission transportation technologies under this contract. ICF has worked as a prime contractor for local, state and federal agencies and has extensive expertise in the areas of fuels and transportation related issues.

13256: Program and Technical Assistance for Clean Vehicle Outreach and Senior Clean Air Fair

Contractor: Three Squares, Inc.	SCAQMD Cost-Share	$ 21,500
Term: 01/05/13 – 12/31/13	Total Cost:	$ 21,500

Three Square's Inc. (TSI) developed a customized content management system (CMS) for the Clean Air Choices vehicle comparison calculator. The CMS allows SCAQMD staff to update the vehicles by model year, emission factors and vehicle costs. Only the lowest emission vehicles are included in the database. TSI also prepared custom outreach materials to promote the vehicle calculator and staffed three outreach events where the program was highlighted.

13408: Demonstrate Building Integration of Electric Vehicles, Photovoltaics and Stationary Fuel Cells

Contractor: University of California, Irvine	SCAQMD Cost-Share	$ 150,000
	Cosponsor:	
	University of California, Irvine	120,000
Term: 09/30/13 – 09/29/15	Total Cost	$ 270,000

U.C. Irvine's Advanced Power and Energy Program will demonstrate building integration of plug-in electric vehicles, photovoltaics and stationary fuel cells with the electrical grid. The CEC through its AB 118 Program recently awarded U.C. Irvine $120,000 for installation of new Level 2 chargers at multiple locations on campus, and the SCAQMD was asked to partner on this project. Information from these new chargers can be included in this modeling effort, with two to three chargers to be installed near the Multipurpose Science and Technology Building integrated into the building controls. U.C. Irvine will integrate existing computer models for solar photovoltaic, high-temperature fuel cells, electric grid operation and PEV operations, with operational data collected from their existing 95 kW photovoltaic solar system, new and existing

on-campus EVSE and a recently co-funded molten carbonate fuel cell to explore the integration of PEV charging and distributed energy generation.

Transfer: Participate in California Natural Gas Vehicle Partnership

Contractor: Transfer from Clean Fuels	SCAQMD Cost-Share	$ 25,000
	Cosponsors:	
	CNGVP Participating Members	135,000
Term: 03/01/13 – 03/01/13	Total Cost	$ 160,000

The California Natural Gas Vehicle Partnership (CNGVP) was formed to accelerate the development of advanced natural gas vehicle technologies to provide a benchmark for lowering emissions from petroleum-based engines and to provide a pathway to future fuel cell use in the next two decades. The SCAQMD spearheaded the formation of this strategic alliance, which comprises state and federal air quality, transportation and energy agencies, vehicle and engine manufacturers, fuel providers, and transit and refuse hauler organizations. Partnership Steering Committee members contribute monies to fund specific projects intended to achieve the goal of the Partnership. In March 2013 the SCAQMD approved $25,000 for the SCAQMD's participation in the Steering Committee for the next two years.

Direct Pay: Participation for CY 2013 Membership in Transportation Research Board and Support of Minority Student Fellows Program

Contractor: Transportation Research Board	SCAQMD Cost-Share	$ 37,500
	Cosponsors:	
	SCAQMD's Legislative & Public Affairs Office	32,500
	Participating Members	3,930,000
Term: 01/01/13 – 12/31/13	Total Cost	$ 4,000,000

In 2013 the SCAQMD supported the Transportation Research Board (TRB) by participating as a member and sponsoring TRB's 2013 Minority Student Fellowship Program. The mission of the TRB is to promote innovation and progress in transportation through research. In an objective and interdisciplinary setting, TRB facilitates the sharing of information on transportation practice and policy by researchers and practitioners; stimulates research and offers research management services that promote technical excellence; provides expert advice on transportation policy and programs; and disseminates research results broadly and encourages their implementation. TRB's varied activities annually engage more than 7,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise in the public interest by participating on TRB committees, panels and task forces. TRB is one of six major divisions of the National Research Council (NRC) - a private, nonprofit institution that is jointly administered by the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine - and is the principal operating agency of the National Academies in providing services to the government, the public and the scientific and engineering communities. The TRB Executive Committee, whose members are appointed by the chairman of NRC, exercises oversight responsibility for the Board's

programs and activities. Members include senior transportation industry executives, top officials of public-sector transportation agencies, and distinguished researchers from academia. Sponsors and affiliates provide support for TRB core programs and activities. Sponsors are the major source of financial support for TRB's core technical activities. Federal, state, and local government agencies and professional societies and organizations that represent industry groups are eligible to be TRB sponsors. TRB's annual expenditures for program activities exceed $90 million.

Direct Pay: Cosponsor 15 Conferences, Workshops & Events plus 1 Membership

Contractor: Various	SCAQMD Cost-Share	$ 226,164
	Cosponsors:	
	Various	5,020,000
Term: 01/01/13 – 12/31/13	Total Cost	$ 5,246,164

The SCAQMD regularly participates in and hosts or cosponsors conferences, workshops and events. These funds provide support for the 15 conferences, workshops and events sponsored throughout 2013 as follows: The Women in Green Forum (Southern California & Washington DC); 2013 Asilomar Conference on Transportation & Energy Policy; Electric Drive Transportation Association Campaign and 2013 Conference; February 2013 Clean Fuel Advisory Group Participation Fees; 2013 Mobile Source Air Toxics Workshop; 2013 Real World Vehicle Emissions Workshop; PEMS Conference; 2013 ICEPAG; Act Expo 2013 Washington DC; 6th Symposium on Global Emerging Environmental Challenges and Government; Plug-In 2013; 2013 SoCal Energy Summit; 2013 Life Cycle Analysis of Transportation Fuels Workshop; 2013 Santa Monica AltCar Expo & Conference; and 2013 LA Auto Show Sponsorship. Membership for 2013 to support the Electric Drive Transportation Association is also included.

PROGRESS AND RESULTS IN 2013

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 co-funded 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) advancements in engine design, electric power trains, energy storage/conversion devices (e.g., fuel cells and batteries); and 2) implementation of clean fuels (e.g. natural gas, propane and hydrogen) including their infrastructures. Stationary source projects have included a wide array of advanced low NO_x technologies and clean energy alternatives, such as fuel cells, solar power and other renewable energy systems.

Table 6 (page 51) provides a list of 37 projects and contracts completed in 2013. 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.

In-Use Emissions Testing & Demonstration of Retrofit Technology for On-Road Heavy-Duty Engines

On-road heavy-duty engines are now subject to the 2010 U.S. EPA emissions standards of 0.01 g/bhp-hr PM and 0.20 g/bhp-hr NO_x. Some engine manufacturers are using emissions credits which allow them to produce a mixture of engines certified at, below, or above 0.20 g/bhp-hr NO_x. While recent limited-scale studies have shown reduced NO_x and PM emissions from trucks powered by 2010 compliant engines, other studies indicate a potential increase in some exhaust emissions. As such, additional studies are required to assess the impact of the technologies on emissions from engines used in a variety of applications, particularly since the number of these engines will continue to increase in the future.

In December 2010 and October 2011, the Board awarded contracts to WVU and CE-CERT to conduct in-use emissions testing of 24 MY 2007-2012 heavy-duty vehicles from different vocations and fueling technologies and, if needed, to evaluate emission reduction potential of retrofit technologies for ammonia emission from a heavy-duty natural gas engine. The study also involve the in-use characterization of NO_x and GHG emissions from a MY 2011 heavy-duty MACK diesel vehicle equipped with DPF and SCR during a long-haul operation across the country. The Mack truck was used to transport WVU transportable emissions measurement system across the country while continuously measuring emission through a 40 CFR Part 1065 compliant CVS system for over a 2,500-mile route between Morgantown, WV, and Riverside, CA.

Figure 11: Portable In-Use Emissions Mobile Unit

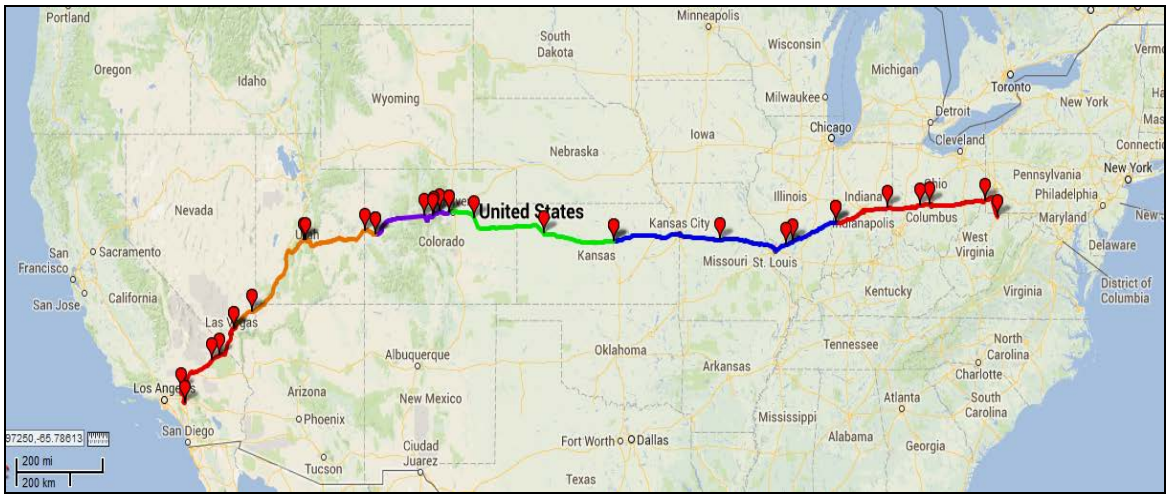


Figure 12: 2,500-Mile Route of In-Use Emissions Study

The test vehicle vocation included goods movement, refuse truck, transit bus and school bus applications. The test matrix involved five natural gas and four dual-fuel (natural gas and diesel) vehicles to be chassis dynamometer tested by WVU, eight diesel and two propane vehicles to be tested by CE-CERT and five diesel vehicles to be tested by both WVU and CE-CERT for inter laboratory comparison. The engine technologies and vocations of vehicles tested by WVU and CE-CERT are shown below.

Figure 13: Vehicle test matrix of engine technologies and vehicle vocations

Engine/Technology		Vehicle Vocation/Number of Vehicle			
		Transit	**School Bus**	**Refuse**	**Goods Movement**
I.	Natural gas engine with three-way catalyst	1[1]	-	1[1]	3[1]
II.	High pressure diesel injection (HPDI) engine with EGR and DPF at 0.8g NOx		-	-	3[1]
III.	HPDI engine with EGR, DPF, and SCR at 0.2g NOx				1[1]
IV.	Diesel engine certified at 1.2g NOx		-	1[2]	1[3]+2[2]
V.	Propane and diesel school bus	-	2[2]	-	-
VI.	Propane engine certified at or below 0.2g NOx			1[2]	
VII.	Diesel Engine certified above 0.2g NOx w/o SCR		-	1[3]+	1[3]+1[2]
VIII.	Diesel Engine certified at or below 0.2g NOx w/SCR		-	1[3]+1[2]	1[3]+2[2]

[1] WVU test vehicles; [2] CE-CERT test vehicles; [3] Round-robin test vehicles

The in-use emissions results showed that the three-way catalyst equipped stoichiometric natural gas vehicles emitted significantly lower distance-specific NO_x emissions than comparable SCR equipped diesel vehicles over all applications. The stoichiometric fuel-air-ratio strategy contributed to a sustained NO_x reduction activity by the three-way catalyst, unlike the SCR technology that is affected by vehicle operation that results in exhaust temperature lower than 250 degrees Celsius. For example, stoichiometric natural gas vehicles emitted 91% lower distance-specific NO_x emissions than a SCR equipped diesel vehicles over a near-dock driving cycle characterized by extended idle and creep operation. The SCR catalyst activity profile suggested

the after-treatment system to be active less than 40% of the time during all types of drayage operations. The dual-fuel natural gas vehicle exhibited a SCR catalyst activity profile similar to that of the diesel technology vehicles. However, the lower in-cylinder NO_x formation due to dual-fuel combustion resulted in an overall reduction in NO_x emissions compared to SCR equipped diesel vehicles. Similarly, the natural gas refuse vehicle emitted 20% lower NO_x emissions than a comparable SCR equipped diesel refuse vehicle. The PM emissions from both natural gas engines and diesel engines equipped with DPF were close to the detection limits of the gravimetric method.

The activity of the three-way catalyst contributes to the formation of ammonia, and as a result, the stoichiometric natural gas vehicles were characterized by ammonia emissions close to 1 g/mi over all driving cycles. N_2O emissions were observed only during the warm-up period of the three-way catalyst. No significant ammonia emissions were detected from SCR equipped diesel vehicles.

In conclusion, emissions comparison between stoichiometric natural gas vehicles and SCR equipped diesel vehicles show the three-way catalyst after-treatment system to be superior in NO_x reduction compared to SCR system. Since, the TWC is dependent on the control of air-fuel ratio close to stoichiometric rather than exhaust temperature characteristics, the activity of the TWC is extended even to idle and creep mode operation. Therefore, natural gas engines can be viewed as better alternatives to modern diesel technology in certain applications such as refuse trucks and port drayage trucks that are characterized by extended idle and creep. The fuel range limitation of stoichiometric natural gas vehicle may limit its operation to smaller geographical coverage. However, the dual-fuel HPDI vehicles with the lean-burn technology provided the same range advantage of a diesel vehicle with a relatively lower NO_x emissions profile.

The cross-country study showed that the NO_x conversion efficiency of the SCR after-treatment system to be on an average 83-88% during the course of the test campaign. Sustained temperatures of greater than 250 Deg C contributed to high SCR activity at highway driving conditions. One of the shortcomings of the cross-country study was the lack of high traffic densities in major sections of the route. Therefore the effect of extended idling and stop-and-go traffic on SCR activity was seldom noticed. A one hour duration of a “high NO_x” event observed in the state of Kansas contributed to close 92% of the total NO_x emitted during a 5 hour duration micro trip. The “high NO_x” event can be attributed to SCR regeneration strategies adopted by OEM to burn adsorbed hydrocarbons and or prevent urea crystallization.

Demonstrate Quick Charge Infrastructure for Electric Buses

Transit buses are ideal applications for advanced, alternative energy technologies that address criteria pollutant and green house gas emissions because they operate in highly visible, congested areas where air quality is a problem. Electric zero emission transit buses address these problems. Traditionally, the range and charging needs of batteries have been barriers to employ battery-powered buses in large-scale applications. Additionally, the weight of traditional buses has made it difficult to feasibly incorporate a battery with sufficient power and energy storage capacity into coach designs. By using a smaller battery that can be charged quickly and repeatedly, the bus weight and cost can be reduced. The keys to quick charge electric bus technology are the utilization of a quick-charge battery and quick-charge infrastructure. The battery must be able to retain its energy reserve and charging profile over many charge-discharge cycles and be quick-charged in ten minutes or less. The quick charge infrastructure must be able to deliver a large amount of energy in a short period of time, and operate safely without human intervention because of the high voltage and associated heavy cables.

Foothill Transit replaced three diesel buses with Ecoliner electric buses with quick-charge capability and quick-charge infrastructure on an existing route from the City of La Verne to the City of Pomona. The 35- foot Ecoliner bus carries 37 passengers and is powered by a 75 kW hr battery. Funding from SCAQMD supported the charging technology, charging station and supplemental charging components associated with the Ecoliner buses. The charging system connects to the bus from overhead. The charging station includes the architectural and engineering design, the installation and construction of the charging station for the three buses. The benefits of this proprietary technology are a safe automated charging system that will perform without human intervention.

Figure 14: Foothill Transit's Electric Bus Charging in Pomona

All three Ecoliner buses are running in daily revenue service on line 291 from La Verne to Pomona. The three buses have accumulated nearly 175,000 in-service miles and Proterra data collection indicates overall energy efficiency is as good as or better than initially expected. Foothill Transit became the first transit agency in the U.S. to use on-route charge electric buses, and they plan to purchase an additional 12 buses from Proterra to completely electrify the 291 route between La Verne and Pomona and use 3 of the 12 in other routes within their territory.

Demonstrate Advanced Fuel Cell Bus

Fuel cell buses have been successfully demonstrated in recent years in California, across the United States and Canada. The SCAQMD has long sponsored the development and deployment of fuel cell bus technologies because these heavy-duty vehicles have zero-tailpipe emissions, help establish hydrogen refueling infrastructure, and operate in congested urban areas providing the greatest outreach potential through ridership. The next step in the development of this clean air technology is commercialization. The intent of American Fuel Cell Bus (AFCB) project was the development of a newly designed fuel cell bus with a North American chassis, as well as domestically sourced fuel cell and drive components.

The AFBC achieved an 83% average availability starting from the clean point established at the beginning of March, 2012 through the end of December, 2012. Following the clean point, bus availability in six out of the ten months was above the target of 85%. During the demonstration phase the American Fuel Cell Bus experienced occasional anomalies which included several component failures. In each case the issues were promptly addressed by the IPT. In general the issues that were encountered were fairly “low-tech” in nature.

Figure 15: American Fuel Cell Bus In Service SunLine Transit

The project brought together a newly formed team of world class companies to apply their products and expertise to develop a first of its kind 40’ heavy duty, zero emissions, fuel cell bus. The American Fuel Cell bus project favorably addressed many of the challenges currently facing the introduction of fuel cell technology

and met the goals for the project that were established at the onset. The project advanced the pathway to commercialization and addressed challenges of cost competitiveness, reliability, durability, integration and manufacturing. With SunLine Transit at both the project leadership and the operational ends of the project, the team forged a blueprint on how to deliver and operate reliable, American built, zero emission technology in the transit world. The project independently verified the frequent claim that Hydrogen powered, fuel cell technology is indeed "proving out". The relatively "low tech" nature of the issues encountered during demonstration period suggest that the major technological hurdles of fuel cell powered transit have been substantially addressed. Additionally key enabling technologies including fully electrified accessories and reliable fueling infrastructure have also been advanced. The average availability of the bus exceeded the availability of the CNG reference fleet and availability is expected to improve as the integration is refined. This suggests that the technology has matured and will continue to mature to a level that supports larger scale deployments. The performance, reliability, maintenance and operating cost of the American Fuel Cell Bus is stable and approaching an affordability point that enables transit properties to consider applying for funds to deploy fuel cell buses or to support a larger centralized deployment.

Natural Gas Infrastructure & Deployment

The AQMP identifies the use of alternative clean fuels in mobile sources as a key attainment strategy, and the importance of natural gas refueling infrastructure cannot be overemphasized if the region is to realize large-scale deployment of alternative fuel technologies. Natural gas vehicles have lower emissions than gasoline and significantly lower than their diesel counterparts and represent the cleanest internal combustion engine powered vehicles available in today's market. Consequently, amongst the mixed portfolio of technical priorities within the Clean Fuels Program is the continued emphasis on the installation, maintenance and expansion of natural gas infrastructure throughout the Basin including the Ports. In 2013 three significant natural gas infrastructure contracts, which are representative of the natural gas refueling infrastructure the Clean Fuels Program encourages and supports, were completed and closed as follows:

1) In 2008 the City of San Bernardino built a nearly $2 million LNG-L/CNG station including a 15,000 gallon LNG bulk storage tank at its City municipal service yard. The station has now been operating successfully for five years, fueling their 75 vehicle, and ever growing, natural gas fleet with throughput in 2013 of more than 85,000 gallons of natural gas.

Figure 16: City of San Bernardino's East Valley Regional Fueling Facility

2) Also in 2008 the Los Angeles Unified School District built a $1.3 million time- and fast-fill CNG station at its Sun Valley Bus Garage. The station has now been operating successfully for five years, fueling their 100 plus CNG school bus fleet with throughput in 2012 of nearly one-half million DGE of natural gas.

3) In 2012 Border Valley Trading and its development partner Hey Day Farms, which are exporters of agri-products, built a $2.5 million LNG fueling station including a 6,000 gallon fueling unit in Palm Springs. The station has been operating successfully, fueling their 40 heavy-duty LNG trucks with throughput for the first quarter exceeding 37,000 GGEs. In the near future they plan to expand storage and fueling capabilities at this station.

Recognizing the importance of natural gas infrastructure, the SCAQMD actively pursues outside funding to supplement its own Clean Fuels Program dollars in this core technology. Table 5 is a comprehensive summary of federal and state revenue awarded to the SCAQMD from 2009 to 2012 and includes several natural gas infrastructure projects this agency is administering to fill critical gaps in natural gas infrastructure. One representative example is the DOE Clean Cities award the SCAQMD received to expand the LNG corridor from Ontario to Las Vegas, which included not only the installation of a publicly accessible LNG fueling station in Las Vegas but also the purchase of 48 heavy-duty LNG tractors for operation by UPS. The Clean Fuels Program Plan Update for 2014 continues to emphasize natural gas infrastructure and deployment projects, allocating 8% of the $16.4 million of potential projects.

Table 6: Projects Completed between January 1 & December 31, 2013

Contract	Contractor	Project Title	Date
Infrastructure and Deployment			
07149	City of San Bernardino	Purchase & Install New Public Access LNG-L/CNG Fueling Station at City Municipal Service Yard	Dec-13
08271	Los Angeles Unified School District	Purchase & Install New CNG Fueling Station at Sun Valley Bus Garage	Dec-13
11559	Ace Parking Management	Purchase & Deploy Six CNG Cutaway Shuttle Vans	Jul-13
12273	Border Valley Trading	Construct New LNG Fueling Station in Palm Springs	Jul-13
12386	Agility Fuel Systems	Demonstrate Natural Gas-Powered Police Vehicle	Jun-13
Fuels/Emission Studies			
08320	University of Denver	Remote Sensing Measurements of On-Road Emissions from Heavy-Duty Diesel Vehicles	Dec-13
08321	Environmental Systems Products	Remote Sensing Measurements of On-Road Emissions from Heavy-Duty Diesel Vehicles	Dec-13
11611	West Virginia University Research Corporation	In-Use Emissions Testing & Demonstrate Retrofit Technology for On-Road Heavy-Duty Engines	Oct-13
11612	University of California, Riverside/CE-CERT	In-Use Emissions Testing & Demonstrate Retrofit Technology for On-Road Heavy-Duty Engines	Aug-13
12154	University of California, Riverside	Identify Cellulosic Biomass Feedstocks	Oct-13
13451	Energy Solutions	Passenger Vehicle Tire Replacement Efficiency Study	Dec-13
Emission Control Technologies			
08246	Griffith Construction Company	Showcase: Demonstrate NO_x and PM Emission Control Technology on Diesel-Powered Construction Equipment	Dec-13
10069	Johnson Matthey, Inc.	Develop & Demonstrate Selective Catalytic Regeneration Technology for NO_x and PM Emissions Control on Heavy-Duty Trucks	Oct-13
12485	California State University Long Beach Foundation	CSULB CEERS Student Education Study to Assess the Effects of a Humid Air System with an Exhaust Scrubber on Diesel Emissions	Mar-13
Electric/Hybrid Technologies & Infrastructure			
99109†	Toyota Motor Credit Corporation	Lease Two Toyota RAV4 Electric Vehicles	Feb-13
09345	South Bay Cities Council of Governments	Demonstrate Medium-Speed Neighborhood Electric Vehicles	Apr-13

Table 6: Projects Completed between January 1 & December 31, 2013(cont'd)

Contract	Contractor	Project Title	Date
Electric/Hybrid Technologies & Infrastructure (cont'd)			
10738	Foothill Transit	Demonstrate Quick Charge Infrastructure for Electric Buses	Jun-13
12024	ECOtality North America	Upgrade & Install Electric Charging Infrastructure	May-13
Mobile Fuel Cell Technologies			
10501†	American Honda Motor Company	Lease a Clarity Fuel Vehicle for Three Years	Jul-13
10650	SunLine Transit Agency	Demonstrate Advanced Fuel Cell Bus (American Fuel Cell Bus)	Jun-13
10714	University of California, Irvine	Develop Fuel Cell Gas-Turbine Hybrid System for On-Board Locomotive Applications	Dec-13
13113	Bevilacqua-Knight, Inc.	Participate in California Fuel Cell Partnership for Calendar Year 2012 & Provide Support for Regional Coordinator	Jan-13
14054	Bevilacqua-Knight, Inc.	Participate in California Fuel Cell Partnership for Calendar Year 2013 & Provide Support for Regional Coordinator	Dec-13
Health Impacts Studies			
09307†	California Air Resources Board	In-Vehicle Air Pollution Exposure Measurement and Modeling	Jun-13
Outreach and Technology Transfer			
02308†	Sperry Capital, Inc.	Evaluate Financial Stability of Potential Contractors	Dec-13
04049†	Engine, Fuel and Emissions Engineering, Inc.	Technical Assistance for Alternative Fuels Engine Technology	Apr-13
05126†	St. Croix Research	Technical Assistance for Development, Outreach & Commercialization of LNG, CNG and Hydrogen Fuels	Mar-13
07314†	Engine, Fuel and Emissions Engineering, Inc.	Technical Assistance with Advanced Heavy-Duty and Off-Road Technologies	Dec-13
09255†	Stan Lisiewicz	Technical Assistance with Caltrans	Dec-13
10056†	San Diego Miramar College (Advanced Transportation Technology & Energy, San Diego Community College District)	Enhanced Training Technology Program	Dec-13
10662†	Gladstein, Neandross & Associates	Technical Assistance for Implementation of Proposition 1B Goods Movement and Truck Replacement Program	Dec-13
10700†	TIAX LLC	Technical Assistance for Advanced, Low- and Zero-Emissions Mobile and Stationary Source Technologies	May-13

Table 6: Projects Completed between January 1 & December 31, 2013 (cont'd)

Contract	Contractor	Project Title	Date
Outreach and Technology Transfer (cont'd)			
12313†	CSA America Inc.	CNG Fuel System Inspection Certification Courses	May-13
13256	Three Squares Inc.	Develop, Initiate and Implement Clean Vehicle Outreach Project	Dec-13
13268†	California Hydrogen Business Council	Platinum Membership Renewal for 2012	Jun-13
13414†	Three Squares Inc.	Cosponsor The Women in Green Forum in Southern California & Washington, D.C.	Nov-13
13415†	University of California, Davis, Office of Research	Cosponsor the Asilomar 2013 Conference on Transportation & Energy Policy	Dec-13

†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
2014 PLAN UPDATE

The Clean Fuels Program, which was first created in 1988, along with establishment of the SCAQMD's Technology Advancement Office (TAO), continually seeks to support the development and deployment of zero and near-zero emission technologies over a broad array of applications and spanning near- and long-term implementation. Planning has been and remains an ongoing activity for the program, which must remain flexible to address evolving technologies and the latest progress in the state-of-the-technology as well as new research and data. Every year the SCAQMD re-evaluates its Clean Fuels Program and crafts a Plan Update to essentially re-calibrate its compass for the upcoming CY. This comprehensive document is the Plan Update for 2014.

Technology Funding Priorities for 2014

The past few years have been especially difficult for technology partnering due to the dramatic global economic downturn, which shifted national research and development priorities and opportunities. On the other hand, the SCAQMD was able to take advantage of the opportunities presented by the American Recovery and Reinvestment Act (ARRA), securing nearly $111 million in ARRA funds and other federal and state funding opportunities from 2009 to 2012. The SCAQMD continued this trend in 2013 by securing additional federal and state funding totaling $15.8 million. Some of the projects implemented with these funds will be administered as part of the Clean Fuels Program, while others, which align well with and are complementary to the Clean Fuels Program, will be implemented under other SCAQMD programs. Nonetheless, the challenge for the SCAQMD continues to be how to identify project or technology opportunities in which its available funding can encourage and accelerate the commercialization and deployment of progressively cleaner technologies in the Basin.

To overcome these challenges, the SCAQMD continued to expand its outreach and networking activities. These efforts not only include continued participation on numerous and varied collaborative and working groups, reaching out to technology developers as well as other funding agencies, and releasing Program Opportunity Notices to essentially throw out a wide net to solicit project ideas and concepts, but over the last few years the SCAQMD has also hosted a variety of technology forums, such as the one in November 2013 on near-road mitigation measures and technologies, and released Requests for Information to determine the state of various technologies. As a result, the SCAQMD's Technology Advancement Office has developed this comprehensive plan for accelerating the development, demonstration and deployment of cleaner technologies.

The overall strategy of the SCAQMD's Clean Fuels Program is based in large part on technology needs identified through the AQMP process and the SCAQMD Board's directives to protect the health of residents of Southern California, which encompasses approximately 16.8 million people (nearly half the population of California). The AQMP is the long-term "blueprint" that defines the basin-wide emission reductions needed to achieve ambient air quality standards by 2014, 2023 and 2032, the regulatory measures to achieve those reductions, the timeframes to implement these proposed measures and the technologies or types of technologies required to meet these future federal standards.

The 2012 AQMP identifies the need for 200 tons/day NO_x reductions to be adopted by 2020 for full implementation by 2023 and in large part focuses control measures on transportation

technologies and cleaner fuels. Moreover, the SCAQMD is currently only one of two regions in the nation recognized as an extreme ozone nonattainment area (the other is San Joaquin Valley). This is especially noteworthy because the largest contributor to ozone is NO_x emissions, and mobile sources (on- and off-road as well as aircraft and ships) contribute to more than three-fourths of NO_x emissions in this region. These emission reduction needs are further identified in a joint SCAQMD, California Air Resources Board (CARB) and San Joaquin Valley Air Pollution Control District effort, "Vision for Clean Air: A Framework for Air Quality and Climate Change Planning."[2] The overwhelming hurdles to reduce ozone and NO_x will require the Clean Fuels Program to encourage and accelerate advancement of transformative technologies and commercialization of progressively lower-emitting vehicles and fuels. The Program must also remain flexible to address the needs which will be identified in the current planning process for the 2016 AQMP which will focus on addressing ozone standards. Furthermore, volatile organic compounds (VOCs) and fine particulate matter ($PM_{2.5}$) produced from mobile sources must also be addressed. The NO_x and VOC emission sources of greatest concern to this region are heavy-duty on-road and off-road vehicles as well as to a lesser extent light- and medium-duty on-road vehicles. And while it is anticipated that the 2014 standard for $PM_{2.5}$ will be attained for this region, it is contingent upon compliance and implementation of existing and proposed rules and regulations.

In addition to providing for specific control measures based on known technologies and control methods, the Clean Air Act has provisions for more general measures based on future, yet-to-be-developed technologies. These "black box" measures are provided under Section 182(e)(5) of the Clean Air Act for regions that are extreme non-attainment areas, such as the South Coast Basin. The technologies that are developed and demonstrated in the Clean Fuels Program can serve as control measures for the "black box."

In recent years, it has become increasingly clear that the effect of containers through the Ports of Los Angeles and Long Beach and the subsequent movement of goods throughout the region not only have a dramatic impact on air quality but also the quality of life to the communities along the major goods movement corridors. In recognition of these impacts, the SCAQMD has initiated a concerted effort in the last few years to actively pursue development of zero and near-zero emissions goods movement technologies, such as electric trucks, plug-in hybrid trucks with all-electric range, trucks operating from wayside power including overhead catenary technology and near-zero heavy-duty technologies. The prioritization of these types of projects as well as potential technologies which assist with their further development and deployment remain a strong emphasis of the 2014 Plan Update.

This 2014 Plan Update includes projects to develop, demonstrate and commercialize a variety of technologies, from near-term to long-term, that are intended to provide solutions to the emission control measures identified in the 2012 AQMP and to address the increasing challenges this region is facing to meet air quality standards, including new and changing federal requirements such as a the new 2032 ozone standard in addition to the current 2023 standard, implementation of new technology measures, and the continued development of economically sound compliance approaches. The scope of projects in the 2014 Plan Update also needs to remain sufficiently flexible to address new challenges and proposed methodologies that are identified in the 2012 AQMP as well as the upcoming 2016 AQMP. The results of the fourth Multiple Air Toxics Exposure Study (MATES IV), which should be available mid-2014, may also affect future funding direction. This follow-up study is intended to update emissions inventory of toxic air contaminants and conduct a regional modeling effort to characterize risk across the Basin, including measuring ultrafine particle and black carbon concentrations. Finally, given the

[2] http://www.arb.ca.gov/planning/vision/docs/vision_for_clean_air_public_review_draft.pdf

increasing call for action by the federal government to reduce carbon and greenhouse gases (e.g., President Obama's Climate Action Plan released in June 2013), the co-benefits of technologies should also be considered.

Within each technical area, there exists a range of projects that represent near-term to long-term efforts. The SCAQMD Clean Fuels Program tends to support development, demonstration and technology commercialization efforts, or deployment, rather than fundamental research. The general time-to-product for these efforts, from long-term to near-term, is described below.

- Technology *development* projects are expected to begin during 2014 with durations of about two years. Additional field demonstrations to gain long-term verification of performance, spanning up to two years, may also be needed prior to commercialization. Certification and ultimate commercialization would be expected to follow. Thus, development projects identified in this plan are expected to result in technologies ready for commercial introduction as soon as 2017. 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 2019 or later.
- More mature technologies, those ready to begin field *demonstration* in 2014, are expected to result in a commercial product in the 2015-2016 timeframe. 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.
- *Deployment* or technology commercialization efforts focus on increasing the utilization of clean technologies in conventional applications. It is often difficult to transition users to a non-traditional technology or fuel, even if such a technology or fuel offers significant societal benefits. As a result, one of government's roles is to support and offset any incremental cost 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.

Technical Priorities (Core Technologies)

The SCAQMD program maintains flexibility to address dynamically evolving technologies incorporating the latest progress. Over the years, the SCAQMD has provided funding for projects for a wide variety of low and zero emission projects. In order to meet the upcoming 2014 $PM_{2.5}$ and 2023 8-hour ozone standards, the areas of zero and near-zero emission technologies need to be emphasized and this effort can be seen in the following sections and in the proposed funding distribution in Figure 17. The major technical program areas are identified below with specific project categories discussed in more detail in the following sections. The technology areas identified reflect the staff's forecast for upcoming projects and needs within the basin but is not intended to be considered a budget.

Not all project categories will be funded, due to cost-share constraints, focus on the control measures identified in the 2012 AQMP and the availability of suitable projects. The technical areas identified below are clearly 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 also made to form private partnerships to further leverage funds. In fact, the SCAQMD historically has leveraged its funds $1 for every $3-$4 of total project costs.

It should be noted, however, that these priorities may shift during the year in keeping with the diverse and flexible "technology portfolio" approach. Changes in priority may occur to (1) capture opportunities such as cost-sharing by the state government, the federal government, or other entities, or (2) address specific technology issues which affect residents within the SCAQMD's jurisdiction. The following technical areas are listed by current SCAQMD priorities based on the goals for 2014.

Electric/Hybrid Technologies & Infrastructure

If the region hopes to meet the federal standards for $PM_{2.5}$ and ozone, a primary focus must be on zero and near-zero emission technologies. A leading strategy to achieve these goals is the wide-scale implementation of electric drive systems for all applicable technologies. With that in mind, the SCAQMD seeks to support projects to address the main concerns regarding cost, battery lifetime, travel range, charging station infrastructure and manufacturer commitment. Integrated transportation systems can encourage further reduction of emissions by matching the features of electric vehicles (zero emissions, zero start-up emissions, limited range) to typical consumer demands for mobility by linking them to transit.

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 Association (LACMTA), to identify technologies which 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), 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.

There is a high level of interest from major automobile manufacturers for hybrid-electric technologies in light-, medium- and heavy-duty applications as well as off-road equipment. In particular, there are increasing numbers of diesel- and gasoline-fueled hybrid-electric vehicles and multiple models of light-duty plug-in hybrid and battery electric vehicles (BEVs). Such vehicles offer the benefits of higher fuel economy and range as well as lower emissions. Hybrid electric technology is not limited to gasoline and diesel engines and can be coupled with natural gas engines, microturbines and fuel cells for further emission benefits. Additionally, continued advancements in the light-duty arena, which while there are commercially available product is not yet mainstream technology, 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:

- development and demonstration of hybrid and electric technologies for goods movement, e.g., series hybrids with all electric range and trolley trucks on catenary wayside power;
- evaluation and demonstration of light-, medium- and heavy-duty plug-in hybrid electric vehicles;
- development and demonstration of CNG hybrid vehicle;
- demonstration of full performance and niche application battery electric vehicles;

- 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;
- demonstration of heavy-duty battery electric vehicles;
- demonstration of heavy-duty hybrid vehicles including hydraulic and series hybrid concepts;
- development of streamlined implementation procedures to prepare and accelerate EV market penetration and commercialization; and
- 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).

Engine Systems

Natural gas engines are experiencing huge 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 much lower, i.e., 90% than the 2010 standards. Future projects will support the development, demonstration and certification of engines that can achieve these massive emissions reductions using an optimized systems approach. Specifically, these projects are expected to target the following:

- development of ultra-low emissions natural gas engines for heavy-duty vehicles;
- continued development and demonstration of alternative fuel medium-duty and heavy-duty engines and vehicles;
- development and demonstration of clean alternative fuel engines for off-road applications;
- evaluation of alternative engine systems such as compressed air propulsion and hydraulic plug-in hybrid vehicles; and
- development and demonstration of engine systems that employ advance fuel or alternative fuels, engine design features, improved exhaust or recirculation systems, and aftertreatment devices.

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 fuel cell vehicles (FCVs) by supporting the required refueling infrastructure.

SCAQMD works closely with the California Fuel Cell Partnership (CaFCP) to further the commercialization of fuel cells for transportation and install the required hydrogen refueling infrastructure. In mid-2012 the CaFCP published a roadmap describing the first network of commercial hydrogen stations in California, calling for 68 hydrogen fueling stations in cluster communities at specific destinations by 2016. Calendar Years 2015-2017 are a critical timeframe for the introduction of FCVs. Since stations need one to two years lead time for permitting and construction, plans for stations need to be initiated now. Coordination with the Division of Measurement Standards also needs to occur to establish standardized measurements for hydrogen refueling. In addition, new business models and funding besides grants for construction need to be explored to enable the station operations to remain solvent during the early years until vehicle numbers ramp up.

The California Energy Commission (CEC) based its recent AB 118 hydrogen funding strategy on CaFCP's roadmap as well as the University of California, Irvine's Advanced Power and Energy

Program. In late 2012 the CEC issued a $28.6 million Program Opportunity Notice for hydrogen fuel infrastructure, and in mid-2013 SCAQMD was awarded a $6.7 million award to implement the upgrade and refurbishment of existing hydrogen fueling stations to ensure legacy stations continue operation as FCVs become available in the market. Additionally, in September 2013 the Governor signed Assembly Bill 8 providing significant funding for hydrogen stations, which will greatly assist in making further inroads toward expanding the hydrogen infrastructure network in California. The SCAQMD will work closely with state agencies to implement these programs and continue efforts to upgrade and refurbish existing hydrogen infrastructure.

The 2014 Plan Update identifies key opportunities while clearly leading the way for pre-commercial demonstrations of original equipment manufacturer (OEM) vehicles. Future projects may include the following:

- development and demonstration of hydrogen-natural gas vehicles for medium- and heavy-duty applications as well as stationary power applications;
- continued development and demonstration of distributed hydrogen production and refueling stations, including energy stations with electricity and hydrogen co-production and higher pressure (10,000 psi) hydrogen dispensing;
- 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; and
- develop and implement 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.

Infrastructure and Deployment (NG)

The importance of 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 years ago as well as standardize fueling station design, especially to ensure growth of alternative fuels throughout the South Coast Air Basin and beyond. 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.

Active participation in the development of NFPA fire and safety codes and standards, 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 overcome public resistance to these new technologies. Some of the projects expected to be developed and co-funded 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;
- Deployment of natural gas home refueling appliances for light-duty vehicles;
- Enhancement of safety and emissions reduction from LNG refueling equipment;
- Expansion of fuel infrastructure, fueling stations, and equipment; and
- Expansion of infrastructure connected with existing fleets, public transit, and transportation corridors.

Emission Control Technologies

Although engine technology and engine systems research is required to reduce the emissions at the combustion source, 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 aftertreatment controls such as particulate matter (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 advanced aftertreatment technologies for mobile applications (including diesel particulate traps and selective catalytic reduction catalysts);
- development and demonstration of low-VOC and PM lubricants for diesel and natural gas engines; and

Emissions, Fuels and Health Impacts 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). Recent 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, can contribute to higher NO_x 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, the SCAQMD has recently 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 will continue in 2014 to further investigate the toxicological potential of emissions, such as ultrafines and vapor phase substances, and to determine whether other substances such as volatile or semi-volatile organic compounds are being emitted in lower mass emissions that could pose harmful health effects.

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. One such fuel staff is interested in pursuing is dimethyl ether (DME). This synthetic fuel can be made from renewable natural gas resources and has characteristics similar to gas-to-liquids fuels, i.e., high cetane, zero aromatics and negligible particulate matter. Volvo has announced they will commercialize class 8 trucks using DME in 2015, and staff would like to ensure these trucks have lower NO_x than the existing standard.

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 ultrafines and ambient particulate matter including their composition to characterize their toxicity and determine specific combustion sources;
- in-use emissions studies using biofuels including DME to evaluate in-use emission composition;
- in-use emissions 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; and
- lifecycle energy and emissions analyses to evaluate conventional and alternative fuels.

Stationary Clean Fuel Technologies

Although stationary source emissions are small compared to mobile sources in the South Coast Air Basin, there are areas where cleaner fuel technology can be applied to reduce NO_x, VOC and PM emissions. For example, inspections suggest there is a large population of small ICE generators within the Basin that are operating outside their permit limits due to poor maintenance, deliberate tuning for different performance, operation outside equipment design or changes in fuel quality. Cleaner, more robust distributed generation technologies exist that could be applied to not only improve air quality, but enhance power quality and reduce electricity distribution congestion.

The use of renewable feedstocks for energy production is a viable and necessary strategy to provide sustainable power for future needs while reducing greenhouse gas emissions and achieving domestic energy diversity. One of the projects that the SCAQMD recently supported in this effort was a bench scale demonstration project using a steam hydrogasification process to produce natural gas from biomass and biosolid (sewage sludge) feedstocks. Steam Hydrogasification Reaction (SHR) has been developed to produce various forms of energy products from carbonaceous resources. SHR is capable of handling wet feedstocks like sludge, does not require expensive oxygen plants and has been demonstrated to be most efficient and cost-effective compared to other conventional gasification technologies. This project successfully demonstrated that the SHR process coupled with a water-gas shift (WGS) reactor can produce natural gas containing up to 90% methane.

Projects conducted under this category may include:

- development and demonstration of reliable, low emission stationary technologies (e.g., low NO_x burners, fuel cells or microturbines);
- exploration of renewables as a source for cleaner stationary technologies; and
- evaluation, development and demonstration of advanced control technologies for stationary sources.

Target Allocations to Core Technology Areas

Figure 17 below presents the potential allocation of available funding, based on SCAQMD projected program costs of nearly $16.4 million for all potential projects. The expected actual project expenditures for 2014 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 2014 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.

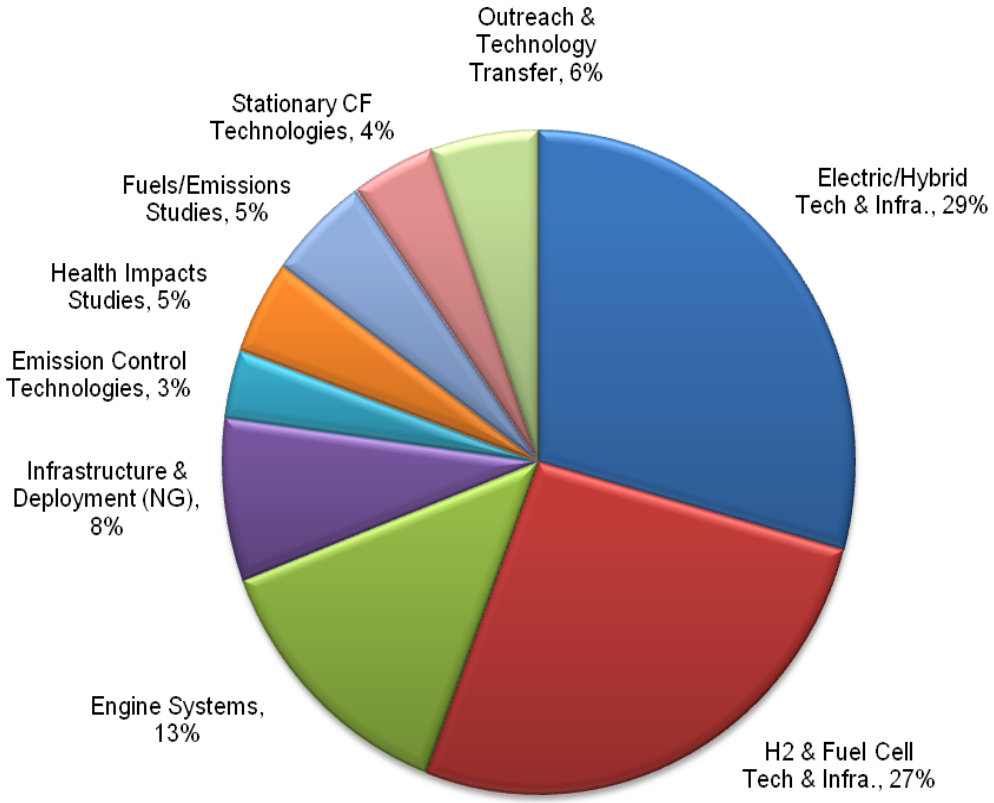


Figure 17: Projected Cost Distribution for Potential SCAQMD Projects 2014 & Beyond ($16.4M)

PROGRAM PLAN UPDATE FOR 2014

This section presents the Clean Fuels Program Plan Update for 2014. The proposed projects are organized by program areas and described in further detail, consistent with the SCAQMD budget, priorities and the best available information. 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 7 summarizes potential projects for 2014 as well as the redistribution of SCAQMD costs in some areas as compared to 2013. The funding allocation continues the focus toward development and demonstration of zero and near-zero emission technologies including the infrastructure for such technologies. However, while the SCAQMD had over the last couple of years emphasized electric and hybrid-electric technologies, the intent is to allow the projects in this core technology area to achieve some progress while the Program is slightly re-calibrated to focus on the current federal and state activity in hydrogen and fuel cells and the anticipated roll out of fuel cell vehicles in the next couple of years. Additionally, a significant heavy-duty engine project was recently funded so some emphasis has been adjusted in light of that project currently getting underway as well as awards over the last couple of years in other technology areas, both those made by SCAQMD as well as state and federal awards. The funding allocations continue to align well with the SCAQMD's FY 2013-14 Goals and Priority Objectives. Overall, the Program is designed ensure a broad portfolio of technologies and leverage state and federal efforts.

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, identification of contractors to perform the projects, host site participation, securing sufficient cost-sharing 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 7.

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 7: Summary of Potential Projects for 2014

Proposed Project	Expected SCAQMD Cost $	Expected Total Cost $
Electric/Hybrid Technologies & Infrastructure		
Demonstrate Light-Duty Plug-In Hybrid & Battery Electric Vehicles and Infrastructure	500,000	1,000,000
Develop and Demonstrate Medium- and Heavy-Duty Hybrid Vehicles and Infrastructure	1,000,000	3,000,000
Demonstrate Alternative Energy Storage	300,000	2,000,000
Develop and Demonstrate Electric Container Transport Technologies	3,000,000	5,000,000
Subtotal	$4,800,000	$11,000,000
Engine Systems		
Develop and Demonstrate Advanced Alternative Fuel Medium- and Heavy-Duty Engines and Vehicles	2,000,000	20,000,000
Develop and Demonstrate Alternative Fuel and Clean Conventional Fueled Light-Duty Vehicles	200,000	1,500,000
Subtotal	$2,200,000	$21,500,000
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 Distributed Hydrogen Production and Fueling Stations	2,000,000	6,000,000
Develop and Demonstrate Fuel Cell Vehicles	2,000,000	6,000,000
Subtotal	$4,350,000	$16,000,000
Infrastructure and Deployment (NG)		
Deploy Natural Gas Vehicles in Various Applications	500,000	2,000,000
Develop, Maintain & Expand Natural Gas Infrastructure	300,000	2,000,000
Demonstrate Natural Gas Manufacturing and Distribution Technologies Including Renewables	500,000	7,000,000
Subtotal	$1,300,000	$11,000,000
Emission Control Technologies		
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
Fuels/Emission Studies		
In-Use Emissions Studies for Advanced Technology Vehicle Demonstrations	500,000	1,000,000
Conduct Emissions Studies on Biofuels and Alternative Fuels	100,000	1,300,000

Table 7: Summary of Potential Projects for 2014 (cont'd)

Proposed Project	Expected SCAQMD Cost $	Expected Total Cost $
Fuels/Emission Studies (cont'd)		
Identify and Demonstrate In-Use Fleet Emissions Reduction Technologies & Opportunities	250,000	2,000,000
Subtotal	$850,000	$4,300,000
Health Impacts Studies		
Evaluate Ultrafine Particle Health Effects	250,000	3,000,000
Conduct Monitoring to Assess Environmental Impacts	250,000	1,000,000
Assess Sources and Health Impacts of Particulate Matter	250,000	300,000
Subtotal	$750,000	$4,300,000
Stationary Clean Fuel Technologies		
Develop and Demonstrate Reliable, Low Emission Monitoring Systems and Test Methods	250,000	500,000
Develop and Demonstrate Clean Stationary Technologies	250,000	750,000
Develop and Demonstrate Renewables-Based Energy Generation Alternatives	200,000	1,000,000
Subtotal	$700,000	$2,250,000
Outreach and Technology Transfer		
Assessment and Technical Support of Advanced Technologies and Information Dissemination	500,000	800,000
Support for Implementation of Various Clean Fuels Vehicle Incentive Programs	400,000	400,000
Subtotal	$900,000	$1,200,000
TOTALS FOR POTENTIAL PROJECTS	**$16,400,000**	**$77,550,000**

Technical Summaries of Potential Projects

Electric/Hybrid Technologies & Infrastructure

Proposed Project: Demonstrate Light-Duty Plug-In Hybrid & Battery Electric Vehicles and Infrastructure

Expected SCAQMD Cost: $500,000

Expected Total Cost: $1,000,000

Description of Technology and Application:

All of the major automobile manufacturers are currently developing and commercializing hybrid-electric vehicles, which now come in a variety of fuel economy and performance options. These commercial hybrid EVs integrate a smaller internal combustion engine, battery pack and electric drive motors to improve fuel economy (e.g., Chevy Volt) or performance (e.g., Lexus RX400h).

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 and several automobile manufacturers have announced demonstration or early production plans of "blended" plug-in hybrid electric, extended-range electric vehicles (E-rEV), or highway capable 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. The recent adoption of revised recommended practice SAE J1772 will enable vehicles to charge from 120V (Level 1) or 240V (Level 2) using a common conductive connector overnight or in a few hours. Japan has adopted a Fast DC charging standard that could charge a passenger car in 30 minutes or less, and demonstrations will help provide data to adopt a recommended practice in the U.S.

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.

At recent auto shows, automakers have displayed concept plug-in fuel cell vehicles. Development 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.

This project category is to develop and demonstrate: 1) various PEV architectures; 2) anticipated costs for such architectures; 3) customer interest and preferences for each alternative; 4) prospective commercialization issues and strategies for various alternatives; 5) integration of the technologies into prototype vehicles and fleets; 6) infrastructure (especially in conjunction with the DOE and the Los Angeles Department of Water & Power) to demonstrate the potential clean air benefits of these types of vehicles; and 7) support for local government outreach and charging installation permit streamlining.

Potential Air Quality Benefits:

The 2012 AQMP identifies zero- or near-zero emitting vehicles as a key attainment strategy. HEV technologies have the potential to achieve near-zero emissions but with the range of a conventional gasoline-fueled vehicle, a factor expected to enhance consumer acceptance. Given the variety of PEV systems under development, it is critical to determine the true emissions and performance of PEVs. Demonstration of optimized prototypes would enhance the deployment of near-ZEV and ZEV technologies.

Expected benefits include the establishment of criteria for emissions evaluations, performance requirements, customer acceptability of the technology, etc. This will help both regulatory agencies and OEMs to expedite introduction of near-zero and zero-emitting vehicles in the South Coast Basin, which is a high priority of the AQMP.

Proposed Project: Develop and Demonstrate Medium- and Heavy-Duty Hybrid Vehicles and Infrastructure

Expected SCAQMD Cost: $1,000,000

Expected Total Cost: $3,000,000

Description of Technology and Application:

Hybrid technologies have gained momentum in the light-duty sector with commercial offerings by most all 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. This project category is to investigate 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, 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 retrofittable technologies and related charging infrastructure will be considered.

Federal recovery act funding combined with state and local support has 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.

Potential Air Quality Benefits:

The 2012 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 evaluate various hybrid systems and fuel combinations to identify their performance and emissions benefits. Given the variety of hybrid systems under development, it is critical to determine the true emissions and performance of these prototypes, especially if both emissions and fuel economy advantages are achieved.

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, additional technology consisting of nickel sodium chloride, lithium-ion and lithium iron phosphate batteries have shown robust performance. Other technology manufacturers have also developed energy storage devices including flywheels, hydraulic systems and ultracapacitors. Energy storage systems optimized to combine the advantages of ultracapacitors and advanced batteries could yield further benefits. 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 program is to decrease fuel consumption and resulting emissions without any changes in performance compared to conventional vehicles. This program will support several projects for development and demonstration of different types of low emission hybrid vehicles using advanced energy 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.

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 2012 AQMP. This program is expected 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: $3,000,000

Expected Total Cost: $5,000,000

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 LSM system in the future.

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, magnetic levitation, and fuel cell propulsion system. This program 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 2012 AQMP proposes to reduce emissions from this

activity by modernizing the fleet and retrofitting NO_x 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.

Engine Systems

Proposed Project: Develop and Demonstrate Advanced Alternative Fuel Medium- and Heavy-Duty Engines and Vehicles

Expected SCAQMD Cost: $2,000,000

Expected Total Cost: $20,000,000

Description of Technology and Application:

The objective of this proposed program is to support development and certification of near commercial prototype low emission heavy-duty alternative fuel engine technologies and demonstration of these technologies in on-road vehicles. The NO_x emissions target for this program area is 0.2 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 advance fuel or alternative fuels, engine design features, improved exhaust or recirculation systems, and aftertreatment devices that are optimized using a system approach. This program is expected to result in several projects, including:

- demonstration of advanced engines in medium-duty and heavy-duty vehicles;
- development of durable and reliable retrofit technologies to convert engines and vehicles from petroleum fuels to alternative fuels; and
- anticipated fuels for these projects include but are not limited to CNG, LNG, LPG, emulsified diesel and GTL fuels. The program 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 200-300 horsepower engines. Higher horsepower alternative fuel engines are beginning to be introduced. However, vehicle range, 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 350 HP or more is limited. Continued development of cleaner dedicated natural gas or other alternative fuel engines such as natural gas-hydrogen blends over 350 HP would increase availability to end-users and provide additional emission reductions.

Potential Air Quality Benefits:

This program is intended to expedite the commercialization of low emission alternative fuel 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 1400 lb/yr of NO_x. Clean alternative fuels, such as natural gas, or natural gas blends with hydrogen can also reduce heavy-duty engine particulate emissions by over 90 percent compared to current diesel technology. This program 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 program to comply with SCAQMD fleet regulations.

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 conventional 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 compressed air technologies. The potential vehicle projects may include:

- certification of CNG light-duty sedans and pickup trucks used in fleet services;
- resolution of higher concentration ethanol (E-85) affect on vehicle fueling system ("permeation issue");
- certification of E85 vehicles to SULEV standards;
- assessment of "clean diesel" vehicles, including hybrids and their ability to attain SULEV standards; and
- assessment of compressed air technologies.

Other fuel and technology combinations may also be considered under this category.

Potential Air Quality Benefits:

The 2012 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 program is expected to lead to increased availability of low emission alternative-and conventional-fueled vehicles for fleets as well as consumer purchase.

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 mid-2012 the CaFCP published a roadmap describing the first network of commercial hydrogen stations in California. The roadmap states that by 2016, 68 hydrogen fueling stations in cluster communities and at specific destinations will provide coverage for the first 20,000 FCEV owners in California. Stakeholders estimate 37 stations will be funded and operating in 2015, leaving a gap of 31 needed stations. The cost for these 31 stations is estimated to be approximately $65 million. The cost-estimates for these stations were based on a "cash-flow" analysis whereby the state would ensure the station operators would not be financially penalized for opening a hydrogen station. This model, however, makes assumptions based on a fuel retailers' perspective, including the station operator is able to secure financing, the size of stations, the cost of rent for the land and other factors. The analysis did not identify, however, the implementation of such a system.

This project category would evaluate the actual implementation of a "cash-flow" system, the willingness of banks to grant loans, the strategy to assess the cash-flow "gap", and other implementation challenges for such a system.

Potential Air Quality Benefits:

The 2012 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, solar, 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 program with additional funding from other 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 will lead to substantial reductions in NOx, VOC, CO, PM and toxic air contaminants from vehicles.

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 an 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 program 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 (biomass, digester gas, etc.).

Home Refueling Appliances: Home refueling/recharging is an attractive advancement for alternative clean fuels due to the limited conventional refueling infrastructure. Similar to the natural gas home refueling appliance currently commercially available, 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 50,000 fuel cell vehicles will be deployed by 2017 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. SCAQMD will seek additional funding from CEC and CARB to construct and operate hydrogen fueling stations.

Potential Air Quality Benefits:

The 2012 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 the cleanest alternative-fuel vehicles today. Since hydrogen is a key fuel for fuel cell vehicles, this program 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_x, VOC, CO, PM and toxic compound emissions from vehicles.

Proposed Project: Develop and Demonstrate Fuel Cell Vehicles

Expected SCAQMD Cost: $2,000,000

Expected Total Cost: $6,000,000

Description of Technology and Application:

This proposed project would support the demonstration of promising fuel cell technologies for applications using direct hydrogen with proton exchange membrane (PEM) fuel cell technology. Battery 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.

With the implementation of the California Hydrogen Highway Network, supplemented by the existing and planned hydrogen refueling stations in the Southern California area, pre-production vehicles are planned for demonstration in controlled fleets, such as local cities, transit authorities and airports. Some of these pre-production vehicles include light-duty trucks as well as small to full size transit and shuttle buses. 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. 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. This category may include projects in the following applications:

On-Road:
- Light-Duty Vehicles
- Transit Buses
- Shuttle Buses
- Medium- & Heavy-Duty Trucks (Utility or Other)

Off-Road:
- Vehicle Auxiliary Power Units
- Construction Equipment
- Lawn and Garden Equipment
- Cargo Handling Equipment

Potential Air Quality Benefits:

The 2012 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.

Infrastructure and Deployment (NG)

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.

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: $300,000

Expected Total Cost: $2,000,000

Description of Technology and Application:

This program would support the development, maintenance and expansion of natural gas fueling station technologies and incorporate advancing concepts to increase the overall number of such fueling stations in strategic locations throughout the Basin including the Ports, reduce the cost of natural gas equipment, 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 begin to age and deteriorate. This program 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 NOx, VOC, CO, PM and toxic compound emissions from mobile sources. Such increased penetration of NGVs will provide direct emissions reductions of NO_x, VOC, CO, PM and air toxic compounds throughout the Basin.

Proposed Project: Demonstrate Natural Gas Manufacturing and Distribution Technologies Including Renewables

Expected SCAQMD Cost: $500,000

Expected Total Cost: $7,000,000

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 production facilities out-of-state increases the fuel cost anywhere 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 closer, 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. Renewable feed stocks including landfill gas, green waste and waste gases can be processed to yield LNG or CNG.

Industry and government agree that LNG promises to capture a significant share of the heavy-duty vehicle and engine market. LNG is preferred for long distance trucking as it provides twice the energy per unit volume as CNG. This translates to longer driving ranges and lower-weight vehicle fuel storage.

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_x, PM and toxic compound 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_x 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_x, 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 SCR and NO_x adsorbers, could also have NO_x 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_x in 2004 to 0.2 g/bhp-hr NO_x 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_x. 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
- application of 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.

Fuels/Emission Studies

Proposed Project: In-Use Emissions Studies for Advanced Technology Vehicle Demonstrations

Expected SCAQMD Cost: $500,000

Expected Total Cost: $1,000,000

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 conduct a characterization of application specific drive cycles to best match different transportation technologies to 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.

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: $100,000

Expected Total Cost: $1,300,000

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 AB 32, AB 1007 and the Low-Carbon Fuel Standard. With an anticipated increase in biofuel use, it is the objective of this program 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 NO_x emissions, which exacerbates the ozone and $PM_{2.5}$ 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.

DME is another fuel which requires evaluation of in-use emissions, especially NO_x, in light of Volvo's announcement that they will commercialize class 8 trucks using DME in 2015.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 program 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 program also supports future studies to identify mitigation measures to reduce NO_x 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 NO_x impact, this technology will become a viable strategy to assist in meeting air pollutant standards as well as the goals of AB 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 (NO_x 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 NO_x 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 which can be economically 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

The second phase of the project is to validate the technology or strategy on a larger demonstration project over a longer period of time.

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.

Health Impacts Studies

Proposed Project: Evaluate Ultrafine Particle Health Effects

Expected SCAQMD Cost: $250,000

Expected Total Cost: $3,000,000

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, recent 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 program, 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, etc. These tests may also include comparisons with the application of particulate matter retrofit traps. This program 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.

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: $250,000

Expected Total Cost: $1,000,000

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 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: $250,000

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.

The measurement of organic compounds as tracers from specific sources is a technique that has been used in numerous source apportionment studies and published within the scientific literature. The resulting data on levels of tracers can be evaluated using Chemical Mass Balance Models and other source apportionment techniques, such as Positive Matrix Factorization, to estimate source contributions to particulate matter. The resulting estimates of ambient diesel particulate matter can then be used to assess potential health risks.

In mid-2012 the SCAQMD initiated MATES IV which includes an air monitoring program, an updated emissions inventory of toxic air contaminants and a regional modeling effort to characterize risk across the Basin. This follow-on study, for which results should be available mid-2014, continues to focus on the carcinogenic risk from exposure to air toxics, but will not estimate mortality or other health effects from particulate exposures, as in previous studies. Instead, MATES IV will measure ultrafine particle concentrations and assess human exposure to ultrafines and back carbon near sources such as airports, freeways, rail yards, busy intersections and warehouse operations. This project category would include other related studies, 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.

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. 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.

Stationary Clean Fuel Technologies

Proposed Project: Develop and Demonstrate Reliable, Low Emission Monitoring Systems and Test Methods

Expected SCAQMD Cost: $250,000

Expected Total Cost: $500,000

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_x 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_x 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.

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 O2 sensor known as a wide-band O2 sensor, is another alternative that can be analyzed. Another technical approach might be to deploy technology utilizing the O2 signature of a post-catalyst O2 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_x 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_x and/or CO emissions above levels required in their permits. Projects could potentially reduce a significant class of NO_x 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_x technologies (burners and ICEs);
- low-Btu gas technologies (e.g., digester, landfill, or diary 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_x, 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 $PM_{2.5}$ standards.

Proposed Project: Develop and Demonstrate Renewables-Based Energy Generation Alternatives

Expected SCAQMD Cost: $200,000

Expected Total Cost: $1,000,000

Description of Technology and Application:

The objective of this proposed program is to support the development and demonstration of clean energy, renewable alternatives in stationary and mobile applications. The technologies to be considered include thermal, photovoltaic and other solar energy technologies; wind energy systems; energy storage and conservation; 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 substantially 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 program 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 2012 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 program 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.

Outreach and Technology Transfer

Proposed Project: Assessment and Technical Support of Advanced Technologies and Information Dissemination

Expected SCAQMD Cost: $500,000

Expected Total Cost: $800,000

Description of Project:

This program 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 program 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 program 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 program 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 recently adopted SCAQMD fleet rules. The resulting future emissions benefits will contribute to the goals of the AQMP.

Proposed Project: Support for Implementation of Various Clean Fuels Vehicle Incentive Programs

Expected SCAQMD Cost: $400,000

Expected Total Cost: $400,000

Description of Project:

This program 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_x and PM emissions in the basin in addition to reducing toxic air contaminants.

Appendix A

SCAQMD Advisory Groups

Technology Advancement Advisory Group

*Dr. Matt Miyasato, Chair	SCAQMD
*Patricia Ochoa	Coalition for Clean Air
*Alberto Ayala	California Air Resources Board
Patrick Davis.	U.S. 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
*Ed Kjaer	Southern California Edison
Philip J. Hodgetts	Clean Air Now
Randall Lewis	Lewis Group of Companies
Tim Olson	California Energy Commission
**Pending*	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. Blair Folsom	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
Dr. Melanie Marty	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
Dr. Vernon Roan	University of Florida, Professor Emeritus
Dr. Scott Samuelsen	University of California, Irvine, Combustion Laboratory/National Fuel Cell Research Center
Dr. Robert Sawyer	Sawyer Associates
*Kevin Walkowicz	National Renewable Energy Laboratory
Dr. Nicholas Vanderborgh	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, 2014

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD $	Project Total $
Infrastructure and Deployment						
05250	Downs Commercial Fueling, Inc.	Purchase & Install New L/CNG Fueling System at Commercial Fueling Station in Temecula	11/04/05	04/30/14	$203,137	$833,333
06028	Consolidated Disposal Service, LLC	Purchase & Install CNG Fueling System at Long Beach Waste Transfer Station	11/23/05	07/31/14	222,038	740,127
06042	University of California Los Angeles	Upgrade Existing CNG Public Access Station with Dispenser & Card Reader	09/05/06	12/31/16	15,921	31,842
06084	Clean Energy	Upgrade Existing LNG Facility to L/CNG at Riverside County Waste Management Dept's Aqua Mansa Facility in Riverside	04/13/06	02/28/16	120,000	400,000
06091	City of Whittier	Purchase & Install New Public Access CNG Fueling Station at City Yard	03/18/06	12/31/16	150,000	450,000
07051	City of Pasadena	Purchase & Install New Public Access CNG Fueling Station	12/28/06	09/01/14	165,000	550,000
07153	Foothill Transit	Purchase & Install New Public Access CNG Refueling Station in Irwindale	11/02/09	06/30/16	250,000	3,350,000
07243	City of Commerce	Purchase & Install New Public Access L/CNG Station	05/16/07	12/31/15	250,000	1,300,000
07244	SunLine Transit Agency	Upgrade Existing Public Access CNG Stations in Thousand Palms & Indio	04/04/07	04/30/14	90,000	180,000
07245	USA Waste of California, Inc., dba L.A. Metro	Purchase & Install New LNG Production Facility using Landfill Gas from Altamont Landfill in Livermore	07/11/08	12/31/14	300,000	13,000,000
07246	USA Waste of California, Inc., dba L.A. Metro	Purchase & Install New LNG Storage Tank at Long Beach LNG Refueling Station	12/24/08	06/30/17	200,000	440,000
07320	Orange County Transportation Authority	Install New CNG Station in the City of Santa Ana	12/21/07	03/31/16	350,000	5,841,729
08043	University of California Los Angeles	Public Access CNG Refueling Station Upgrade for UCLA Transportation	05/02/08	12/31/16	140,000	350,000
08044	Beaumont Unified School District	Install Limited Access CNG Refueling Station	03/05/09	12/31/16	288,000	615,994
08098	Redlands Unified School District	Purchase & Install New CNG Refueling Station	01/25/08	04/30/17	525,000	700,000
08101	Pupil Transportation Cooperative	Upgrade Existing Public Access CNG Station	01/04/08	06/30/14	187,154	300,000
09165	California Cartage Company	Deployment of 2010 Emissions Standards Compliant LNG Trucks	10/31/08	07/31/16	358,000	11,880,000
09218	Rim of the World Unified School District	Install Mountain Safety Equipment on Five New CNG School Buses	01/05/10	12/31/16	65,850	65,850
09364	Rim of the World Unified School District	Construct & Install a CNG Fueling Station	12/30/10	12/31/14	257,000	425,000
10034	California Cartage Company	Install LNG Fueling Station at the Ports	01/26/10	11/01/14	532,500	1,065,000
10054	Applied LNG Technologies Inc.	Upgrade & Perform Emergency Repairs of L/CNG Refueling Facility	10/30/09	12/31/14	113,359	226,719

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD $	Project Total $
Infrastructure and Deployment (cont'd)						
10055	Waste Management Collection & Recycling	New Public Access CNG Refueling Station in Santa Ana	12/11/09	12/31/14	250,000	1,622,558
10067	Rim of the World Unified School District	Install Mountain Safety Equipment on Seven New CNG School Buses	12/21/09	12/31/16	92,190	92,190
11548	Mansfield Gas Equipment Systems, Inc.	Buydown Incentive Program for CNG Home Refueling Appliance "Phil"	09/07/12	06/30/14	60,000	356,000
11561	Supershuttle International	Purchase and Convert 20 Gasoline-Powered Passenger Vans to CNG-Powered Passenger Shuttle Vans	06/01/11	10/31/14	464,900	954,600
12135	Placentia-Yorba Linda Unified School District	Upgrade CNG Fueling Station	11/18/11	11/30/17	60,000	60,000
12259	A-1 Alternative Fuel Systems	Demonstrate Natural Gas-Powered Police Vehicle	04/20/12	10/19/14	65,000	65,000
12267	West Covina Unified School District	Upgrade CNG Fueling Facility	10/12/12	12/31/17	60,000	60,000
12851	Clean Energy	Construct Two LNG Fueling Stations	10/05/12	12/31/18	400,000	3,018,118
12852	City of Corona	Construct Public Access CNG Fueling Stations	10/12/12	12/31/18	200,000	618,429
12853	Rainbow Disposal Company, 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
13401	Nite-Hawk Sweepers LLC	Demonstrate Natural Gas-Powered Parking Lot Sweepers	08/28/13	12/31/15	90,000	200,000
Fuels/Emission Studies						
07236	National Renewable Energy Laboratory	Investigate the Role of Lubricating Oil on PM Emissions from Vehicles	03/23/07	12/30/15	200,000	446,887
10066	National Renewable Energy Laboratory	CRADA – Loan of 70 MPa Hydrogen Quality Sampling Apparatus to SCAQMD	11/02/09	12/30/15	0	0
10722	University of California Riverside/CE-CERT	Re-Establish Testing Facility & Quantify PM Emission Reductions from Charbroiling Operations	08/06/10	04/30/14	60,000	276,000
Emission Control Technologies						
10696	Johnson Matthey, Inc.	Optimize & Demonstrate SCRT for NO_x and PM Emissions Control	07/09/10	12/31/14	300,000	2,818,449
10697	Johnson Matthey, Inc.	Optimize & Demonstrate SCCRT for NO_x and PM Emissions Control	07/09/10	12/31/14	300,000	2,818,449
12113	Southern Counties Terminals dba Griley Air Freight	Retrofit Three Heavy-Duty Diesel Trucks with Diesel Particulate Filters	10/13/11	03/31/14	15,000	45,000
12114	South Bound Express, Inc.	Retrofit Three Heavy-Duty Diesel Trucks with Diesel Particulate Filters	10/13/11	03/31/14	15,000	54,623
12118	National Ready Mixed Concrete	Retrofit 13 Heavy-Duty Diesel Trucks with Diesel Particulate Filters	10/13/11	03/31/14	65,000	239,806
12120	Standard Concrete Products	Retrofit 40 Heavy-Duty Diesel Trucks with Diesel Particulate Filters	10/13/11	03/31/14	200,000	596,665
12121	Challenge Diary Products, Inc.	Retrofit Three Heavy-Duty Diesel Trucks with Diesel Particulate Filters	11/18/11	03/31/14	15,000	46,845

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD $	Project Total $
Emission Control Technologies (cont'd)						
12122	Bear Trucking, Inc.	Retrofit One Heavy-Duty Diesel Truck with Diesel Particulate Filter	10/14/11	03/31/14	5,000	13,555
12123	RRM Properties	Retrofit 107 Heavy-Duty Diesel Trucks with Diesel Particulate Filters	10/06/11	03/31/14	535,000	1,481,067
12124	Gaio Trucking, Inc.	Retrofit Nine Heavy-Duty Diesel Trucks with Diesel Particulate Filters	09/28/11	03/31/14	40,000	147,261
12125	Spragues Ready Mix	Retrofit Four Heavy-Duty Diesel Trucks with Diesel Particulate Filters	10/14/11	03/31/14	20,000	62,953
12150	Puritech US, LLC	Retrofit Four Heavy-Duty Diesel Trucks with Diesel Particulate Filters	02/14/12	06/30/14	72,000	172,000
12175	RRM Properties	Retrofit Seven Heavy-Duty Diesel Trucks with Diesel Particulate Filters	12/08/11	03/31/14	35,000	84,812
12186	Pipeline Carriers Inc.	Retrofit 25 Heavy-Duty Diesel Trucks with Diesel Particulate Filters	12/16/11	03/31/14	50,000	182,300
13407	Chaffey Joint Union High School District	Demonstrate Diesel Particulate Filter Technology on Two Diesel School Buses	05/18/13	03/31/14	30,000	45,000
Electric/Hybrid Technologies & Infrastructure						
08063	Quantum Fuel Systems Technologies Worldwide, Inc.	Develop & Demonstrate 20 Plug-In Hybrid Electric Vehicles	01/22/08	12/15/14	2,165,613	2,885,266
08219	A123Systems Inc.	Develop & Demonstrate Ten Plug-In Hybrid Electric Vehicles	06/05/09	06/04/15	622,667	962,667
11204	AC Propulsion	Develop & Demonstrate Electric Drive Conversion for Fleet Vehicles	12/24/10	11/30/14	300,000	755,767
11606	Odyne Systems, LLC	Develop and Demonstrate Plug-In Hybrid Electric Drive System for Medium- and Heavy-Duty Vehicles	07/08/11	09/30/15	494,000	2,599,000
11614	Transportation Power, Inc.	Demonstrate Battery Electric Heavy-Duty Trucks	07/08/11	09/30/14	196,505	2,616,275
11615	Parker Hannifin Corporation	Develop & Demonstrate Up to Four Heavy-Duty Hydraulic Hybrid Vehicles	01/18/13	12/13/14	250,000	2,000,000
11725	Puente Hills Nissan	Lease of Three Nissan Leaf Vehicles for 39 Months	05/27/11	08/26/14	60,222	82,722
12020	Coulomb Technologies	Install Electric Charging Infrastructure	10/05/12	04/04/14	70,000	70,000
12028	Electric Vehicle International, Inc.	Demonstrate and Replace UPS Diesel Delivery Trucks with Zero-Emission Medium-Duty Trucks	09/09/11	09/08/17	1,400,000	4,872,000
12825	BMW of Monrovia	Lease Two BMW ActiveE Electric Vehicles for Two Years	03/23/12	03/22/14	31,065	31,065
12862	Volvo Technology of America, Inc.	Develop Class 8 Plug-In Hybrid Heavy-Duty Vehicle	12/07/12	12/31/14	1,200,000	2,400,000
12889	BMW of Monrovia	Lease Two BMW ActiveE Electric Vehicles for Two Years	03/23/12	03/22/14	31,065	31,065
13042	South Bay City Council of Governments	Demonstrate Medium-Speed Electric Vehicles	11/02/12	05/01/15	320,000	528,078
13058	Capstone Turbine Corporation	Develop Microturbine Series Hybrid System for Class 7 Heavy-Duty Vehicle Applications	08/12/13	11/30/14	360,000	1,210,000

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD $	Project Total $
Electric/Hybrid Technologies & Infrastructure (cont'd)						
13149	University of California, Los Angeles	Develop South Coast PEV Readiness Plan	01/18/13	06/30/14	32,000	63,500
13251	Selman Chevrolet Company	Lease Two 2012 or Newer Chevrolet Volt Extended-Range Electric Vehicles for Three Years	11/28/12	05/01/15	31,375	31,375
13404	Penske Honda of Ontario	Lease Two Honda Fit Electric Vehicles for Three Years	05/02/13	05/01/16	31,307	31,207
13410	Selman Chevrolet Company	Lease Three 2013 Chevrolet Volt Extended-Range Electric Vehicles for Three Years	04/03/13	04/02/16	41,084	41,084
13418	City of Claremont	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	08/29/13	12/15/14	0	0
13419	California State University, Los Angeles	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	08/05/13	12/15/14	0	0
13420	University of California, Irvine	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	08/28/13	12/15/14	0	0
13421	County of Los Angeles	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	09/06/13	12/15/14	0	0
13426	Transportation Power, Inc.	Develop & Demonstrate Catenary Class 8 Trucks (1 Electric & 1 CNG Platform)	06/07/13	06/06/16	2,617,887	3,182,795
13429	Longo Toyota	Lease One Toyota RAV4 Electric Vehicle for Three Years	04/19/13	04/18/16	19,618	19,618
13439	City of Carson	MOU for Catenary Zero Emission Goods Movement Project	10/01/13	09/30/16	0	0
Engine Systems						
13168	National Renewable Energy Laboratory	Develop, Integrate & Demonstrate Heavy-Duty Natural Gas Engines and Vehicles	05/22/13	12/31/15	1,300,000	1,300,000
Mobile Fuel Cell Technologies						
13155	Fletcher Jones Motor Cars Inc. (Mercedes-Benz)	Lease Two F-Cell Fuel Fell Vehicles for Two Years	02/08/13	02/08/15	30,397	30,397
14139	Hyundai America Technical Center Inc.	No-Cost Lease of Fuel Cell Vehicle for Two Years	12/13/13	12/12/15	0	0
Hydrogen Technologies and Infrastructure						
04185	Quantum Fuel Systems Technologies Worldwide	Develop & Demonstrate Hydrogen Internal Combustion Engine Vehicles	10/18/04	04/30/14	2,353,000	3,328,631
10046	Air Products and Chemicals Inc.	Develop & Demonstrate Renewable Hydrogen Energy and Refueling Station	12/21/09	11/21/14	750,000	8,436,735
10061	Hydrogenics Corporation	Maintenance & Data Management for the AQMD Hydrogen Refueling Station	10/30/09	1/31/15	468,000	468,000

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD $	Project Total $
Hydrogen Technologies and Infrastructure (cont'd)						
11150	Hydrogen Frontier, Inc.	Maintain & Operate City of Burbank Hydrogen Fueling Station	11/24/10	01/23/16	475,000	1,635,000
10482	California State University Los Angeles	Install and Demonstrate PEM Electrolyzer, Providing Hydrogen Fueling for Vehicles and Utilizing the Technology in the Engineering Technology Curriculum at the University	03/04/11	10/03/17	250,000	1,662,000
11555	University of California Los Angeles	Construct Hydrogen Fueling Infrastructure	12/07/12	12/31/19	400,000	2,589,990
12075	Linde, LLC	Expand Hydrogen Fueling Infrastructure	11/02/12	11/02/18	250,000	2,732,177
13146	California State University Los Angeles	Lease of One Toyota Prius Hydrogen-Fueled Vehicle	11/08/12	03/31/14	0	0
13259	Air Products and Chemicals, Inc.	Hydrogen Station Operation & Maintenance for Five Cities Hydrogen Program	03/26/13	09/25/14	300,000	300,000
13400	Energy Independence Now	Develop Hydrogen Station Investment Plan	04/05/13	01/04/15	50,000	130,000
14067	University of California, Irvine	Develop Hydrogen Storage Capability for the Gas-Blending Faciilty	12/31/13	07/16/15	200,000	688,000
Health Impacts Studies						
11527	University of Southern California	Conduct Study on Sources, Composition, Variability and Toxicological Characteristics of Ultrafine Particles in Southern California	07/24/11	07/24/14	470,969	470,969
12197	University of California Riverside/CE-CERT	Health Effects of PM Particles from Heavy-Duty Biodiesel-Fueled Vehicles	01/13/12	03/31/14	207,500	207,500
12208	University of California Riverside/CE-CERT	Determine the Physical and Chemical Composition and Associated Health Effects of Tailpipe PM Emissions	01/21/12	07/19/14	175,000	1,375,000
12865	University of California Los Angeles	Develop Quantitative Cellular Assays for Use in Understanding the Chemical Basis of Air Pollutant Toxicity	06/08/12	07/07/14	368,457	368,457
Stationary Clean Fuels Technology						
09303	Permacity Solar	Install 40kW (AC) Crystalline Silicon System at AQMD HQs	01/30/09	01/29/15	387,162	387,162
09304	Solar Integrated Technologies Inc.	Install Turnkey Rooftop 40 kW Building Integrated Photovoltaic System	12/20/08	12/19/14	390,695	390,695
10723	Eastern Municipal Water District	Retrofit Digester Gas Engine with NO_x Tech Aftertreatment Emission Control Technology	03/16/12	06/15/15	85,000	889,000
11208	Long Beach Unified School District	Air Filtration MOA	12/02/10	12/01/14	0	0

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD $	Project Total $
Stationary Clean Fuels Technology (cont'd)						
13030	University of California Irvine	Demonstrate 300 kW Molten Fuel Cell with Exhaust-Fired Absorption Chiller	10/12/12	04/11/15	257,500	257,500
13078	University of California, Riverside	Steam Hydrogasification Reaction Demonstration to Generate Substitute Natural Gas from Biomass Waste	03/07/13	06/07/14	72,916	922,130
Outreach and Technology Transfer						
00069	Walsh Consulting	Technical Assistance Relating to the Use of Alternative Fuels in Mobile Sources	02/17/00	02/28/14	35,000	35,000
05128	Mid-Atlantic Research Institute LLC	Development, Outreach & Commercialization of Advanced Heavy-Duty and Off-Road Technologies	08/08/05	03/31/15	40,000	40,000
07060	Don Breazeale and Associates, Inc.	Technical Assistance Related to Air Quality Impacts of Regional Goods Movement	11/15/06	05/31/14	58,000	58,000
07062	The Tioga Group, Inc.	Technical Assistance Related to Air Quality Impacts of Regional Goods	12/19/06	11/30/14	58,000	58,000
07129	Breakthrough Technologies Institute, Inc.	Technical Assistance with Fuel Cell Technology	12/01/06	03/31/14	40,000	40,000
08210	Sawyer Associates	Technical Assistance on Mobile Source Control Measures and Future Consultation on TAO Activities	02/22/08	02/28/14	25,000	25,000
09252	JWM Consulting Services	Technical Assistance with Review & Assessment of Advanced Technologies, Heavy-Duty Engines, and Conventional & Alternative Fuels	12/20/08	06/30/14	30,000	30,000
09337	Mark Weekly, CPA	Follow-Up Assessment of AQMD's Compliance with Special Revenue Funds	03/03/09	01/31/15	35,000	35,000
11028	Martin Kay	Technical Assistance on Stationary Source Control Measures & Future Consultation on TAO Activities	08/04/10	12/31/15	40,000	40,000
11182	Tech Compass	Technical Assistance with Alternative Fuels, Fuel Cells, Emissions Analysis & Aftertreatment Technologies	11/19/10	12/31/14	75,000	75,000
11484	Gladstein, Neandross & Associates, LLC	Develop and Implement Two Customer Centers to Provide Education and Outreach to Truck Owners and Operators	01/27/11	01/31/15	150,000	150,000
12093	TIAX LLC	Technical Assistance with Low- and Zero-Emission Vehicles, Fuel Cells and Fueling Infrastructure	04/06/12	04/05/14	75,000	75,000
12380	The Tioga Group	Technical Assistance Related to Emissions, Advanced Technologies and Goods Movement	04/13/12	04/30/14	25,000	25,000
12381	Integra Environmental Consulting Inc.	Technical Assistance Related to Emission Inventories, Goods Movement and Off-Road Sources	04/06/12	04/30/14	25,000	25,000

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD $	Project Total $
Outreach and Technology Transfer (cont'd)						
12453	Tech Compass	Technical Assistance with Alternative Fuels, Fuel Cells, Emissions Analysis and Aftertreatment Technologies	06/21/12	05/30/14	75,000	75,000
12486	ICF Resources LLC	Technical Assistance with Goods Movement and Zero Emission Transportation Technologies	09/24/13	09/23/15	50,000	50,000
12604	Joseph C. Calhoun, P.E., Inc.	Technical Assistance with Low- and Zero-Emission Vehicles, Technology and Emissions Analysis	06/01/12	12/31/14	20,000	20,000
13081	Burnett & Burnette	Technical Assistance for Advanced, Low- and Zero-Emissions Mobile and Stationary Source Technologies	11/01/12	04/30/14	40,000	40,000
13194	Clean Fuel Connection Inc.	Technical Assistance with Alternative Fuels, Renewable Energy and Electric Vehicles	12/07/12	12/06/14	30,000	30,000
13198	Gladstein, Neandross & Associates, LLC	Technical Assistance with Alternative Fuels, Emissions Analysis and On-Road Sources	12/14/12	12/13/14	75,000	75,000
13256	Three Squares Inc.	Develop, Initiate & Implement Clean Vehicle Outreach Project	01/05/13	12/31/13	21,500	21,500
13408	University of California, Irvine	Demonstrate Building Integration of Electric Vehicles, Photovoltaics and Stationary Fuel Cells	09/30/13	09/29/15	150,000	270,000
13414	Three Squares Inc.	Cosponsor 2013 The Women in Green Forum (Southern California & Wash DC)	05/27/13	11/30/13	25,000	400,000
13415	University of California Davis, Office of Research	Cosponsor the 2013 Asilomar Conference on Transportation & Energy Policy	06/28/13	12/31/13	30,000	100,000

Appendix C

Final Reports for 2013

SCAQMD Contract #07149 **December 2013**

Purchase & Install New Public Access LNG-L/CNG Fueling Station at City Municipal Service Yard

Contractor

City of San Bernardino

Cosponsors

City of San Bernardino
MSRC/AB 2766 Discretionary Fund
SANBAG
SCAQMD

Project Officer

Larry Watkins

Background

The SCAQMD has adopted various rules and regulations requiring municipalities that operate fleets of medium and heavy-duty trucks to purchase less polluting vehicles that operate on alternative fuels such as CNG and LNG. Thus, the City of San Bernardino (City) began purchasing LNG and CNG vehicles when fleet expansion vehicles were needed. After an analysis of labor and fuel expended driving to offsite fueling locations, it became apparent that the City needed to build a local LNG-CNG fueling station. Consequently, the City applied for and received funding assistance from the SCAQMD to build one.

Project Objectives

The objectives of this project were to:

- Establish an initial regional fueling station capable of meeting the short-term fueling needs of LNG-CNG vehicles operating under the fleet rules within the metro San Bernardino area; and
- Develop a fueling facility to support the City's planned deployment of LNG refuse trucks.

Technology Description

The LNG-L/CNG fueling station was built based on proven technology. The project included installation of a 15,000 gallon LNG bulk storage tank, a single dispenser with a submerged multi-function pump and CNG ground storage containers with 36,000 standard cubic feet capacity.

Figure 1: East Valley Regional Fueling Facility

Status

EFS West was awarded the contract for the construction, start-up and commissioning of the LNG-L/CNG fueling station. On October 23, 2006, EFS West ordered the major equipment considering the long lead time for the LNG tank. The contractor also provided final site and mechanical design engineering. Final plans and calculations were submitted to the City Building Department for plan check and in May 2007 the plans were approved.

On June 6, 2007, EFS West mobilized the field crew and began site clearing. The foundation were complete on June 26.On July 23 the 15,000 gallon LNG tank, the three CNG tanks and the mechanical equipment arrived and were set in place. During the next month the multifunction pump and CNG pump skids were installed, the piping was welded and other related components were installed.

Preparing for the first testing, on September 24, 2007, the LNG tank was filled with liquid nitrogen for cooling and testing purposes. The system was pressure tested and inspected by the Fire Engineering consultant. Tests continued and during the month of October the manufacturer programming and station specific mechanical

engineering was done. The first load of LNG was delivered in November and the station was able to pump LNG and produce CNG but the system was not automatic. The City's subcontractor made adjustments and reprogrammed the controller. The system was improved and on November 30 the City and its consultant reviewed the station, approving all but a few items. The remaining items were tested in December and the station was placed into full operation.

The Notice of Completion for the City of San Bernardino East Valley Regional LNG-L/CNG Fueling Facility was filed on March 27, 2008. While the station was commissioned in March 2008, the City had to provide five years of annual reporting including throughput to the SCAQMD under this contract.

Results

The development of this LNG-L/CNG infrastructure has achieved the following:

- Reduced air pollution emissions.
- Reduced diesel consumption
- Provided a vital LNG infrastructure link along the ICTC
- Provided a City LNG fueling site to operate its heavy-duty trucks
- Allowed for the expanded market penetration of additional clean fuel, natural gas vehicles along the ICTC and
- Allowed CNG users an additional location where they can fuel their vehicles

The City's fleet has increased to 26 LNG heavy-duty refuse trucks and 21 CNG vehicles. This displaced more than 75,000 gallons of diesel fuel in the first six months of station use.

Benefits

In one year the City of San Bernardino's initial 20 LNG waste hauling trucks reduced an estimated 18,110 pounds of PM and NO_x emissions annually and displaced consumption of diesel by more than 130,000 gallons a year. The City plans to purchase additional natural gas vehicles through the normal replacement cycle and by 2012 the City plans to have 43 LNG trucks and 32 CNG vehicles in its fleet.

Issues

There was a prolonged problem with false alarms that stopped station operation and an ongoing problem with the multi-function pump that disables the CNG production. The multi-function pump problem is related to fine tuning, according to EFS West; Nexgen/Chart the mechanical subcontractor is continuing to make adjustments to the station's controller and multi-function pump. The false alarms have been addressed. The City and EFS West have decided to handle this as a warranty issue because the City has had beneficial use of the station for some time.

Project Costs

The cost of the project was $1,919,912, more than $550,000 over the original projected cost, due mainly to the increase in world materials costs. The City was able to secure additional CMAQ funding of $91,186 from SANBAG and utilize some of the City's Sewer and Refuse funds. Cost-share for this project was as follows:

SANBAG CMAQ Funds	$1,003,859
City of San Bernardino	531,192
SCAQMD Contract #07149 (CF$)	164,861
SCAQMD Contract #03100 (R1309.1)	143,208
MSRC/AB 2766 Discretionary Fund	76,792
Final Project Total	**$1,919,912**

Commercialization and Application

The LNG-L/CNG fueling station process is an available, proven technology. There are many installations in California, and 12 stations in the Los Angeles Metropolitan Area alone. These installations are typically for specific fleet owners, some allowing public use and others remaining private. With pressure from government agencies, environmental groups and the relative cost of diesel fuel, the use of LNG fuel will likely increase dramatically in the future.

Summary and Conclusions

With the construction of the City of San Bernardino LNG-L/CNG Fueling Station, the City and the larger community will benefit greatly from the availability of alternative fuels. The San Bernardino Valley area now has a location to fuel both LNG and CNG vehicles.

Initial fuel use is estimated to be approximately 275,000 LNG gallons per year. Once the City operates a full complement of natural gas vehicles, the City's fleet alone will require a minimum of 1.8 million LNG gallons annually.

SCAQMD Contract # 08271 **December 2013**

Purchase & Install New CNG Fueling Station at Sun Valley Bus Garage

Contractor

Los Angeles Unified School District (LAUSD)

Cosponsors

LAUSD
SCAQMD

Project Officer

Larry Watkins

Background

CARB has identified diesel exhaust particulates and over 40 chemical components associated with particulates as human carcinogens and toxic air contaminants. In 1998 CARB adopted a resolution identifying replacement of all pre-1977 diesel school buses with alternative fuel buses. Additionally, the 2007 AQMP relies on the expedited implementation of advanced technologies and clean-burning fuels in Southern California to achieve air quality standards. In light of these facts, coupled with LAUSD's growing natural gas fleet, LAUSD applied for and received funding assistance from the SCAQMD to build a new time- and fast-fill CNG station.

Project Objective

LAUSD's project objective was installation of facilities for CNG fueling and maintenance and the expansion of the natural gas fueling infrastructure needed to support LAUSD'S school bus fleet fueling needs. Specifically, this contract provided funding assistance to construct and operate a new time- and fast-fill CNG station at LAUSD's Sun Valley Bus Garage, located at 11247 Sherman Way, Sun Valley, California.

The successful implementation of LAUSD's school bus replacement program will provide less polluting and safer school transportation for school children. In addition, the program maximizes potential emission benefits in high diesel and high PM10 exposure areas, thus also enhancing the objectives of the Environmental Justice and Children's Health Initiatives adopted by the LAUSD Board. Without the use and expansion of clean fuel CNG buses by local school districts, the economic burden may severely increase the risk and exposure of children to toxic diesel particulate matter and smog-forming pollutants.

The new station will provide fuel for LAUSD's existing CNG fleet as well as the 40 CNG buses on order plus an additional 30 buses to be purchased over the next three years.

Technology Description

The new CNG fueling station included installation of a compressor skid (280 SCFM or equivalent) with 150 HP electric motor; storage vessels with 20,000 SCF at 4000 PSI capacity; 20-dual hose time-fill posts; 40 hoses and nozzles capable of fueling vehicles at 3,600 PSI; and a single Xebec gas dryer.

Status

The fueling station became operational on August 11, 2008. Throughput for the first three quarters of operation exceeded 90,000 gasoline gallon equivalents. Unanticipated issues that arose during construction included:

1. Weaver Electric refusing to agree to the Project Stabilization Agreement to employ union labor with the use of union funds; the outcome of this issue involved Weaver Electric being assessed a $51,000 fine and having to use LAUSD employees and funds for the project.
2. Gas service that should have remained at 20-22 psi on the compressor was 33 psi; the increased gas pressure required the purchase and installation of a high volume gas regulator to reduce pressure to normal.

Once commissioned, LAUSD had to provide the SCAQMD five years of annual reporting including throughput through 2013 under this Contract.

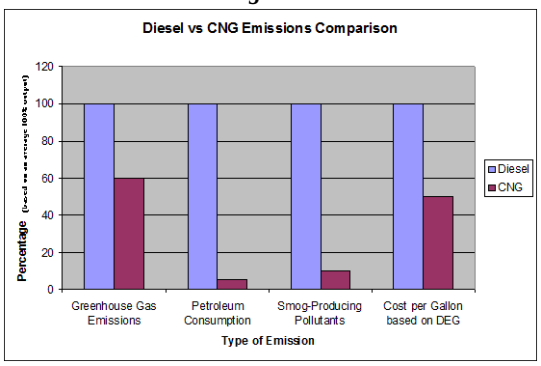
Figure 1: CNG Compressor

Results

As a result of the installation of the new CNG fueling station, several positive results occurred.

- A decrease in emissions including greenhouse gases, carbon dioxide, nitrogen oxides, particulate matter, and toxic and carcinogenic pollutants.
- Imported diesel fuel will not be consumed and an equivalent number of cleaner CNG gallons, which are locally produced, will be consumed.
- Operation and maintenance requirements of the new technology will decrease by over 50% based on fewer carbon emissions from bus fleets. CNG engines last longer, produce less carbon emissions and require less frequent maintenance.

Figure 2



Benefits

In addition to increased efficiency of fueling LAUSD's CNG fleet, project benefits include (based on research assumptions): 30-40% less greenhouse gas emissions (greenhouse gas carbon dioxide); natural gas provides a reduction in petroleum consumption by almost 100% from the level of gasoline; 60-90% less smog-producing pollutants including nitrogen oxides, particulate matter and toxic and carcinogenic pollutants; over 85% of natural gas is domestically produce and the cost of natural gas is over 30% less than the cost of diesel fuel (per gallon, based on a diesel equivalent gallon).

Diesel fuel consumption compared to CNG consumption for the number of gallons per year shows that an average savings of 2 million gallons of imported diesel fuel is saved per year with the use of CNG, which also increases savings by an estimated $12 million plus annually over the cost of diesel fuel.

Project Costs

The initial budget for this project was estimated at a total of $1,747,000 but actual project costs came under budget at $1,342,119. The final project cost-share was as follows:

SCAQMD Contract #08271	$380,203
SCAQMD's Lower-Emission School Bus Replacement Program	$536,520
LAUSD	$425,396
Total Project Costs	**$1,342,119**

Commercialization and Applications

Anticipated and potential applications of the CNG fuel station includes saving money, a decrease in the carbon footprint from the bus fleet from diesel fuel and a decrease in many other major air pollutants.

Projects to further improve the CNG fuel station are Phase II of the project which includes the purchase of a minimum of 60 CNG buses, but potentially over 100 buses total, and construction of more CNG fuel stations district-wide.

The cost of compressed natural gas should remain table due to local production.

SCAQMD Contract #11559 **July 2013**

Purchase & Deploy Six CNG Cutaway Shuttle Vans

Contractor
Ace Parking Management

Cosponsors
Ace Parking Management
SCAQMD
U.S. Dept. of Energy

Project Officer
Phil Barroca

Background
In 2009, the SCAQMD Board recognized funding from the U.S. Department of Energy Clean Cities Petroleum Reduction Technologies for the Transportation Sector, and also provided match funds of $750,000 from the Clean Fuels Fund for alternative fuel-powered airport ground transportation projects.

Project Objective
The project objective was to increase the use of alternative-fuel and reduce petroleum dependency in the on-road transportation sector through the deployment of natural gas fueled airport ground transportation vehicles operating in the South Coast Air Basin. This project, which increased co-funding from Ace Parking Management, was to purchase and deploy (for a minimum of two years) six Ford E-450 cutaway passenger vehicles converted to operate exclusively on CNG.

Technology Description
The project involves the purchase of six new 2011 model year Ford E-450 cutaway vehicles, equipped with OEM installed gasoline-powered engines. The Ford engine has 6.8L of displacement and a V-10 cylinder configuration. The vehicle has a gross vehicle weight rating (GVWR) of 14,500-lbs. The engine is converted to dedicated CNG-power with a CARB-certified conversion system manufactured by BAF Technologies. The vehicle is fitted with 29 gasoline gallon equivalents (GGE) of fuel capacity, comprised of two 14.5 GGE CNG tanks that are positioned in the rear of the vehicle and replacing the OEM gasoline tank.

Status
All six Ford E-450 Cutaway vehicles were purchased and converted to dedicated CNG with the CARB certified BAF conversion system. The vehicles were deployed to the Los Angeles area to provide ground transportation shuttle service between Los Angeles International Airport and remote parking structures and commenced operation in the fourth quarter of 2011. Per DOE requirements, the project required quarterly reports on both fuel usage and mileage for each vehicle. All six vehicles reported usage for four consecutive quarters (one year), and four vehicles provided usage data for a total of seven consecutive quarters. Two vehicles were removed from service in the fourth quarter of 2012, and all six vehicles were removed from operation at, or near the end of, the second quarter of 2013. The company was contacted to provide an explanation for discontinued use of the vehicles and they explained the company had to cease operating at the existing parking facility in the Los Angeles area, but is expected to resume operation in the second quarter of 2014 at a new location servicing the Los Angeles Airport.

Figure 1: Ford E-450 Cutaway with 6.8L V-10

Results

During the seven quarter period in which all or most of the vehicles were in continuous operation, the vehicles collectively amassed 511,000 miles and displaced more than 102,000 gallons of gasoline. The vehicles averaged 2,600 miles per quarter and consumed an average of 520 GGE of fuel, resulting in a fuel consumption rate of 5 miles per gallon.

The 2011 Ford E-450 cutaway is classified as a heavy-duty vehicle with a GVWR greater than 14,000-lbs. Based on CARB Executive Orders and the certified emissions for both the Ford OEM version of this vehicle and the BAF CNG version of this vehicle, the CNG-powered vehicle emits 35% less emissions in terms of hydrocarbon and NO_x emissions.

Benefits

Relative to its gasoline-powered counterpart, the CNG version of this vehicle is 35% cleaner in hydrocarbon and NO_x emissions. The vehicles are also helping to displace the use of petroleum based fuels. The full benefits of this program are yet to be determined as the project was unexpectedly halted at the end of the second quarter of 2013 but is expected to produce increased benefits over the full life of these vehicles. Based on full-life projections of 200,000 to 300,000 miles per vehicle, these six vehicles collectively will displace the use of 240,000 to 360,000 gallons of gasoline over the lifetime.

Project Costs

The total project cost for vehicle purchase and conversion to dedicated CNG was $501,350. The total funding award to this project was $96,200, comprising $25,500 from the DOE and $70,700 from the SCAQMD.

Commercialization and Applications

The technology utilized in this project has been successfully demonstrated. The expected outcome of this project is to increase awareness and viability of using alternative fuel vehicles and to promote the use of non-petroleum based fuel sources.

SCAQMD Contract #12273 **July 2013**

Construct New LNG Fueling Station in Palm Springs

Contractor

Border Valley Trading

Cosponsors

Border Valley Trading
California Energy Commission
MSRC/AB 2766 Discretionary Fund
SCAQMD

Project Officer

Larry Watkins

Background

Border Valley Trading (BVT) and its development partner, Hay Day Farms (HDF), are exporters of agri-products with daily round trips originating in Brawley and Blythe, with deliveries to the Ports of Los Angeles and Long Beach.

In 2008, in response to the local air district directives and San Pedro Port's clean truck program, both companies began transitioning their fleet operations from diesel to LNG.

Because SunLine's Thousand Palms LNG facility closed soon after BVT and HDF converted their fleets, they decided to construct LNG fueling infrastructure to support their own fleet needs (Phase 1), with the goal of expanding the facility (phase 2).

Project Objective

The project objective was to construct a new LNG fueling station in Palm Springs. The site, located at 670 West Garnet Road in the City of Palm Springs, was chosen because it was a logistically key location on the I-10.

With financial assistance from the SCAQMD and CEC, BVT initiated phase 1, which included site acquisition and grading, paving, wall and fencing construction, laying concrete, and installing electric control and security lighting as well as drainage and installation of a 6,000 gallon "Quick Response Station" (QRS) LNG fueling unit including associated controls and appurtenances.

Phase 2 incorporated forward planning and phased development to provide for expanded fueling infrastructure in support of other truck operators seeking LNG fueling alternatives along the east-west Phoenix to LA and the south-north Imperial County to LA trips.

Technology Description

The technology used for this station was a 6,000 gallon QRS LNG portable fueling unit. The station saturates the entire contents of the storage tank immediately upon refill. This automatically occurs when the offload operator changes the selector switch from "offload" to "dispense" and variable saturation set points between 25 and 100 psig can be selected. Saturation is accomplished by circulating LNG through an ambient vaporizer and back into the tank. Once saturated, LNG is dispensed via a suitable cryogenic pump.

Status

BVT has completed the phase 1 site development and installation of the QRS fueling unit in early 2012. An operational permit was issued on March 20, 2012. Fueling capability was initially limited to a manual mode at the start of operation. An initial challenge included data connectivity of a point-of-sale (POS) system to the fuel flow metering system included with the QRS unit. After several months of diagnostics, GreenFIX America completed the installation and connection of a state-of-the art POS system that auto logs throughput and allows truck operators to purchase fuel through the use of special purchase cards (BVT and HDF) or credit cards. Working with GreenFIX America, and the support of USLandLink and the other subcontractors, BVT successfully installed the LNG fueling unit to support 40 clean burning trucks. Phase 2, which includes expanded storage and fueling capabilities, is scheduled to begin in 2013.

Throughput measured at the Palm Springs site for the first four months of operation is as follows:

Actual LNG Throughput		
Year	***LNG Gallons Dispensed***	***Gasoline Gallon Equivalents***
*June 2012**	*7,500*	*5,035*
*July 2012**	*10,000*	*6,715*
August 2012	*19, 300*	*12,950*
September 2012	*19,300*	*12,950*
TOTAL	***57,100***	***37,650***

Recent work has also included vapor recovery systems to capture methane blow-off or "boil-off" which will be collected and pressurized for CNG use at 3,600 psi. Several loads of CNG have been dispensed at this location to a local CNG operator (CV Ice) making deliveries to the Yucca and Morongo basin areas.

Figure 1: LNG Storage Tank

Results

BVT is now successfully operating an LNG fueling facility in support of 40 LNG trucks. The direct and immediate benefit is the reduction of NO_x, PM and GHG emissions. The attached table provides a representation of the reductions:

	Border Valley		**HayDay**		**TOTAL**	
Criteria Pollutant Emission Reduction Calculation	NO_x	PM	NO_x	PM	NO_x	PM
Annual Fuel Consumption (LNG gallons)	40,040	40,040	41,470	41,470	81,470	81,470
Annual Fuel Consumption (dge)	23,553	23,553	24,394	24,394		
Annual Emission Reductions (tons/year)	**1.83**	**0.037**	**1.895**	**0.038**	**3.73**	**0.75**

Benefits

The conversion of 40 heavy-duty trucks from diesel to LNG is achieving a significant reduction of emissions within the SCAQMD's jurisdiction as well as the Greater Southern California area.

The Palm Springs facility has the opportunity to bridge one small gap; however, continued support of clean energy programs and infrastructure remains essential to help stimulate the industry. Affordable fueling opportunities remain limited along the interstates resulting in reluctance in the private sector to convert diesel to natural gas.

Project Costs

The actual costs for phase 1 were about 10-15% higher than estimated. These costs included fire and gas detection as well as integrating a POS system with the data collector on the QRS fueling unit. BVT and its partner HDF made significant business investments in developing the Palm Springs LNG fueling facility. A summary of final project costs is as follows:

Phase 1	
BVT	$472,570
HDF	$472,565
SCAQMD	$251,865
Phase 2	
BVT	$325,000
HDF	$325,000
CEC	$500,000
MSRC/AB Discretionary Fund	$150,000
Total Project Costs	**$2,497,000**

This investment was made both as a commitment to cleaner burning fuel and the environment, but also as an opportunity to reduce long-term operational costs through fuel savings. The SCAQMD's support to help pay for site development costs has been critical to the project.

Commercialization and Applications

Phase 1 of the Palm Springs site will support 40 heavy-duty trucks making round trips from Imperial County and east Riverside County to the Ports of Los Angeles and Long Beach. This initial investment provided a strategic location to provide LNG fuel where very limited and difficult to access options existed. It will provide a return on cost (key to any private business activity) through the cost savings of fuel and re-fuel efficiencies based on location. This return, roughly 7 years, is based on the cost of LNG fuel at roughly 60% the price of diesel. The commitment by BVT and HDF to cleaner burning fuels was not only a business investment but an investment towards a cleaner, greener future for everyone.

SCAQMD Contract #12386 **June 2013**

Demonstrate Natural Gas-Powered Police Vehicle

Contractor
Agility Fuel Systems

Cosponsor
SCAQMD

Project Officer
Phil Barroca

Background
Mobile source emissions continue to be a major contributor to air pollution in the South Coast Air Basin. The SCAQMD's Fleet Rules provide a mandate for public fleets to purchase clean, alternative fuel vehicles when replacing or adding to their fleets; however, law enforcement and emergency vehicles are exempt from these rules and, collectively, law enforcement vehicles represent a significant amount of mobile source emissions in the basin.

Project Objective
The objective of this project was to increase awareness and use of alternative fuel vehicles in the law enforcement vehicle sector. This program was intended to demonstrate the use of a clean, natural gas-powered vehicle in a law enforcement vehicle and deploy this vehicle into daily police vehicle activities. This demonstration program is exclusive with the City of South Pasadena which will provide annual vehicle performance information and vehicle operator feedback for a period of two years.

When this project was initially approved by the SCAQMD Governing Board in 2009, the Ford Crown Victoria was the most widely deployed vehicle in law enforcement agencies in the country. This project specifically funded the purchase of a new 2011 FCV, the conversion to dedicated CNG, and a two-year demonstration of this vehicle by the City of South Pasadena. The program commenced with contract execution in the second quarter of 2012.

Technology Description
The technology in this project involves the conversion of a new gas-powered 2011 Ford Crown Victoria Police Pursuit Vehicle (PPV) to dedicated CNG. The PPV is powered by a 4.6 liter, V-8 engine. The CNG conversion is an EPA approved system by EvoTek LLC, a subsidiary of Impco Technologies, Inc. The vehicle's CNG fuel storage consists of five high pressure CNG fuel storage tanks comprising a total of 16.9 gasoline gallon equivalents (GGE) of CNG fuel. Four tanks, or 12.4 GGE are Type 1 steel tanks; the vehicle was subsequently upgraded with a 4.5 GGE Type 3 CNG fuel tank to provide the vehicle with extended range and usability. The CNG conversion and tank installations were performed under subcontract by A-1 Alternative Fuel Systems located in Fresno, CA.

Figure 1: City of South Pasadena CNG 2011 PPV

Figure 2: Type 3 CNG Fuel Tank upgrade installed in trunk of PPV; 4.5 GGE of fuel capacity.

Status

The City of South Pasadena has been operating the CNG PPV since the second quarter of 2012, primarily as a K-9 unit. The vehicle has amassed 35,000 miles to date and based on conservative estimates displaced the use of more than 2300 gallons of gasoline. The City recently reported that the engine dies on occasion when the vehicle is idling at a stop; this problem is currently under review.

Benefits

Relative to its gas-powered counterpart, the CNG version of this vehicle is at least 70% cleaner in hydrocarbon plus NO_x emissions. As mentioned above, the vehicle is also displacing the use of petroleum-based fuels. Based on full-life projections of 300,000 miles for this vehicle vocation, a CNG-powered Ford Crown Victoria would displace the use of 20,000 gallons of gasoline.

Project Costs

The total amount awarded to this project was $54,000 for the purchase of a new 2011 Ford Crown Victoria with the factory-equipped PPV package, the installation of the CNG conversion system and four CNG fuel storage vessels. An additional $3,145 was approved for this project to purchase and install one 4.5 GGE Type 3 CNG fuel storage tank to increase the vehicle's fuel storage capacity to 16.9 GGE.

Commercialization and Applications

The technology utilized in this project has been successfully demonstrated and increased awareness to cities and municipalities and law enforcement jurisdictions on both the environmental benefits and cost benefits of using CNG in high fuel consuming vehicles.

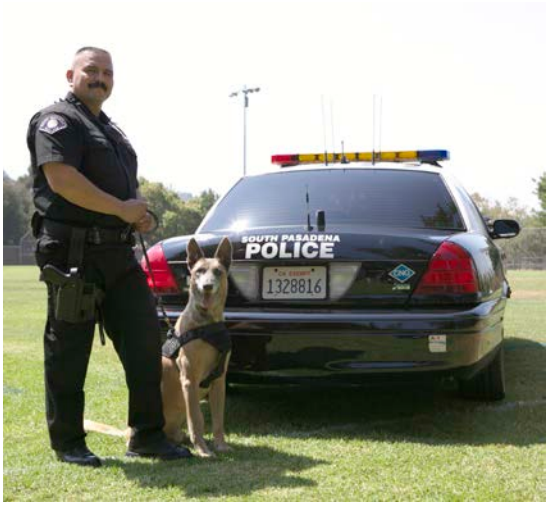


Figure 3: City of South Pasadena CNG-powered K9 unit

SCAQMD Contract #08320 / 08321 **January 2013**

Remote Sensing Measurements of On-Road Emissions from Heavy-Duty Diesel Vehicles

Contractor

University of Denver and Environmental Systems Products (now Envirotest Systems Corporation)

Cosponsors

NREL
SCAQMD

Project Officer

Wei Li

Background

It is important to determine and monitor the benefits of CARB regulations in comparison to the large sums of public funds devoted to heavy-duty vehicle (HDV) diesel emission reductions. To properly gauge the effectiveness of HOV regulations, it was deemed necessary to conduct a study to develop a database of on-road emissions from HDVs operating near ports.

Project Objective

The study was intended to update on-road HDV fleet emissions data to better characterize in-use on-road heavy-duty vehicle emissions in the South Coast Air Basin and evaluate the impact of CARB's Drayage Truck Regulation and In-Use On-Road Heavy Duty Diesel Vehicle Regulation and San Pedro Bay Ports Clean Air Action Plan (CAAP). A subsidiary goal was to compare results from two different measurement systems.

Technology Description

Two sets of remote sensing equipment were used, a University of Denver developed FEAT 3002, used for research studies, and a commercial product, the RSD 4600, made by Environmental Systems Products (ESP), now Envirotest Systems Corporation.

Remote sensing is an inexpensive method of measuring on-road CO, CO_2, HC and NO (both instruments); and NO_2, SO_2 and NH_3 (FEAT 3002 only) gaseous emissions; and UV(RSD 4600 only) and IR opacity (both instruments) from a large number of vehicles without inconveniencing vehicle operation.

Status

Four field campaigns conducted over five years, 2008, 2009, 2010 and 2012, resulted in license plate matched records for 7078 trucks at the Port of Los Angeles Water Street exit (shown below in Figure 1) and 9189 trucks at the Peralta Weigh Station on SR91. Each campaign operated for one week at each of the two locations.

This study was successfully completed in December 2013.

Figure 1: Port of Los Angeles Weigh Station

Results

Peralta: The heavy-duty California fleet observed at Peralta continues to age and over the five year span has increased in average age by about 0.9 model years. Since 2008 the average model year of just the California fleet has gone from 2000.2 (8.1 years old) to 2003.8 (9 years old).

FEAT reported NO_x ($NO+NO_2$) emissions have decreased by 27% from 2008 to 2012 with the largest drop (more than 60% of the total) occurring since the 2010 measurements. For the 2008 to 2010 period, the RSD 4600 reported 11% of NO reductions compared to 13% reductions in NO reported by FEAT over the same period. RSD 4600 was not used at Peralta in 2012.

The overall trend for FEAT IR %opacity at Peralta showed no statistical change since 2008, though a closer examination by chassis model year shows that the DPF equipped trucks (chassis models 2008 and newer) have similar IR %opacity reductions as those seen at the Port though their fraction of the fleet at Peralta was still too small to reduce the overall mean. The RSD 4600 UV channel reported a 7% reduction between 2008 and 2010.

Port of Los Angeles: The fleet age at the Port changed dramatically between the sampling campaigns in 2008 and 2012, averaging almost 14 model years newer. In 2008 the average model year was 1995.6 (~12 years old) and in 2012 the average model year was 2009.3 (~ 3 years old).

FEAT reported NO_x emissions reductions of 55%, with the decrease slowing as expected since 2010 when the CAAP truck replacement was completed. The RSD 4600 observed a 56% reduction in NO compared with the FEAT instruments NO reduction of 50%.

A 54% reduction in FEAT IR %opacity was observed from 2008-2010 with no significant change during the last 2 year interval. The RSD 4600 IR and UV smoke channels reported reductions of 64% and 76% respectively, from 2008 to 2012, with most of the reduction occurring from 2008 to 2010.

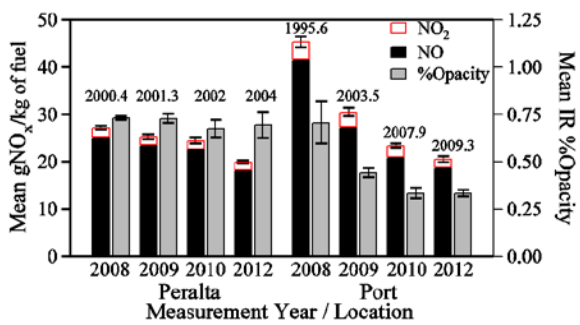


Figure 2: FEAT 3002 Mean Grams of NO and NO2 per kg of fuel (left axis) and IR %Opacity (right axis) versus measurement year.

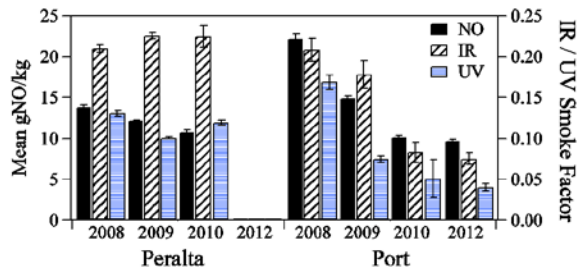


Figure 3: RSD 4600 mean Grams of NO per kg of fuel (left axis) and IR and UV Smoke Factor (right axis) versus measurement year.

Comparison of FEAT 3002and ESP 4600 Results

FEAT 3002 and RSD 4600 emission measurements were binned by model year for each campaign and results compared. Results for NO showed good correlation while the correlations for other pollutants were variable.

Benefits

The remote sensing technology is uniquely able to inexpensively monitor the heavy-duty fleet and ensure emission reduction benefits are being achieved and maintained. The technology is able to measure and compare emissions from differently fueled vehicles. These capabilities allow public agencies to make regulatory decisions with better information and with greater confidence.

Project Costs

	SCAQMD	NREL	Total
DU FEAT Measurements and Reporting	$161,041	$161,041	$322,082
ESP RSD Measurements	$ 38,000	-	$ 38,000
Total	$199,041	$161,041	$360,082

Commercialization and Applications

Both FEAT 3002 and RSD 4600 systems reported similar trends and both are well suited for monitoring progress in HDV on-road emissions that are otherwise expensive and difficult to monitor. The FEAT unit has the advantage of measuring NO_2 as well as NO and of measuring SO_2, and ammonia (NH_3). The RSD 4600 UV smoke channel was more sensitive to particulate emissions than the IR channels of either system. The addition of an NO_2 channel to the RSD 4600 would be beneficial and is being undertaken by the manufacturer.

SCAQMD Contract #11611 **October 2013**

In-Use Emissions Testing & Demonstrate Retrofit Technology for On-Road Heavy-Duty Engines

Contractor

West Virginia University Research Corp

Cosponsors

CARB
Ports of Los Angeles and Long Beach
SCAQMD
West Virginia University

Project Officer

Adewale Oshinuga

Background

On-road heavy-duty engines are now subject to the 2010 U.S. EPA emissions standards of 0.01 g/bhp-hr PM and 0.20 g/bhp-hr NO_x. Some engine manufacturers are using emission credits which allow them to produce a mixture of engines certified at, below, or above 0.20 g/bhp-hr NO_x. While recent limited-scale studies have shown reduced NO_x and PM emissions from trucks powered by 2010 compliant engines, other studies indicate a potential increase in some exhaust emissions. As such, additional studies are required to assess the impact of the technologies on emissions from engines used in a variety of applications, particularly since the number of these engines will continue to increase in the future. In December 2010, the SCAQMD awarded contracts to West Virginia University (WVU) and University of Riverside, California (CE-CERT) to conduct in-use emissions testing, and if needed, to evaluate emission reduction potential of retrofit technology on existing and new on-road heavy-duty engines. In 2011 the emission testing study was amended to include additional funds from the Ports of Los Angeles and Long Beach to conduct additional in-use emissions tests of heavy-duty drayage vehicles and assess in-use emissions from a 2010 U.S. EPA compliant heavy-duty vehicle as the vehicle is driven over a 2,500-mile route between Morgantown, WV, and Riverside, CA.

Project Objective

The primary objective of this study was to evaluate the emissions rates of regulated pollutants from current model year heavy-duty diesel, natural gas and dual-fueled vehicles operating under different vocations. Specifically:

1. Assessment of emissions rates of CO, CO_2, NMHC, CH4, NO_x and PM emissions from vehicles operating as port drayage application, transit buses and refuse trucks.
2. Characterize ammonia emission rates from stoichiometric-fueled natural gas vehicles and urea-SCR diesel vehicles.
3. Characterize PM number concentrations and formaldehyde, benzene, toluene, ethyl benzene and o-p xylene emissions.
4. Develop a retrofit strategy for reduction of ammonia emissions from natural gas engines.
5. Assess in-use emissions from a 2010 U.S. EPA compliant heavy-duty vehicle as the vehicle is driven over a 2,500-mile route between WV and CA.

Project Description

WVU and CE-CERT were contracted by SCAQMD to conduct heavy-duty chassis dynamometer testing to achieve the above-mentioned objectives. The test matrix included vehicles from eight engine technology categories distributed among four different vocations. A total of 24 heavy-duty vehicles were tested as part of this study. WVU used the transportable heavy-duty chassis dynamometer stationed at Ralph's Distribution Center at Riverside for this study as shown below in Figure 1.

Figure 1: Test Vehicle during chassis dynamometer testing

As part of the in-use emissions testing study, WVU was contracted to collect data during a cross-country truck operation for over 2,500 miles from Morgantown, WV to Riverside, CA. Figure 2 shows the test vehicle in Denver, CO, during the cross-country study.

Figure 2: Test Vehicle set up for the cross-country data collection

Status

The testing phase of the project was completed in February 2013.

Results

First, the in-use emissions testing study showed that NO_x emissions from natural gas vehicles with TWC and the dual-fuel HPDI equipped with DPF and SCR to be lower 2010 compliant diesel engines both in term of distance-specific and brake-specific emissions. Sustained activity of the TWC under all operating conditions contributed to orders of magnitude lower NO_x emissions. The overall lower engine out NO_x emissions from the dual-fuel HPDI engine reduced the effect of SCR inactivity on the NO_x emissions from this engine. Second, exhaust temperature characteristics over the drayage cycle did not support sustained SCR activity for the diesel with SCR, while the stoichiometric natural gas with TWC exhibit orders of magnitude lower NO_x emissions over all three drayage activity. Third, the dual-fuel HPDI vehicles also exhibited lower NO_x even during periods of no SCR activity. From a perspective of port drayage application the natural gas fueled vehicles will contribute to lower NO_x emissions during activities inside the port and local urban type operation. Fourth, diesel vehicles with SCR require sustained vehicle speeds and higher operating loads to achieve lower NO_x emissions. Fifth, stoichiometric natural gas engines were characterized by orders of magnitude higher ammonia emissions than diesel vehicles equipped with SCR. Sixth, N2O emissions from natural gas engines were observed only during the warm-up phase of the three-way catalyst. No significant N2O emissions were detected from any diesel technology vehicles. Finally, particle size distribution analysis showed particle emissions from stoichiometric natural gas engines and DPF equipped diesels to be of the same order of magnitude as ambient air concentrations. The results also indicated the impact of engine component ageing on ultrafine particle emissions.

Results of the cross-country study showed that the NO_x conversion efficiency of the SCR after-treatment system to be on an average 83-88% during the course of the test campaign. Sustained temperatures of greater than 250 Deg C contributed to high SCR activity at highway driving conditions. One of the shortcomings of the cross-country study was the lack of high traffic densities in major sections of the route. Figure 3 shows the SCR after-treatment efficiency and the measured SCR intake exhaust gas temperatures during the entire cross-country test campaign.

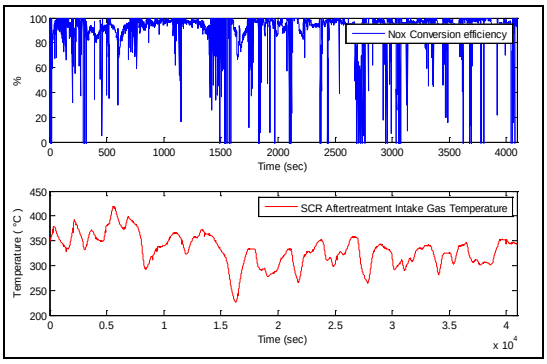


Figure 3: NO_x conversion efficiency of SCR and exhaust gas temperatures during cross-country study

Benefits

The study provided a comprehensive understanding of emission rates of current technology heavy-duty diesel and alternative fueled engines operating in Southern California. In addition, the study provided a reference for updating federal, state and local in-use emissions inventories.

Project Costs

The total project cost was $1,982,162, of which SCAQMD's cost was $1,459,484. CARB, POLA, POLB, WVU and UCR provided the remaining $522,678 in direct and in-kind contributions.

SCAQMD Contract #11612 **August 2013**

In-Use Emissions Testing & Demonstrate Retrofit Technology for On-Road Heavy-Duty Engines

Contractor

University of California, Riverside

Cosponsors

CARB
Ports of Los Angeles and Long Beach
SCAQMD
University of California, Riverside

Project Officer

Adewale Oshinuga

Background

On-road heavy-duty engines are now subject to the 2010 U.S. EPA emissions standards of 0.01 g/bhp-hr PM and 0.20 g/bhp-hr NO_x. Some engine manufacturers are using emission credits which allow them to produce a mixture of engines certified at, below, or above 0.20 g/bhp-hr NO_x. While recent limited-scale studies have shown reduced NO_x and PM emissions from trucks powered by 2010 compliant engines, other studies indicate a potential increase in some exhaust emissions. As such, additional studies are required to assess the impact of the technologies on emissions from engines used in a variety of applications, particularly since the number of these engines will continue to increase in the future. In December 2010, the SCAQMD awarded contracts to West Virginia University (WVU) and University of Riverside, California (CE-CERT) to conduct in-use emissions testing, and if needed, to evaluate emission reduction potential of retrofit technology on existing and new on-road heavy-duty engines. In 2011 the emission testing study was amended to include additional funds from the Ports of Los Angeles and Long Beach to conduct additional in-use emissions tests of heavy-duty drayage vehicles and assess in-use emissions from a 2010 U.S. EPA compliant heavy-duty vehicle as the vehicle is driven over a 2,500-mile route between Morgantown, WV, and Riverside, CA.

Project Objective

The objectives of this study were to conduct in-use testing of heavy-duty natural gas and diesel vehicles while measuring: 1) regulated emissions; 2) unregulated emissions such as ammonia and formaldehyde; 3) greenhouse gas levels of CO_2 and N2O; and 4) ultrafine PM emissions.

Project Description

WVU and CE-CERT were contracted by SCAQMD to conduct heavy-duty chassis dynamometer testing to achieve the above-mentioned objectives. The test matrix included vehicles from eight engine technology categories distributed among four different vocations. A total of 24 heavy-duty vehicles were tested as part of this study. The testing protocol involved measuring emissions while the vehicles followed driving cycles that were better at representing the in-use emissions than those used for certification. All testing was carried out on a chassis dynamometer with measurements being made with a laboratory meeting 40 CFR Part 1065 specifications.

Figure 1: Truck being tested on chassis dynamometer

Status

The testing phase of the project was completed in May 2013.

Results

Emissions of PM and NOx

- PM emissions from all diesel vehicles and driving cycles met the 10mg per bk-hp-hr

certification limit. For inventory purposes, the measured value on a per-mile basis was ≤2 mg/mi. PM emissions for the single LPG vehicle found in the South Coast Air Basin was ~140mg/bk-hp-hr on the UDDS cycle.

- NO_x emissions depended on the certification value, application/driving cycle and the manufacturer. With diesel engines used for goods movement, emissions were lowest with installed SCR technology; however, increases up to 500% were measured when the temperature of the SCR was <325ºC. Vehicles using only cooled EGR were certified to higher levels and surprisingly showed emissions for near-port operations that were 250% higher than for service to regional distribution centers. An overall lower average exhaust temperature is typical of vehicles operating close to port where a significant amount of queuing takes place.
- Navistar engines all had emissions exceeding the compliance level. News in May 2013 indicated that Navistar exceeded the limit established for engines certified under the EPA nonconformance penalty (NCP) rule, thus resulting in a recall of the Navistar engines. Other news indicated Navistar's approach to use EGR and pay fines as the NO_x emission solution was abandoned in favor of adopting SCR technology like the other engine manufacturers. Navistar's technology change to SCR will allow them to comply with the strict NO_x certification levels.
- NO_x emissions from diesel refuse haulers using SCRs showed most of the NO_x was produced during the compaction portion of the in-use cycle as exhaust temperatures were relatively low when compared with exhaust temperature during the transit portion of the cycle
- An important finding was the percentage of NO_x as NO_2 ranged from 10% to near 90% with most of the data showing high levels of NO_2, especially with an SCR. These values can be compared with the retrofit rule where the NO_2 levels were limited to 20% above the baseline levels.

NH_3, Hydrocarbons, Toxics and Fine PM

- NH_3 emissions were very low; ranging from about 10 to 100 mg/mi over the range of vehicle/cycle combinations. All vehicles showed cycle averaged raw NH_3 emission concentrations <10ppm.
- The emission factors for the THC, CH_4, NMHC and toxics were very low for all vehicle/cycle combinations with a DOC/DPF installed as expected from the ACES project that showed a 98% reduction from diesel engines without DPFs. THC, NMHC, and CH_4 emissions were at or below 0.45 g/mi, 0.30 g/mi, and 0.20 g/mi, respectively.
- Real-time PM measurements suggest the reported reference PM emission rate may be lower due to low filter weights for DPF equipped vehicles.
- Fine particles show higher concentrations during the first 200 seconds of a cold start. Hot stabilized engines show similar results between test cycles. The fine particles appear to be higher for the regional port cycle where extended high loads were experienced by the after treatment systems.

Greenhouse Gas & Fuel Economy

- For engines burning diesel fuel, the GHG and fuel economy are represented by CO_2 since the very low methane emissions do not measurably contribute to GHG. However with LPG, methane emissions represented ~8% of the GHG. Fuel economy ranged from 2.6 to 7.6 mpg for the range of vehicles and cycles, with goods movement vehicles having the highest fuel economy for the regional cycle. The refuse trucks showed slightly higher fuel economy values for the RTC compared to the UDDS.
- The project measured N_2O, another greenhouse gas, and levels were very low for all vehicles and were about one to two standard deviations above ambient concentrations, as expected.

Benefits

The project met the intended goals and provided direct information on the difference between in-use and certification emission levels for trucks operating in the Basin. The results point to a need to lower the emissions from HDDT even with the current strict emission standards, especially when the trucks are operating outside the not-to-exceed zones. Otherwise, this region will not make the planned progress towards cleaner air.

Project Costs

The total project cost was $1,982,162, of which SCAQMD's cost was $1,459,484. CARB, POLA, POLB, WVU and UCR provided the remaining $522,678 in direct and in-kind contributions.

SCAQMD Contract #12154 **October 2013**

Identify Cellulosic Biomass Feedstocks

Contractor

University of California, Riverside / CE-CERT

Cosponsors

Ford Motor Company Endowed Chair
SCAQMD

Project Officer

Brian Choe

Background

California consumes more transportation fuel than any other state, with gasoline alone responsible for 14.6 billion gallons in 2011. High fuel use produces high greenhouse gas (GHG) emissions that feed global climate change. The national Renewable Fuel Standard (RFS2) mandates alternative fuels with lower GHG emissions than motor gasoline, and State Low Carbon Fuel Standards (LCFS) require carbon intensity to drop 10% by 2020. The California Air Resources Board and California Energy Commission note that biofuels from non-edible abundant lignocellulosic biomass in the state can reduce GHG emissions by as much as 75% over conventional fuels.

Project Objective

The objective was to identify state lignocellulosic residues and wastes with favorable characteristics for conversion into biofuels using University of California, Riverside (UCR) high throughput (HT) systems through four main tasks: (1) select promising cellulosic biomass, (2) analyze their sugar content, (3) evaluate their recalcitrance, and (4) design a HT hydrolysis and dehydration reaction system.

Technology Description

Four parameters, adapted from the 2011 National Renewable Energy Laboratory (NREL) technoeconomic report, defined the criteria for promising biorefinery feedstocks: (a) potential availability of at least 773,000 dry tons/year, (b) distribution density over 98.5 dry tons/mi^2, (c) minimum structural carbohydrate content of 59%, and (d) a sugar yield at or above 90% (wt/wt). Two national and two regional studies were utilized to estimate the availabilities and county level distribution densities of biomass types and allow selection of biomass materials satisfying the criteria. Next, the UCR downscaled HT system was applied to simultaneously determine sugar contents of up to 16 leading biomass candidates with 3 replicates of each. UCR's HT pretreatment and enzymatic hydrolysis (HTPH) device shown in Figure 1 was then applied to measure actual sugar release from biomass types that possessed more than 59% sugar by weight based on one pretreatment with just hot water at 180°C and another with 0.5% dilute sulfuric acid at 160°C followed by enzymatic hydrolysis with a high loadings of Spezyme® CP cellulase and Multifect® Xylanase xylanase. Biomass that released more than 90% of total sugar content was deemed most promising. Finally, a high-pressure steam chamber was designed and fabricated to operate at up to 260°C and 665 psig, thereby allowing future screening for production of reactive intermediates (RIs) that can be converted into hydrocarbon fuels.

Figure 1: UCR's HTPH device

Status

The project was completed in November 2013. The report contains details of the four tasks outlined in this summary. All tasks needed to identify promising sources of biomass in California were completed. The kinetic modeling study originally planned was not undertaken as selection of promising candidates was possible without this additional information.

Results

Of the more than 60 biomass types evaluated, 9 cleared the first threshold for availability in excess of 773,000 dry tons/year: municipal solid wastes (MSW) as mixed paper with mixed cardboard and processed wood wastes; agricultural residues of rice straw, heifer, and dairy cattle manures; and logging, thinning, and primary and secondary mill residues from forestry. Together, these made up more than two-thirds or 68% of the state's 23 million dry tons of cellulosic residues and wastes.

Out of these 9 biomass types, rice straw qualified as the most promising single biomass feedstock candidate. Field and seed crop rice straw had an average potential availability approaching 1 million dry tons/year and a distribution density ranging from a low of 110 dry tons/mi^2 to a high of 131 dry tons/mi^2 concentrated in small clusters of 6-7 contiguous rice producing counties (i.e., Glenn, Butte, Colusa, Sutter, Yolo, Yuba, and Placer Counties) in the Central Valley. Rice straw also showed a total glucan, xylan, mannan, galactan, and arabinan sugar content that exceeded 59% (wt/wt). Furthermore, yields of the dominant sugars of glucose, xylose, galactose, and mannose was as high as ~92% (wt/wt) when subjected to dilute sulfuric acid HTPH at 160°C.

Another promising feedstock is MSW mixed paper. Although sugar yields were limited to 60-70% (wt/wt), such sugar yields were possible without pretreatment, the single most expensive step in bioethanol production from cellulosic biomass.

The remaining biomass types did not meet criteria for adequate distribution density (i.e., heifer manure, MSW processed wood wastes, secondary mill residues, logging slash, and thinnings), sugar content (i.e., dairy cattle), and sugar yields (i.e., MSW mixed cardboard and primary mill residue).

It is important to note that the study had some limitations that deserve more attention. First, combining several of the biomass types that are available in particular areas would likely result in the total availability meeting the selection criteria. In addition, although the assessment took into account sustainability and handling losses, it did not include the impact of current consumptions in other non-biofuel sectors or the costs of gathering biomass from the source, which could alter availability. Also, the biomass evaluation depended on the particular samples that could be obtained, and more extensive sampling could ensure that the results are more representative at the state level. And energy crops could greatly increase the impact. However, more extensive studies of this nature were beyond the scope of this project.

Benefits

Assuming a 76% of theoretical conversion of biomass to ethanol, rice straw, which constitutes 4.3% (wt/wt) of cellulosic biomass now available in California, would generate 77 million gallons/year of bioethanol, equal to 5.9% (vol/vol) of the 1.3 billion gallons of ethanol consumed by the state in 2010. If processes were available to release sugars from the more recalcitrant lignocellulosic materials in California, softwoods of Douglas fir and redwood primary mill residues, along with MSW mixed papers and cardboards, as much as 351 million gallons or 27% of the state's 2010 ethanol consumption could be generated. Thus, even though, such materials did not satisfy all four criteria, it is important not to ignore them in light of such considerations.

Project Costs

The project was completed at a cost of $250,000, of which SCAQMD provided $235,000 and the Ford Motor Company Endowed Chair provided $15,000.

Commercialization and Applications

This study shows lignocellulosic biomass could contribute substantially to meeting California GHG reduction targets. In addition, even greater impact would likely be possible through deconstruction of more recalcitrant materials to the RIs furfural, levulinic acid, and 5-hydroxy-methylfurfural (5-HMF) for conversion into infrastructure compatible fuels. The HTHD system developed in this project is a valuable tool for efficient screening of multiple materials at favorable conditions for RI formation.

SCAQMD #13451 **December 2013**

Passenger Vehicle Replacement Tire Efficiency Study

Contractor

Energy Solutions

Cosponsors

Energy Solutions
SCAQMD

Project Officer

Aaron Katzenstein

Background

Passenger vehicle low-rolling resistance replacement tires (herein referred to as "fuel efficient tires") provide significant opportunities to reduce air pollutants and carbon dioxide while saving consumers fuel and money. Fuel efficient tires are technically feasible and common for new vehicles (due to environmental regulations) with a very high benefit/cost ratio and rapid payback. However, they face significant market barriers in the replacement market. This is because manufacturers face a modest cost increase, tire retailers lack a significant incentive to stock and promote fuel efficient tires and consumers have limited resources to identify these tires.

Project Objective

The objective of this study was intended to:

- Quantify environmental benefits of fuel efficient tires, including expected fuel savings and air quality and greenhouse gas (GHG) benefits;
- Define fuel efficient tire characteristics; and
- Evaluate a fuel efficient tire incentive program design.

Technology

Rolling resistance refers to the force needed to move a tire forward and overcome internal deformations and friction with the road. Rolling resistance co-efficient (RRC) is a common benchmark and is determined by the force needed to overcome rolling resistance divided by the load on the tire. Technologies to reduce rolling resistance without sacrificing traction include increasing the use of natural rubber with dispersed silica. Low-rolling resistance tires are widely deployed on new vehicles by Original Equipment Manufacturers (OEMs) and U.S. EPA predicts a further 10% improvement in this market by 2015. Thus a 25% per vehicle reduction in replacement market tire rolling resistance is technically feasible as shown in Figure 1 from the study. A 20% overall reduction is feasible including vehicles with specialty tires.

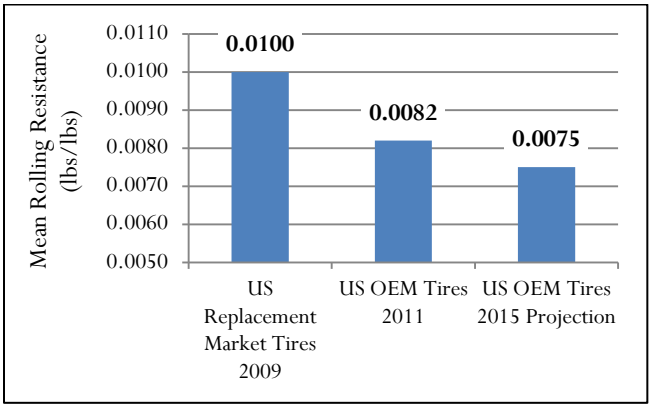


Figure 1: Replacement Market Passenger Vehicle Tire Rolling Resistance Coefficient (RRC) Compared to OEM Median RRC

Sources: RMA 2009, Lutsey 2012, Energy Solutions Calculation

Status

The study was completed in October 2013, and successfully achieved all objectives.

Results

An overall 4% fuel economy benefit can be achieved for the fleet of vehicles operating on replacement tires. Estimated air quality benefits from one year of full deployment include 1,500 tons of ozone precursor reductions and 1.6 million tons of greenhouse gas (GHG) reductions. Manufacturers are not expected to trade-off rolling resistance for other attributes (safety/traction and durability) and appropriate program design can discourage trade-offs.

An incentive and education program can achieve benefits that are proportional to participation rates. Retailers will play a key role due to customer interactions and stocking decisions. An electronic

processing system, with purchase data submitted by retailers, will also play an important role.

Benefits

Expected benefits far exceed costs under a wide range of scenarios. For instance, a hypothetical one year program with a 10% penetration rate at a cost of $12.50/tire ($50/vehicle) would cost about $9 million (this example is not intended to predict actual participation rates). This hypothetical program would achieve net lifetime benefits of $50-$64 million at a benefit/cost ratio of about 7:1 due to fuel savings, GHG reductions and criteria pollutant benefits. Air quality benefits alone (including GHG), using the lower of two valuation methods in the study, would roughly equal costs. Net benefits would scale up with higher penetration rates, even if somewhat higher costs per vehicle were necessary. This extremely high benefit/cost ratio exceeded initial expectations.

Project Cost

SCAQMD project cost was $10,000. Energy Solutions provided a $6,000 cost-sharing contribution in recognition of the importance of this project.

Commercialization and Application

Fuel efficient tires are ready for commercial deployment in the replacement market and regulators in the European Union, Japan and South Korea have set a precedent with policies to overcome market barriers in overseas markets. An SCAQMD incentive and education program would help overcome market barriers locally and the following implementation steps are recommended:

1. Determine incentive levels and structure based on available funding levels and further retailer engagement.
2. Test tires for rolling resistance to support program design and prepare an initial list of eligible products and allow manufacturers to submit data for additional products.
3. Evaluate potential designs for an on-line system that accepts retailer sales data, validates qualifying product purchases and processes rebate applications.
4. Support state efforts to promote fuel efficient tires and federal efforts to develop a customer information and labeling program. In the meanwhile, the SCAQMD can consider the development of educational materials to complement a potential local incentive program.

SCAQMD Contract #08246 **December 2013**

Showcase: Demonstration of NO_x and PM Emission Control Technology on Diesel-Powered Construction Equipment

Contractor

Griffith Construction Company

Cosponsors

Griffith Construction Company
Nett Technologies Inc
Puritech GmbH
SCAQMD

Project Officer

Richard Carlson

Background

Off-road equipment represents an important source of emissions in the South Coast Air Basin. Based on the California Air Resources Board (CARB), there were approximately 68,600 pieces of diesel-powered construction equipment in the Basin in 2006, which together produced approximately 120 tons per day of NO_x and 7.5 tons per day of PM emissions.

The Showcase was a cooperative program between the SCAQMD, MSRC, CARB, participating off-road equipment fleets and control technology providers to demonstrate the effectiveness and durability of emission control technologies for off-road construction equipment.

The SCAQMD awarded a contract to Griffith Construction to participate in the Showcase Program to demonstrate NO_x and particulate matter (PM) control technologies on five off-road vehicles.

Project Objective

The objective of this project was to demonstrate after-treatment NO_x and PM emission control systems for off-road construction vehicles. The demonstration included the following goals:

- No interference with operator visibility, access or safety.
- Equipment performance and functionality equivalent to non-retrofitted configuration.
- Operation for a minimum of 1,000 hours with CARB monitoring.

Technology Description

Two technologies were selected: 1) a combined DPF and SCR technology from Nett Technologies and 2) a DPF technology which included fuel injected in front of an oxidation catalyst from Puritech.

The Nett BlueMAX Ultra system uses a fuel burner to raise the exhaust gas temperature high enough during normal operation to continuously regenerate the DPF. Regeneration is initiated automatically based on exhaust pressure, flow rate and temperature. The Nett BlueMAX Plus SCR system uses a passive continuously regenerated DPF while the excavator is operating normally and is intended for units with higher exhaust gas temperatures. The SCR system is the same on both systems and injects urea in front of an SCR catalyst based on NO_x concentration, exhaust temperature and exhaust flow. Emission reductions up to 90% for NO_x and PM are claimed by Nett.

The PURImax includes a DPF preceded by an oxidation catalyst and a diesel fuel injection system. Diesel fuel is injected to maintain the exhaust temperature high enough for passive DPF regeneration and also to reduce NO_x, particularly NO2. Fuel is automatically injected according to exhaust temperature and exhaust flow rate while the equipment is operating normally. Puritech claims 90% PM reduction and 30% NO_x reduction.

Figure 1: DPF/SCR Catalyst on Loader

Status

The five retrofit systems were installed on the off-road equipment. The Nett BlueMAX Ultra SCR system with actively regenerated DPF was installed on two Tier 1 Caterpillar TH103 rough terrain forklifts in 2009 and 2010. However, the systems were removed in 2011 because rough terrain forklifts were not well suited for the Nett retrofit system due to the system's high electrical demand when running, the intermittent/short run time duty cycle of the forklifts, and their low average engine power. The result was that the forklift batteries frequently ran down and the power demand for battery charging and operation of the retrofit system exceeded the capacity of the alternators. The two forklift systems only accumulated a few hundred hours.

The Nett BlueMAX Plus SCR system with passively regenerated DPF was installed on a Tier 3 Caterpillar 330DL excavator in 2013 and has accumulated approximately 600 hours. A low NO_x efficiency alarm for the SCR system was reported several times but has been corrected by a software change. There were no problems with the DPF.

The Puritech PURImax DPF was installed on one Tier 1 Caterpillar 988G rubber-tired loader and one Tier 3 Caterpillar 950H rubber-tired loader in 2012. The Tier 1 loader has accumulated nearly 3,000 hours and the Tier 3 loader has accumulated over 1,800 hours. Both have operated without problems and DPF cleaning has not been required.

Results

No emission measurements were performed on these systems because CARB was unable to provide a portable emission measurement system as originally planned. The demonstration showed that off-road equipment can be successfully retrofitted with retrofit devices that reduce both PM and NO_x provided they are compatible with the specific equipment duty cycle and configuration.

Benefits

The benefits of this demonstration are mainly qualitative since emission measurements were not performed. The project demonstrated that retrofit systems that reduce both NO_x and PM can be installed and operated successfully on off-road equipment. As a result, retrofit can remain an option for future emission reductions.

Project Costs

Total Project	SCAQMD	Griffith
$191,450	$92,750	$98,750

Additional non-monetary cost-share was provided by Nett and Puritech for maintenance of their systems.

Commercialization and Applications

CARB verification is required for commercialization in California. The technology providers are currently pursuing CARB verification for off-road engine applications. The Nett SCR system is verified by EPA for off-road mobile applications. A Nett DPF is verified by CARB for stationary engines. The PURImax system is verified in Europe. The systems demonstrated in the project are commercially available outside California.

SCAQMD Contract #10069 **October 2013**

Develop & Demonstrate Selective Catalytic Regeneration Technology for NO_x and PM Emissions Control on Heavy-Duty Trucks

Contractor
Johnson Matthey Inc

Cosponsors
SCAQMD
U.S. EPA

Project Officer
Jeff Cox

Background

There is a great deal of test data and field experience that demonstrate the performance and reliability of passive technologies for the reduction of PM. There has been little data collected that demonstrates the performance and impact on fleet operations of the newer retrofit NO_x reduction technologies using SCR. A demonstration of the emission reduction and the impact on fleet operations of these new technologies is necessary to evaluate the potential impact of the retrofit technology.

Project Objective

This project was undertaken to demonstrate the emission reduction potential with a retrofit 4-way emission control technology on 35 heavy-duty diesel trucks operating in the South Coast Air Basin. Since SCR based NO_x reduction is effected by the exhaust temperature profile of the application, special attention was paid to the relationship between system performance and exhaust temperature. Of secondary concern is the impact that such a technology will have on a fleet from an operation and maintenance standpoint.

Technology Description

Johnson Matthey (JM) has developed a product that combines their continuously regenerating technology (CRT) with urea-based selective catalytic reduction (SCR) to retrofit on heavy-duty diesel vehicles. The SCRT consists of several subsystems; CRT, SCR catalyst module and urea dosing system.

The CRT was previously verified by CARB as a level 3 PM control device (>85% reduction) that also meets the 20% NO2 requirement for 1998-2002 MY heavy-duty diesel engines. The SCR system uses NH3, carried on the vehicle as urea, to reduce NO_x over a vanadium-based catalyst. The precise air assisted injection of urea is performed using an OE dosing pump controlled by an ECU developed by JM.

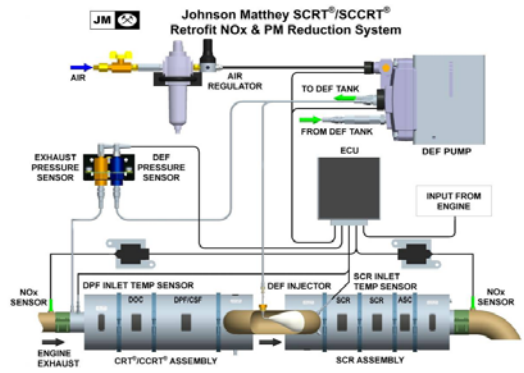


Figure 1: System Schematic

Status

The phases of this project were:

- CARB test plan was completed and submitted on September 15, 2010, for vanadium. There was an SCR catalyst formulation change that occurred during the program. All program field installations were vanadium SCR.
- 25 systems were installed and operated on trucks within 5 fleets. The trucks were equipped with Caterpillar C12, Cummins ISM, Mack E7 or MBE OM906LA engines built between 1999 and 2003.
- Chassis dyno emissions testing that was originally part of the program was cancelled.

Figure 2: Universal Application Mounted System

Changes to the CARB On-Highway Truck and Bus 2010 Regulation occurred during this program. The previous interim 2007 NO_x standard was dropped and instead required a direct transition to a 2010 NO_x standard.

Potential program participating fleets dropped out with the consideration of installing a retrofit PM device only as a route to rule compliance with less complexity than the JM SCRT system with post program upgrade costs. The balances of system installations against the program were not complete because the SCRT CARB experimental operational permit expiration date and the CARB verification timing were not aligned, requiring system removals.

Results

Emissions data was gathered using NO_x sensors to compare system out and engine out NO_x levels during actual operation. The daily operational NO_x reduction was as high as 85% as seen below.

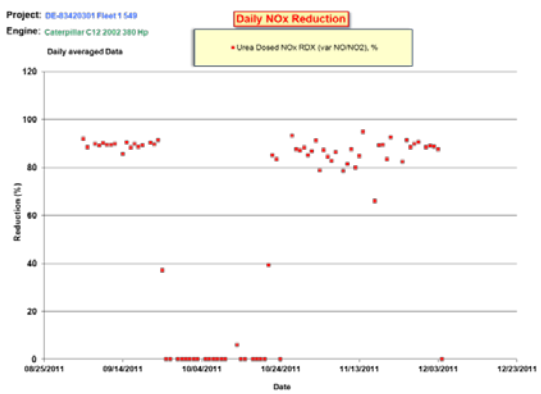


Figure 3: Daily NO_x reduction during SCRT durability trial

Other information generated by the project included:

- Verification that 70% NO_x reduction can be achieved with a CRT inlet temperature over 240°C for 40% of the operating time.
- A universal Class 7/8 system bracket design was integrated on the majority of participating vehicles.
- Bracket system durability failures were observed in a challenging bulk hauling application that experienced some off-highway unpaved surfaces when g loads exceed 7g's.
- Wire splices in the electrical harness had failure issues during installation where harness routing had aggressive bend radius during installation.

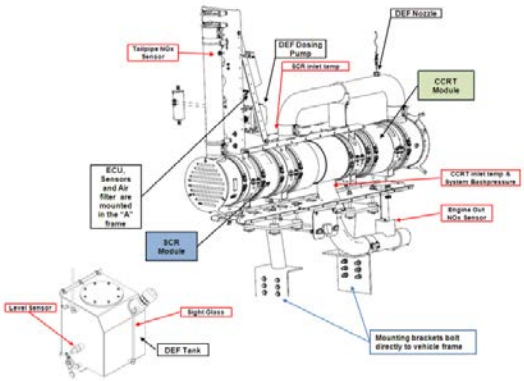


Figure 4: Vehicle Integration Application Schematic

- DEF connections (flareless tube, pipe and JIC fittings) from tank to pump proved to be a challenge at initial system commissioning requiring some post installation service downtime.
- The installation location and orientation of the tailpipe NO_x sensor was demonstrated as unreliable in some installations.

Benefits

Besides the percentage of NO_x reduction shown, the data gathered during this program was able to show that some applications with 15 hour shifts could remove as much as 13 lbs. of NO_x per daily average.

Project Costs

Total project cost was $1,200,000, of which SCAQMD contributed $300,000 along with pass-thru funding provided by U.S. EPA in the amount of $900,000.

Commercialization and Applications

This demonstration program identified areas in the system that needed improvement like the wiring harness, DEF line connection methods and tailpipe NO_x sensor orientation to increase the system reliability. The universal class 7/8 bracket design system behind the vehicle cab integrated well with various over-the-road applications for bulk goods delivery. Certain vehicle applications with excessive operational g loadings challenged the bracket systems where improvements are required before commercialization. The universal bracket design allowed for the system to be assembled with common parts and the price of the system to be lowered because of better volume purchasing.

SCAQMD Contract #12485 **March 2013**

CSULB CEERS Student Education Study to Assess the Effects of a Humid Air System with an Exhaust Scrubber on Diesel Emissions

Contractor

CSULB Foundation

Cosponsor

SCAQMD

Project Officer

Alfonso Baez

Background

Humid air system or fumigation is an effective approach in reducing diesel NO_x emissions. In this method, water vapor is injected in the intake air supplied to the engine cylinders. The process reduces the local temperature in the cylinder and raises the specific heat of the air-fuel mixture which also contributes to the elimination of the hot spots in the engine cylinder. With decreased temperature, NO_x reduction is achieved. With an optimized system, fumigation can reduce NO_x emission without significant increases in hydrocarbon emissions. Other benefits of the process include longer life of the engine components due to reduced cycle temperature and reductions in carbon deposits.

Air misting has been used to remove dust particles in the air. In general, fogging and air misting could reduce concentration of large particles of 2-10 microns but not the smaller ones. One of the effective methods for removing small particles is the use of an electrostatic scrubber. In this method, the droplets entering the scrubber region are electrically charged which results in attraction of the particles to the droplets and their sedimentations.

Project Objective

The objective of the project was to investigate the combined effects of the humid air system and an exhaust fog scrubber or an electrostatic fog for significant reductions in both NO_x and PM emissions of diesel engines.

Technology Description

The experiments were performed in the diesel engine laboratory of the CEERS/Mechanical and Aerospace Engineering Department. A Vanguard 3-cylinder naturally aspired liquid-cooled diesel engine connected to an electric dynamometer with a maximum output power of 20 brake horse power (BHP) at 3600 rpm was used for the investigations. The experiments were performed at two different BHP of 5.3 and 8.8. Due to the high freestanding resistance by the dynamometer, it was not possible to run the experiments at a higher load.

The gaseous emissions were measured with a Horiba PG-250 emission analyzer. The exhaust PM measurements were performed in two different methods. The first was a direct measurement with a TSI DusTrak aerosol monitor (Model 8520). The unit is supplied with three different inlet nozzles for different size particle measurements. For the present investigations, the 2.5 µm inlet nozzle was used.

The second method for PM measurements was using a dilution tunnel connected to a cyclone with a Teflo filter (Figure 1). The raw exhaust gas was transferred via the sampling pilot tube to the dilution tunnel via a heated transfer tube. The dilution tunnel was also supplied with filtered dry air equipped with temperature, pressure, and flow control sensors. Two stainless steel tubes of 0.635 cm ID were used for sampling the diluted flow downstream of the venturi. One tube was connected to the Horiba PG-250, and another to the cyclone. 47 mm Teflo filters as recommended in 40 CFR 1065 were used. The Teflo filters were conditioned (dried) in a uniform temperature at 72F inside a class 10,000 clean room for at least 24 hours both prior to and after the experiments before weight measurements. Weight measurements were performed with a Mettler-Toledo MT5 analytical microbalance, provided by the UCI laser center.

Figure 1. Dilution Tunnel and Horiba 250 Emission Analyzer

The humid air intake was generated using a Sunpentown humidifier (Model SU-2000) which injected mist to the intake air of the engine at a rate of 6.05 cm3/min at 70 F. The level of humidity at the engine air intake was measured with an Omega RH 32, temperature/humidity meter. A 60% relative humidity for the intake air could be maintained.

The electrostatic fog was produced with a newly designed L-shaped static generator rod connected to a variable voltage AC generator. Figure 2 shows the experimental set-up.

Figure 2. Mixing box

Status

The project has been completed in March 2013.

Results

Tables 1 and 2 show exhaust emissions and percent changes of NO_x and PM for the highest BHP with two different methods of PM measurements. These cases are:

C1. Raw exhaust (Exh),
C2. Exhaust with humid air system (Exh&Hum),
C3. Exhaust with exhaust fog scrubber (Exh&Fog),
C4. Humid air intake and exhaust fog scrubber (Exh&Hum&Fog),
C5. Exhaust with electrostatic fog scrubber (Exh&Fog&Elec), and finally
C6. Exhaust with humid air intake and electrostatic fog scrubber (Exh&Hum&Fog&Elec)

In table 1, the reduction in NO_x for C2, when humid air system was used was in excess of 24%, the highest among all cases studies. At this power, the combustion temperature was high and the humid air was effective in reducing the temperature, resulting in substantial reduction in the NO_x emission. Injecting fog into the exhaust resulted in nearly 20% NO_x reduction, followed by C5 at nearly 17%, C4 at about 13%, and finally C6 at slightly higher than 12%.

C2 was the only case with substantial reduction in PM (at slightly higher than 34%), when the humid air system was used. All the other cases showed increases in PM, even in the C3 experiment when fog was injected into the exhaust.

	rpm	Torque (N.m)	mf (lb/hr)	BHP (hp)	BSFC (lb/ hr-hp)	PM/ BSFC	NOx/ BSFC	% ΔPM/ Exh	% ΔNOx/ Exh
Exh	1754	20	3.31	8.77	0.38	113.20	259.07		
Exh&Hum	1758	20	3.97	8.79	0.45	74.30	196.28	-34.36	-24.24
Exh&Fog	1765	20	3.31	8.83	0.37	116.17	207.54	2.62	-19.89
Exh&Hum&Fog	1768	20	3.17	8.84	0.36	121.48	224.61	7.31	-13.30
Exh&Fog&Elec	1767	20	3.17	8.84	0.36	123.25	215.37	8.88	-16.87
Exh&Hum&Fog& Elec	1767	20	3.17	8.84	0.36	136.62	227.55	20.69	-12.17

Table 1. % Change in Emissions with Direct PM Measurements

In table 2, except for C2, all cases showed increases in PM emission with the highest being for C6, followed by C4, C3, and C5 respectively. For C2, there was substantial reduction in PM emission at nearly 40% which also corresponds to the highest rate of NO_x reduction at slightly higher than 51%. All other cases also displayed NO_x reduction with C3 being the next highest followed by the C6, C4, and C5 respectively. These trends were similar with the previous results when PM was measured directly with a TSI unit.

	rpm	Torque (N.m)	mf (lb/hr)	BHP (hp)	BSFC (lb/ hr-hp)	PM/ BSFC	NOx/ BSFC	% ΔPM/ Exh	% ΔNOx/ Exh
Exh	1754	20	3.31	8.77	0.38	232.42	114.72		
Exh&Hum	1758	20	3.97	8.79	0.45	139.76	55.78	-39.87	-51.38
Exh&Fog	1765	20	3.31	8.83	0.37	266.52	86.98	14.67	-24.18
Exh&Hum&Fog	1768	20	3.17	8.84	0.36	270.28	95.04	16.29	-17.15
Exh&Fog&Elec	1767	20	3.17	8.84	0.36	250.31	98.78	7.70	-13.89
Exh&Hum&Fog& Elec	1767	20	3.17	8.84	0.36	302.18	94.31	30.01	-17.79

Table 2. % Change in Emissions using Dilution Tunnel for PM Measurements

Benefits

Results of the present experiments have shown that the humid air system and exhaust fog scrubber with distilled water as the working fluid are viable options for reducing both NO_x and PM emissions in diesel engines.

Project Costs

The project was completed with funding from the SCAQMD in the amount of $28,000 and in-kind cost-share contributions in the form of space and laboratory equipment and additional person-hours.

Commercialization and Applications

Further steps are required for development of a portable adaptive system that can be incorporated in the existing and new diesel trucks for reducing NO_x and PM emissions.

SCAQMD Contract #09345 **April 2013**

Demonstrate Medium-Speed Neighborhood Electric Vehicles

Contractor

South Bay Cities Council of Governments (SBCCOG)

Cosponsor

SCAQMD

Project Officer

Lisa Mirisola

Background

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. Passenger cars and light trucks account for most of these emissions. In addition, there are increasing concerns over GHG emissions from these vehicles and petroleum dependence from the heavy use of conventional technologies. For many residents within the geographic boundaries of the SCAQMD, commutes and other daily trips can be accomplished solely on residential streets at speeds below 35 MPH.

Project Objective

This program was intended to promote neighborhood electric vehicles (NEVs) to residents, businesses and municipalities in the South Bay sub-region. The project objective was to answer these three questions:

1. Will South Bay residents drive NEVs to satisfy a portion of their travel needs without the infrastructure changes and driving culture that have provided support in the most successful NEV communities elsewhere?
2. Does the usage have the potential to produce significant environmental and economic benefits?
3. Is large scale deployment of NEVs (or LUVs) feasible?

Technology Description

A NEV is a zero emission vehicle that can be driven on public streets subject to being registered, having a Vehicle Identification Number (VIN), being insured and adhering to vehicle safety standards. In 1998, the National Highway Traffic Safety Administration (NHTSA) of the Federal Department of Transportation defined a street-legal Low Speed Vehicle (LSV) in the Code of Federal Regulations (Rule FMVSS 500). NEVs are recognized as a sub-class of LSVs, limited to a maximum speed of 25 MPH and restricted to streets with speed zones of 35 MPH or less. The "advancement" involved is learning how to stimulate a stalled market place for a technology that was originally commercialized about 20 years ago.

Figure 1: NEV Used in Study

Status

The active demonstration phase of the project was completed in December 2012. There were four main activities: 1) preparation (leasing vehicles, arranging insurance; acquiring and installing GPS, recruiting, and selecting and training participants); 2) active demonstration (51 households drove a NEV for 2 to 4 months each); 3) data processing and analysis (GPS generated a data point every minute each vehicle was "on" creating millions of geo-data points that were mapped, summarized in tables, and interpreted); and 4) reporting. Unanticipated problems included occasional

unreliability of the NEVs which led to a change in fleet composition about half way through the active demonstration; poorly maintained driver logs which required additional staff time to call drivers for interpretation; and more complex travel patterns and destinations which required more staff time to interpret and analyze.

Results

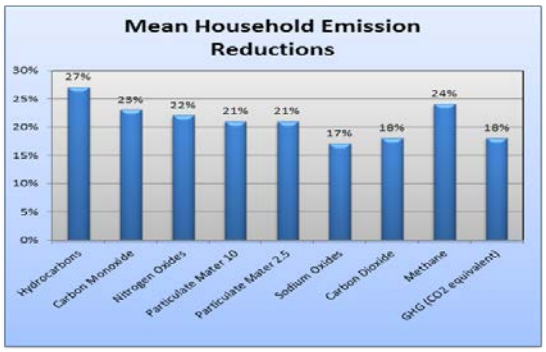


Figure 2: Mean Household Emission Reduction

The objectives did not involve any specific emissions reduction targets. Emissions reduction per household is one outcome the project sought to measure. However, the average household reductions in criteria pollutants and GHG emissions were surprisingly high compared to reasonable expectations.

Another of the objectives was to verify that drivers routinely used a NEV and accessed a wide range of destinations. NEV miles on average made up 19% of total household VMT. There were no performance tradeoffs. More NEV use resulted in greater reductions in criteria pollutants and GHG emissions reductions.

Benefits

The immediate benefits included giving a specialized, zero emission neighborhood vehicle a high level of public exposure, while producing environmental impacts that can help make the vehicle attractive to manufacturers and policy makers.

Potential benefits include the pollution reductions that are possible if all South Bay residents "right sized" their vehicles to suit their travel needs. That is assuming all trip segments less than 5 miles long, driven by South Bay residents in a zero emission neighborhood vehicle (approximately 1.7 billion of 43% of the VMT driven by South Bay residents) could be shifted from gasoline to EV propulsion technology. That is approximately 1 billion annual trip segments or 82% of all trip segments. That equates to a 59% reduction in private vehicle hydrocarbons, 52% reduction in carbon monoxide, 51% reduction nitrogen dioxide, 48% reduction in all particulate matter, 47% reduction in sodium oxides, and a 56% reduction in methane emissions. Overall, battery recycling will improve the net gains from widespread NEV use, although NEVs use relatively small onboard battery packs.

Project Costs

	Actual Cost (Including in-kind by SBCCOG)	**SCAQMD Project Budget**
Total	$311,807.02	$298,640.00
Labor	$175,757.74	$158,805.00
GPS	$10,497.19	$10,435.89
Insurance	$10,491.39	$11,336.11
Vehicle Acquisition	$105,517.52	$118,063.00
Vehicle Unplanned	$6,527.79	$ -
Other Expenses	$3,015.39	$ -

Commercialization and Applications

The South Bay Cities Council of Governments is planning a presentation specifically for the auto manufacturing industry to share the data that essentially establishes the existence of a short range, slow speed vehicle market in mature, compact suburbs such as the South Bay cities. Lessons learned about product quality and price will also be presented.

There are about 275,000 "secondary" vehicles driven by South Bay residents. Replacing them with NEVs and other ZEVs is the market target. The primary barrier to reaching that target is the public education to guide residents and businesses toward the ability to "right size" their vehicle choices. Most residents currently use too much automotive technology to make the 1-, 2-, and 3-mile trips that make up the majority of their average travel behavior.

SCAQMD Contract #10738 **June 2013**

Demonstrate Quick Charge Infrastructure for Electric Buses

Contractor
Foothill Transit

Cosponsors
ARRA (via FTA)
SCAQMD

Project Officer
Joseph Impullitti

Background
Transit buses are ideal applications for advanced, alternative energy technologies that address criteria pollutant and greenhouse gas emissions because they operate in highly visible, congested areas where air quality is a problem. Electric zero emission transit buses address these problems. Traditionally, the range and charging needs of batteries have been barriers to employ battery-powered buses in large scale applications. Additionally, the weight of traditional buses has made it difficult to feasibly incorporate a battery with sufficient power and energy storage capacity into coach designs. By using a smaller battery that can be charged quickly and repeatedly, the bus weight and cost can be reduced. The keys to quick charge electric bus technology are the utilization of a quick charge battery and quick charge infrastructure. The battery must be able to retain its energy reserve and charging profile over many charge-discharge cycles and be quick charged in ten minutes or less. The quick charge infrastructure must be able to deliver a large amount of energy in a short period of time and operate safely without human intervention because of the high voltage and associated heavy cables.

Project Objective
The objective of this demonstration is to determine the feasibility of quick charge electric buses and associated infrastructure in an established urban route. Foothill Transit replaced three diesel buses with Ecoliner electric buses with quick charge capability and quick charge infrastructure on an existing route from the City of La Verne to the City of Pomona.

Technology Description
Each 35-foot Proterra Ecoliner quick-charge electric bus can carry 37 passengers and were built with the following features:

- Composite body: lighter weight, longer life, less cost to maintain
- Battery (74 kWh): <10 minute recharge time, safe chemistry, tested>10,000 cycles
- Drive System: improved fuel economy, reduced noise, low maintenance, lower operating costs

The charging infrastructure was designed and built by AeroVironment with the following features:

- 500KW charger can rapid charge the battery from 10% to 95% in 10 minutes or less
- Unique architecture allows for lower cost and lower impact grid connections while maintaining high charge rates
- Safe overhead charge connection, no operator contact with charger

Status
The three buses are currently operating in revenue service on Foothill's 291 lines from La Verne to Pomona.

Figure 1: Ecoliner Bus Being Charged at Foothill Transit's Pomona Station

Results

All three Ecoliner buses are running in daily revenue service on line 291 from La Verne to Pomona. The three buses have accumulated nearly 175,000 in-service miles and Proterra data collection indicates overall energy efficiency is as good as or better than initially expected. The following characterizes the performance results of the demonstration:

- Total battery charge/discharge cycles: 22,406
- Battery capacity loss over 3 years: <2%
- Maintenance and Repair issues:
  - No propulsion or charging issues
  - Borg Warner transmission issue, replaced with Eaton transmission
  - Non power-train issues with fit & finish, doors and wheel chair lift
- Maintenance Cost Savings Over Diesel: Approximately $40K/year for 3 buses
- Fuel Economy Vs. Diesel:
  - Altoona test results: 17.5 to 29.2 mpg diesel equivalent
  - Fuel Economy: 1.5 – 2.0 kWh/mile
  - 40 foot diesel bus averages 3.8 mpg
  - Cost for 120 mile daily usage:
    - Ecoliner - $36 ($0.15/kWh)
    - Diesel - $126 ($4.00/gal)

Benefits

Foothill Transit believes that quick charge battery electric vehicles will be a solution that will create a paradigm shift for transit fleets because:

- Ability to use battery-electric vehicles as a one-to-one replacement of a conventionally driven vehicle
- Lower energy requirements – smaller battery means lower cost lower weight, improved efficiency, and the battery can accept a high rate of charge so regeneration from braking is increased.

According to CARB, a reduction of 0.47 tons of criteria pollutants and 77.3 tons of GHG's per bus per year is realized. If Foothill Transit were to meet the ZBUS regulation with 15% of their fleet converted to electric, the benefits would be 22.4 tons of criteria pollutants and 3,600 tons of GHG emission reductions.

Project Costs

SOURCE	CONTRIBUTION	PERCENT
ARRA (via FTA)	$4,770,000	94%
SCAQMD	$290,000	6%
TOTAL	$5,060,000	100%

Commercialization and Applications

Foothill Transit became the first transit agency in the U.S. to use on-route charge electric buses. The Proterra buses are 72% plus Buy America content and qualify for FTA funding. The agency is purchasing an additional 12 buses from Proterra to completely electrify its 291 route between La Verne and Pomona. Cost per bus is $990K which is a 25% reduction compared to the first three buses that cost $1.2M per bus. The new buses will have improvements to Fit & Finish, new doors, new seating layout and the same power-train and batteries which have performed well for Foothill. Nine of the twelve buses will be assigned to the 291 Route and 3 buses will be assigned to other routes in Foothill Transit's territory.

SCAQMD Contract #12024 **May 2013**

Upgrade & Install Electric Charging Infrastructure

Contractor
ECOtality

Cosponsor
SCAQMD

Project Officer
Patricia Kwon

Background

There are approximately 1,800 PEV chargers in need of upgrading in the South Coast Air Basin. These sites are ideal locations to upgrade electrical vehicle service equipment (EVSE) for Level 2 charging at a lower cost than to install EVSE at new site locations. Leveraging the DOE and/or CEC funding, SCAQMD executed a contract with ECOtality to install new or upgraded Level 2 EVSE at high usage site locations identified by SCAQMD and ECOtality. ECOtality received DOE and CEC funding to pay for hardware and partial installation costs for Level 2 EVSE at 70 site locations. SCAQMD is providing cofunding of $1,000 per charger to offset installation costs at these locations. Data will be collected from these chargers and provided to SCAQMD to assist in SCAQMD's PEV infrastructure planning process for the DOE and CEC PEV infrastructure grants for the South Coast region.

Project Objective

SCAQMD executed a contract with ECOtality to leverage DOE and CEC support for installation of Level 2 EVSE as part of The EV Project, a national project for installation of EVSE in key markets. ECOtality upgraded existing EVSE which were obsolete and installed new EVSE. ECOtality submitted a list of approved sites. As part of the SCAQMD program, ECOtality dedicated full time resources to identify potential site hosts eligible for replacement of obsolete units.

ECOtality completed installation 47 of the planned 70 EVSE. Some costs are in excess of $1,000, with those costs were supplemented by The EV Project funding and/or the site hosts. Using the approved site list for sites with obsolete equipment proved challenging. For a three month period, ECOtality had a full-time staff person contact site hosts and owners of obsolete EVSE to assess replacement opportunities. With little progress, ECOtality assigned additional staff and regional management to make contact to a larger approved list. From January 2011 to March 2012, these employees were largely unable to secure approval for replacement of obsolete EVSEs. Some significant challenges encountered were:

- Site hosts did not understand or recognize that the site had EVSE
- Site hosts felt the new EVSE was another passing fad
- Site hosts felt obsolete equipment was not used and new EVSE would be under utilized
- Site hosts felt the EVSEs offered little benefit to their business
- Site hosts did not believe enough PEVs existed to support the replacement of EVSE
- Site hosts did not want to enter into business agreements

After attempting to improve contact and replacement of obsolete EVSE through the use of experienced skilled sales and support staff, ECOtality approached SCAQMD to request approval of funds to contribute to new sites. By agreement, ECOtality followed the same procedures for submission to SCAQMD and provided site locations for approval or denial. These new installations accounted for 68% of the replacements and contributed to additional EVSE installations. Some prominent locations included LA Live Staples Center, Loyola Marymount University, University of Southern California, and Fox Studios. Other sites who received SCAQMD funding included local small businesses, hotels, marketplaces, and commercial developments. All sites are publicly accessible during business hours. For instance, Staples Center EVSEs may only be available during official events.

Technology Description

Level 2 EVSE with J1772 connectors were installed. The largest challenge for construction of ground-mount EVSE units included the style of EVSE. Because the Blink EVSE utilizes a concrete base; post-mounted EVSE and foundations were not compatible with the Blink unit. This typically required additional construction to facilitate the installation of the new EVSE. As a requirement for new construction and electrical work, permits were required and obtained for projects. There were no significant issues presented with permitting of replacement units.

Status

ECOtality declared bankruptcy in late 2013 and was unable to complete all 70 Level 2 EVSE installations. CarCharging Group assumed control of ECOtality's assets in late 2013 and is the process of communicating with site hosts in The EV Project to determine their future status starting in 2014. The EV Project has been recently extended by DOE to April 2014.

Figure 1: Blink EVSE

Results

ECOtality's Level 2 EVSE installations are shown in the following map:

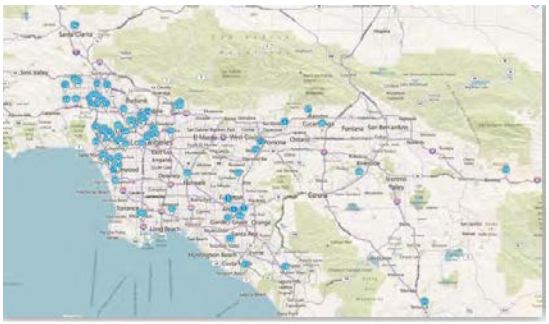


Figure 2: Ecotality's Level 2 EVSE Installations

Source: http://prod.blinknetwork.com/blinkMap.html

Benefits

This project will assist in advancing PEV readiness in California by creating additional public access charging that is convenient and affordable for PEV drivers.

Project Costs

EV infrastructure hardware and installation costs were through DOE and CEC funding from The EV Project, and remaining installation costs were cost shared between The EV Project and the site owner. SCAQMD funding provided $1,000 per EVSE towards installation costs for a total of $70,000.

Commercialization and Applications

Level 2 EVSE is currently commercially available, with installations worldwide. The EV Project installed about 370 Level 2 EVSE in the greater Los Angeles region, with SCAQMD funding contributing towards 70 of those installations.

SCAQMD Contract #10650 **June 2013**

Demonstrate Advanced Fuel Cell Bus (American Fuel Cell Bus)

Contractor

SunLine Transit Agency

Cosponsors

Dept. of Transportation/FTA
CARB
SCAQMD

Project Officer

Joseph Impullitti

Background

FTA's National Fuel Cell Bus Program (NFCBP) includes an international network of technology developers, suppliers and experts in the area of zero emission buses and enabling technology. Periodic reviews and reports on the status of the NFCBP will provide the SCAQMD with available data that may reflect on the commercial readiness of ZBuses and enabling technology.

Project Objective

The intent of this project is the development of a new design fuel cell bus with a North American chassis as well as domestically sourced fuel cell and drive components. Success in this program will ensure availability of a U.S. built product that can offer transit properties the opportunity to buy buses through the FTA capital program. Specifically, the program commercial focus anticipates that the resulting fuel cell bus product would be built and sold profitably at a price of under $2 million. Also, there is an expectation that extended warranties for the fuel cell and battery pack can be attained, further driving down the warranty costs through significantly longer operating lives than the 2005 generation fuel cells and batteries. Body / chassis weight and noise reductions will maximize the number of passengers each fuel cell bus can accommodate while also maximizing the passengers' level of comfort. Packaging the latest generation fuel cell-hybrid drive system into a physically attractive bus with contemporary styling, and which features sufficient U.S. derived content to meet FTA "Buy-America" provisions is very important. Finally, the vehicle will include new power electronics, advanced energy storage and a unique hi-efficiency accessory electronics package.

Technology Description

BAE Systems based the American Fuel Cell Bus (AFCB) propulsion system on its commercial hybrid electric transit bus product, which is operating in buses around the world. For the AFCB, the system was modified to provide power with the Ballard fuel cell system in place of a diesel engine/generator. Ballard's 150 kW fuel cell incorporates the latest advances for durability and efficiency based on numerous field demonstrations of Ballard fuel cell powered buses. The AFCB also incorporates a suite of electric accessories powered by BAE Systems' Accessory Power System.

Status

In accordance with the project plan, the vehicle entered revenue service on December 7, 2011 and completed the one year demonstration phase on December 6, 2012. The bus is continuing in daily revenue service and data provided in this report will be through the end of December 2012. Over the one-year demonstration period, the bus amassed over 36,000 miles and nearly 40,000 miles by the end of December 2012.

Figure 1: AFCB

Results and Benefits

During the evaluation period, the AFCB has achieved exceptional availability, averaging 85 percent. The issues causing downtime were most often related to general bus system items rather than the advanced technologies that were the focus of the demonstration. These issues were generally of a "low tech" nature and consistent with the type of issues that would be expected when introducing a new configuration in a prototype bus model. Overall, the AFCB averaged 6.54 miles per kilogram of hydrogen, which equates to 7.39 miles per diesel gallon equivalent (DGE). Using the gasoline gallon equivalent (GGE) fuel economy of the CNG buses as a baseline, the AFCB had a fuel economy 2.4 times higher than that of the CNG buses.

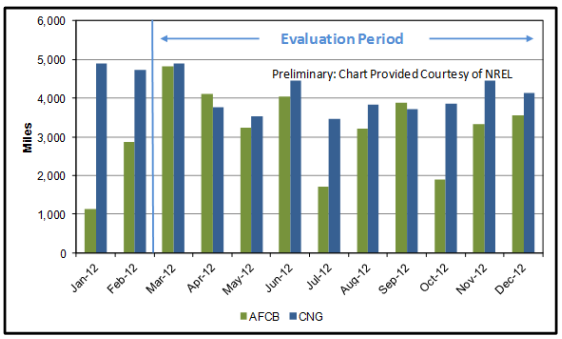


Chart 1: Fuel Cell Bus Miles compared to CNG Reference Fleet

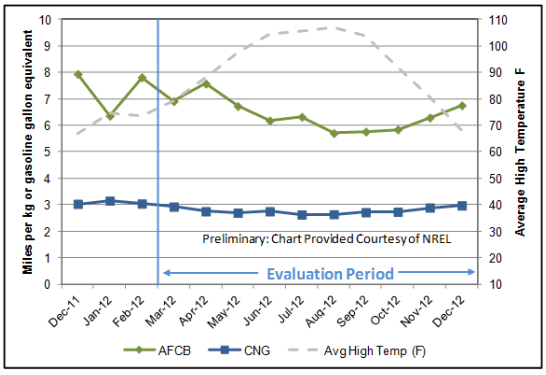


Chart 2: Fuel Economy Summary

Each of the project team members report that the demonstration has gone well and all are pleased with the performance of the AFCB. BAE Systems reports that the performance of the bus matched or exceeded their expectations. SunLine notes that the bus procurement and development process went well and the AFCB start-up issues were much fewer than with previous fuel cell electric buses.

Project Costs

The total project cost was $10,214,877, as follows:

- FTA/CalStart ($4,197,955)
- CARB ($800,000)
- SCAQMD ($400,000)
- BAE ($4,152,450) - in-kind
- SunLine/ElDorado ($664,438) - in-kind

Commercialization and Applications

For fuel cell electric buses to be fully commercialized, the fuel cell hybrid propulsion system needs to be an option offered by the bus OEM in response to increased market demand, as is the case with current diesel hybrid systems. Hybrid buses are currently offered by most OEMs, which order and install the propulsion system at the bus manufacturing plant. BAE Systems' role is as supplier and integrator of propulsion and electric power systems that enable the capability offered by the OEM. In the case of the AFCB project, the integrator and transit agency have taken the lead role in developing the bus. This role needs to transition to the bus OEM for the technology to be fully adopted.

SCAQMD Contract #10714 **December 2013**

Develop Fuel Cell Gas-Turbine Hybrid System for On-Board Locomotive Applications

Contractor

University of California, Irvine

Cosponsors

CARB
SCAQMD

Project Officer

Dipankar Sarkar

Background

Transportation of freight via rail is ubiquitous within the logistics system of both California and the United States. While the system provides a necessary service and has a major positive effect on the economy, its benefits are coupled to serious environmental and health concerns due to the combustion of diesel fuel in conventional locomotives. The burden of these negative effects is disproportionately placed on those who live closest to operational centers for the locomotives. Thus, there exists a need to develop a power system for the locomotives (and in the long-term, other diesel-burning vehicles) that avoids a major portion of the emission of deleterious CO_2, NO_x, and diesel particulate matter. While major development has been underway to develop reciprocating engines or post-combustion technologies to address the issue, it may be an advantage to utilize a fundamentally more efficient and cleaner prime mover technology. The Solid Oxide Fuel Cell-Gas Turbine (SOFC-GT) is proposed as a candidate for this purpose. The SOFC-GT, though still in the early stages of development, has proven to have high-efficiency operation with exceedingly low emissions of CO_2 and NO_x. This work evaluates the system's capability to satisfy the requirements of the locomotive application and the rail industry's expectations.

Project Objectives

The objectives of the project are to (1) develop and implement a proof-of-concept system analysis for a SOFC-GT hybrid power block for long-haul locomotive applications, and (2) establish a conceptual design for a real world demonstration.

Technology Description

In this work, the system is based on the recuperated Brayton cycle, with the SOFC and turbine in the topping cycle configuration. Just as in the recuperated Brayton cycle, the heat exchanger in this work's baseline serves to preheat the air prior to entry to fuel cell, with the intent of supporting a high fuel cell operating temperature so that high power densities can be maintained and losses are at a minimum. In addition, it is assumed that the outlet temperature of the fuel cell will not be high enough to support the turbine inlet temperature requirements. Moreover, control of the turbine's operating temperature is necessary for overall system control. Thus, the system also includes a combustor between the fuel cell and turbine to meet both these needs. The system has a single turbine.

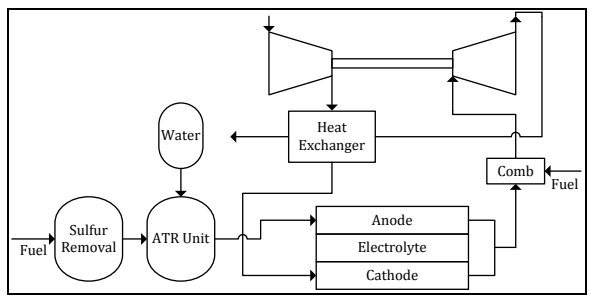


Figure 1: SOFC-GT Baseline System Layout

Status

This project has been completed including the submission of a final report. The project has resulted in the successful development and execution of the simulation model for the SOFC-GT locomotive. The analysis, executed to assess performance when operating on hydrogen, liquefied natural gas and diesel fuels along a representative route through the Cajon Pass, demonstrates the viability of the technology and establishes a conceptual design for a real world demonstration.

Results

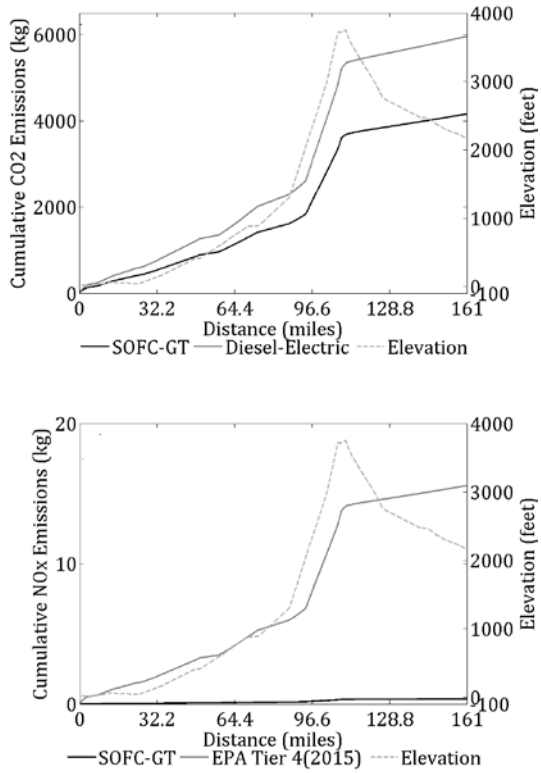


Figure 2: Emissions Comparison between SOFC-GT and Diesel-Electric Systems

Along a typical operating route, an SOFC-GT locomotive fueled by diesel fuel can experience average system efficiency of 52.2%, thereby saving 30.3% of CO_2, and 97.7% of NO_x emissions; a natural gas-fueled system offers average system efficiency of 60%, CO_2 savings of 53.8%, and NO_x savings of 97.7%. For these systems, the integration of the reformer onboard provided an increase in efficiency over the option of offboard reformation; a 7-point gain was observed for diesel and a 12-point gain observed for natural gas. In terms of durability, it was observed that constant rated-power operation could induce a degradation rate of 0.75% per hour, much too high for commercial viability as full deactivation of the SOFC would occur in only 300 hours. However, degradation over a typical route was small enough to be reversible. Furthermore, with a carbon mitigation strategy such as an anode barrier layer applied to only half of the cell, degradation rates could be as low as 0.02% to 0.05% per hour, approaching viability if regenerative cycles are considered a regular part of system maintenance.

It was concluded that the SOFC-GT system is capable of replacing the conventional diesel engine. Adoption of a system operating on diesel would be relatively difficult due to limitations of durability and space available onboard for storing of the water required for reformation. In addition, the degradation issue may be avoided with as little as 100 anode oxidation regenerative cycles over a prime mover lifetime of 100,000 hours of operation. Reformates generated off-board, natural gas reformed onboard and humidified hydrogen were established as viable fuel options, all of which provided even greater efficiency and emissions benefits than the diesel case. The natural gas-fueled system with the fuel reformed onboard proved to be the most efficient option. The hydrogen case would provide for zero emission operation at the locomotive but life-cycle emission dependent on the hydrogen source.

Benefits

The SOFC-GT system has the potential to all but eliminate locomotive NO_x emissions, reduce CO_2 emissions between 30% and 60% based on fuel choice, correspondingly increase fuel efficiency and thereby substantially reduce operating costs, and reduce local noise levels and deleterious air quality impacts in areas of high rail activity.

Project Costs

The cost of the project was $156,000, co-funded by CARB at $78,000 and the SCAQMD at $78,000. The project was completed within budget.

Commercialization and Applications

It was determined that the space (footprint and volume) allocated today for the diesel engine on conventional locomotives is sufficient, and the dynamic response for the proposed SOFC-GT system is satisfactory. The next step is to design and conduct a demonstration of the SOFC-GT power block on an experimental rail platform. The advent of domestically sourced natural gas and the growing interest of railroad companies to transition from diesel to natural gas suggest an implementation strategy with natural gas, circumventing altogether the exploration of fueling the SOFC-GT power block with diesel.

SCAQMD Contract #13113 **January 2013**

Participate in California Fuel Cell Partnership for CY 2012 & Provide Support for Regional Coordinator

Contractor

Bevilacqua-Knight Inc

Cosponsors

8 automakers; 2 energy providers; 6 government agencies; 1 technology provider; and 17 associate members

Project Officer

Lisa Mirisola

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 Bevilacqua-Knight, Inc. for their portion of CaFCP administration. SCAQMD joined the CaFCP in April 2000, and the CaFCP currently includes 34 organizations interested in demonstrating fuel cell vehicle and fueling infrastructure technology.

Project Objective

There were several goals for 2012:

- Establish and maintain a common vision for the market transition of FCVs in California;
- Facilitate the deployment of commercial fueling stations and coordinate with OEM vehicle plans;
- Support practical codes and standards development;
- Prepare communities for vehicles and fueling stations, and train first responders;
- Coordinate with other fuel cell vehicle demonstration programs worldwide; and
- Enhance public awareness and understanding through technology demonstrations and outreach.

Status

The members of the CaFCP intend to continue their cooperative demonstration efforts and have set goals through 2012, subject to a budget approved annually. This final report covers the SCAQMD Contract #11656 for 2012 membership. This contract was completed on schedule.

Figure 1: Fuel Cell Vehicles on Display at Local Event

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 Daimler's B Class F-CELL, GM's Chevy Fuel Cell Vehicle, Honda's FCX Clarity, Hyundai's Tucson, Nissan's XTrail, and Toyota's FCHV-*adv*. The fuel cell transit buses include 12 placed at AC Transit (Van Hool buses with UTC fuel cells) and 3 placed at Sunline Transit (1 UTC/ISE, and 1 Ballard/New Flyer, and 1Ballard/BAE). Proterra has also placed a battery dominant FC hybrid bus at the City of Burbank and Hydrogenics/BAE has placed one bus with SF MTA.

Results

Specific accomplishments include:

- Automotive members placed over 400 fuel cell passenger vehicles on California roads from 1999 through 2012, including the first retail customers starting in 2005;

- Transit agency members have demonstrated 20 fuel cell buses since 1999, with 15 currently in operation (see technology description);
- There are eight public hydrogen fueling stations in operation in California. There are also 15 additional private stations clustered in regional networks in northern and southern California;
- CaFCP staff and members continue to train local fire departments and work with emergency response organizations to coordinate with state and national efforts;
- CaFCP organized or participated in several ride & drive events, notably Santa Monica AltCar Expo.
- CaFCP continued to upgrade its comprehensive up-to-date website focusing on efforts in California, participated in technical and educational conferences, and helped prepare for hydrogen station openings.

Benefits

Compared to conventional vehicles, fuel cell vehicles can offer zero or near-zero smog-forming emissions, reduced water pollution from oil leaks, higher efficiency and much quieter and smoother operation. If alternative or renewable fuels are used as a source for hydrogen, fuel cell vehicles will also encourage greater energy diversity and lower greenhouse gas emissions (CO_2).

By combining efforts, the CaFCP can accelerate and improve the commercialization process. The members have a shared vision about the potential of fuel cells as a practical solution to California's environmental issues and similar issues around the world. The CaFCP provides a unique forum where technical and interface challenges can be identified early, discussed, and potentially resolved through cooperative efforts.

Project Costs

Auto members provide vehicles, 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 member makes an annual contribution of approximately $88,000 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.

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 can play 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.

From 2010 to 2012, CaFCP's goals relate to Building Market Foundations through coordinated individual and collective effort. In 2013, CaFCP will start its fourth phase with activities to launch the commercial market. During this phase, CaFCP members, individually or in groups, will focus on important goals.

- Prepare for larger-scale manufacturing, which encompasses cost reduction, supply chain and production.
- Work on the customer channel, including identifying and training dealers and service technicians.
- 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 RD&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.

SCAQMD Contract #14054 **December 2013**

Participate in California Fuel Cell Partnership for CY 2013 & Provide Support for Regional Coordinator

Contractor

Bevilacqua-Knight Inc

Cosponsors

8 automakers; 6 government agencies; 1 technology provider; and 19 associate members

Project Officer

Lisa Mirisola

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 Bevilacqua-Knight, Inc. for their portion of CaFCP administration. SCAQMD joined the CaFCP in April 2000, and the CaFCP currently includes 34 organizations interested in demonstrating fuel cell vehicle and fueling infrastructure technology.

Project Objective

There were several goals for 2013:

- Establish and maintain a common vision for the market transition of FCVs in California;
- Facilitate the deployment of commercial fueling stations and coordinate with OEM vehicle plans;
- Support practical codes and standards development;
- Prepare communities for vehicles and fueling stations, and train first responders;
- Coordinate with other fuel cell vehicle demonstration programs worldwide; and
- Enhance public awareness and understanding through technology demonstrations and outreach.

Status

The members of the CaFCP intend to continue their cooperative demonstration efforts and have set goals through 2016, subject to a budget approved annually. This final report covers the SCAQMD Contract #14054 for 2013 membership. This contract was completed on schedule.

Figure 1: DOE Solar Decathlon, Irvine CA

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 Daimler's B Class F-CELL, GM's Chevy Fuel Cell Vehicle, Honda's FCX Clarity, Hyundai's Tucson, Nissan's XTrail, and Toyota's FCHV-*adv*. The fuel cell transit buses include 12 placed at AC Transit (Van Hool buses with UTC fuel cells) and 3 placed at Sunline Transit (1 UTC/ISE, and 1 Ballard/New Flyer, and 1Ballard/BAE).

Results

Specific accomplishments include:

- Automotive members placed over 500 fuel cell passenger vehicles on California roads from 1999 through 2013, including the first retail customers starting in 2005;
- Transit agency members have demonstrated 24 fuel cell buses since 1999, with 15 currently in operation (see technology description);
- There are ten public hydrogen fueling stations in operation in California. There

are also 15 additional private stations clustered in regional networks in northern and southern California;

- CaFCP staff and members continue to train local fire departments and work with emergency response organizations to coordinate with state and national efforts;
- CaFCP organized or participated in several ride & drive events, notably Santa Monica AltCar Expo.
- CaFCP continued to upgrade its comprehensive up-to-date website focusing on efforts in California, participated in technical and educational conferences and helped prepare for hydrogen station openings.

Benefits

Compared to conventional vehicles, fuel cell vehicles can offer zero or near-zero smog-forming emissions, reduced water pollution from oil leaks, higher efficiency and much quieter and smoother operation. If alternative or renewable fuels are used as a source for hydrogen, fuel cell vehicles will also encourage greater energy diversity and lower greenhouse gas emissions (CO_2).

By combining efforts, the CaFCP can accelerate and improve the commercialization process. The members have a shared vision about the potential of fuel cells as a practical solution to California's environmental issues and similar issues around the world. The CaFCP provides a unique forum where technical and interface challenges can be identified early, discussed, and potentially resolved through cooperative efforts.

Project Costs

Auto members provide vehicles, 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 member makes an annual contribution of approximately $88,000 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.

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 can play 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.

From 2013 to 2016, CaFCP's goals relate to Preparing for Market Launch through coordinated individual and collective effort. During this fourth phase, CaFCP members, individually or in groups, will focus on important goals.

- Prepare for larger-scale manufacturing, which encompasses cost reduction, supply chain and production.
- Work on the customer channel, including identifying and training dealers and service technicians.
- 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 RD&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.

SCAQMD Contract #13256 **December 2013**

Develop, Initiate and Implement Clean Vehicle Outreach Project

Contractor

Three Squares, Inc. (TSI)

Cosponsor

SCAQMD

Project Officer

Lisa Mirisola
Lourdes Cordova Martinez

Background

The SCAQMD has long supported plug-in electric vehicles, ranging from light-duty battery electric vehicles to heavy-duty plug-in hybrid electric vehicles, due to the clean air benefits associated with electrifying the transportation sector. With the commercialization this year of plug-in vehicles (PEVs) by Nissan, GM and Ford, the SCAQMD Board expressed concerns that only the early-adopters and PEV advocates would know the true value associated with these technologies; whereas the general public is insufficiently educated and often times misinformed about the costs and benefits of such vehicles.

Project Objective

TSI was contracted to coordinate an outreach campaign designed to retool existing SCAQMD programs to include and expand the current efforts to focus some or all of the messaging aspects, where appropriate, in the near-term on clean and high efficiency vehicles. These efforts will be included under a newly badged Clean Air Choices (CAC) program, which will provide an umbrella platform to promote all of the SCAQMD clean air technology activities in the future, such as low-VOC paints and solvents, electric lawn and garden equipment, air filters, low NO_x boiler and aftertreatment technologies, as well as clean vehicles.

Analyzing the list of current clean vehicle outreach events in the South Coast Air Basin, the project team selected several events to conduct in person outreach and live demonstrations of the Clean Vehicle Calculator. TSI also coordinated displays with iPads and custom branded handouts featuring the Clean Air Choices Program Logo.

Technology Description

After several meetings with SCAQMD staff discussing the vision for the calculator, defining the audience (consumers in the South Coast Air Basin) and working through the technical specifications so that the calculator would function across digital platforms (desktop, iPhone, iPad, Droid, BlackBerry), TSI developed the "Clean Vehicle Calculator" and launched the site http://www.cleancarchoices.org.

In order to facilitate ease of use and updating of the calculator data (new vehicle models, smog scores, MSRP, and dealer assignments), TSI developed a Content Management System (CMS) to allow SCAQMD staff to make updates directly via a web-based portal. SCAQMD staff was briefed and trained on using the CMS.

Figure 1: Image of Calculator CMS Interface

Status

The Clean Vehicle Calculator is available online at http://www.cleancarchoices.org and is also available via a click through link on the Clean Air Choices program web site located at http://www.cleanairchoices.org. The CMS is fully functional via a web-based portal and SCAQMD staff have user logins and passwords.

TSI conducted outreach activities at the following events located in the South Coast Air Basin:

- September 20, 2012
  Senior Clean Air Fair - Los Angeles, CA
  September 20, 2013
  AltCar Expo – Santa Monica, CA
- September 28, 2013
  Plug-In Day at the SCAQMD – Diamond Bar, CA

Figure 2: Clean Vehicle Calculator iPad demonstration at AltCar Expo

Results

The CMS was launched prior to the AltCar Expo which allowed updating of the calculator to include the new 2013 clean vehicle models. SCAQMD staff has been trained and will be able to enter the new 2014 clean vehicle models as soon as the vehicle list is available.

TSI staff interacted with attendees both as they visited the SCAQMD booth and while roaming around the event venues. Because of the portability of the handheld iPad, outreach staff was able to interact with attendees waiting in line for the ride and drive and demonstrate the Clean Vehicle Calculator. In addition, TSI staff visited with other exhibitors to inform them about the free online calculator and walk them through a live demonstration.

Benefits

The Clean Vehicle Calculator allows interested car shoppers to view easy, quick comparisons of environmental and economic benefits of selecting a clean vehicle, connect directly with a local dealer and phone the dealer to schedule a test drive.

Project Costs

The following costs were associated with the tasks outlined in the scope of work:

Task 1 – Customized Content Management System = $9,500

Task 2 – Clean Air Choices Outreach = $12,000

The total contract award was $21,500; however, the final budget was $16,901.

Commercialization and Applications

The rebranded Clean Air Choices Program web site will become a venue to feature a variety of programs focused on promoting clean vehicles and clean home choices to residents in the South Coast Air Basin.

The Clean Vehicle Calculator will continue to be updated with new vehicle models as they are added to the SCAQMD Clean Vehicle Lists and featured at local dealerships. The Content Management System will allow SCAQMD staff easy access to make updates via a web interface and the ability to add vehicles, dealerships and edit vehicle data like smog scores.

Appendix D

List of Acronyms

LIST OF ACRONYMS

AFRC—air/fuel ratio control
APCD—Air Pollution Control District
AQMD—Air Quality Management District
AQMP—Air Quality Management Plan
ARB—Air Resources Board
ARRA-American Recovery & Reinvestment Act
BACT—Best Available Control Technology
BSNOx—brake specific NOx
CAAP—Clean Air Action Plan
CAFR—Comprehensive Annual Financial Report
CARB—California Air Resources Board
CCF—California Clean Fuels
CEC—California Energy Commission
CE-CERT—College of Engineering – Center for Environmental Research and Technology
CEMS—continuous emission monitoring system
CFD—computational fluid dynamic
CNG—compressed natural gas
CO_2—carbon dioxide
CO—carbon monoxide
CRT—continuously regenerating technology
DC—direct connection
CY—calendar year
DCM—dichloromethane
DDC—Detroit Diesel Corporation
DEG—diesel equivalent gallons
DGE—diesel gallon equivalents
DF—deterioration factor
DMS—Division of Measurement Standards
DMV—Department of Motor Vehicles
DOC—diesel oxidation catalysts
DOE—Department of Energy
DOT—Department of Transportation
DPF—diesel particulate filters
DRI—Desert Research Institute
ECM—emission control monitoring
EGR—exhaust gas recirculation
EPRI—Electric Power Research Institute
ESD—emergency shut down
EV—electric vehicle
FCV—fuel cell vehicle
FTA—Federal Transit Administration
FTP—federal test procedures
g/bhp-hr—grams per brake horsepower per hour
GC/MS—gas chromatography/mass spectrometry
GGE—gasoline gallon equivalents
GHG—Greenhouse Gas
GTL—gas to liquid
H&SC—California Health and Safety Code
HCCI—Homogeneous Charge Combustion Ignition
HCNG—hydrogen-compressed natural gas (blend)
HDDT—highway dynamometer driving schedule
HDV—heavy-duty vehicle
HEV—Hybrid electric vehicle
HPDI—High Pressure Diesel Injection
HT—high throughput
HTPH—high throughput pretreatment and enzymatic hydrolysis
ICE—internal combustion engine
ICEV—internal combustion engine vehicle
ICTC—Interstate Clean Transportation Corridor
LCFS—Low-Carbon Fuel Standard
Li—lithium ion
LIMS—Laboratory Information Management System
LNG—liquefied natural gas
LPG—liquefied petroleum gas or propane
LSV—low-speed vehicle
MATES—Multiple Air Toxics Exposure Study
MECA—Manufacturers of Emission Controls Association
MPFI—Multi-Port Fuel Injection
MPG—miles per gallon
MSRC—Mobile Source Air Pollution Reduction Review Committee
MSW—municipal solid wastes
MY—model year
MTA—Metropolitan Transportation Authority (Los Angeles County "Metro")
NAFA—National Association of Fleet Administrators
NCP—nonconformance penalty
NEV—neighborhood electric vehicles
NGV—natural gas vehicle
NHTSA—Natural Highway Traffic Safety Administration
NMHC—non-methane hydrocarbon
NO—nitrogen monoxide
NO_2—nitrogen dioxide
NO + NO_2—nitrous oxide
NOx—oxides of nitrogen
NREL—National Renewables Energy Lab
OBD—On-Board Diagnostics
OCTA—Orange County Transit Authority
OEM—original equipment manufacturer
PAH—polyaromatic hydrocarbons
PbA—lead acid
PCM—powertrain control module
PHEV—plug-in hybrid vehicle
PM—particulate matter
PM2.5—particulate matter ≤ 2.5 microns
PM10—particulate matter ≤ 10 microns

LIST OF ACRONYMS (cont'd)

PPM—parts per million
RDD&D—research, development, demonstration, and deployment
RFS—renewable fuel standards
RI—reactive intermediates
RRC—rolling resistance co-efficient
RTA—Riverside Transit Agency
SBCCOG— South Bay Cities Council of Governments
SCAB—South Coast Air Basin or "Basin"
SCAQMD—South Coast Air Quality Management District
SCE—Southern California Edison
SCR—selective catalytic reduction
SI—spark ignited
SoCalGas—Southern California Gas Company (A Sempra Energy Utility)
SULEV—super ultra-low emission vehicle
TC—total carbon
THC—total hydrocarbons
TO—task order
UDDS—urban dynamometer driving schedule
U.S.EPA—United States Environmental Protection Agency
ULEV—ultra low emission vehicle
VMT—vehicle miles traveled
VOC—volatile organic compounds
WVU—West Virginia University
ZEV—zero emission vehicle

Back to Agenda

BOARD MEETING DATE: March 7, 2014 AGENDA NO. 30

MINUTES: Governing Board Monthly Meeting

SYNOPSIS: Attached are the Corrected Minutes of the December 6, 2013 meeting, which contain changes to page 9 to reflect a "no" vote by Chairman Burke on the motion approving Item No. 13.

RECOMMENDED ACTION:
Approve Corrected Minutes of the December 6, 2013 Board Meeting.

Saundra McDaniel,
Clerk of the Boards

SM

C O R R E C T E D

FRIDAY, DECEMBER 6, 2013

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

Mayor Dennis R. Yates, Vice Chairman
Cities of San Bernardino County

Supervisor Michael D. Antonovich
County of Los Angeles

Councilmember Ben Benoit
Cities of Riverside County

Supervisor John J. Benoit
County of Riverside

Councilmember Joe Buscaino (left at 11:55 a.m.)
City of Los Angeles

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

Supervisor Josie Gonzales
County of San Bernardino

Dr. Joseph K. Lyou
Governor's Appointee

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

Supervisor Shawn Nelson
County of Orange

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

Mayor Miguel A. Pulido (left at 10:30 a.m.)
Cities of Orange County

CALL TO ORDER: Chairman Burke called the meeting to order at 9:15 a.m.

- Pledge of Allegiance: Led by Dr. Parker.

- Opening Comments

Mayor Pro Tem Mitchell. Announced that CARB plans to begin working on the freight plan within the confines of the AB 32 Scoping Plan and moving forward with Caltrans on the freight plan. She noted that the MOU that was previously under discussion will not be signed, as CARB moves forward with this alternative approach for freight and the railroads.

Councilman Buscaino. Commended staff for their efforts in regards to community member complaints against Allenco Oil Company. He is encouraged to see that the company is now working towards a resolution.

Councilman Cacciotti. Presented information about the VIA line of electric vehicles that was displayed at the recent Los Angeles Auto Show. The models currently available include an extended-range electric pickup truck, an extended-range electric SUV, and an extended-range cargo or 12-passenger van. He highlighted the great potential for use by local municipalities and utility companies that utilize medium-duty vehicles.

- Presentation of Retirement Award to Christopher Nelson

Chairman Burke presented a retirement award to Christopher Nelson, Sr. Staff Specialist in Planning and Rules, in recognition of 26 years of dedicated District service.

- Recognize Employees with Twenty-Five, Thirty and Thirty-Five Years of Service

Bill Johnson, Assistant DEO of Administrative and Human Resources, read the names of the employees as follows:

Twenty-Five Years: Alfonso Baez; Sidney Baker; Tereso Banuelos; Wayne Barcikowski; Carmelita Benitez; Roger Bond; Jeffrey Brown; Roberto Castro; Penny Shaw Cedillo; Devorlyn Celestine; Jayanta Chakrabarti; Mitali Datta; Alicia Diaz; Rosalinda Diaz; Raul Dominguez; Kennard Ellis; Javier Enriquez; Sandra Essner; Hiram Fong; Sally Gin; Rick Gluck; Tracy Goss; David Hauck; Richard Hawrylew; Mark Henninger; Donald Hopps; Gale Jones; Saad Karam; Richard Lee; Thomas Liebel; Ernest Lopez; Veronica Manligas; Ora McEwan; Lisa Mirisola; Thomas Moore; Tuyet-Le Pham; Genette Prudhomme; Manuel Quizon; Kyu-Kyu Remillard; Cesar Rosas; Ken Sanchez; Gopinath Shah; Cherie Snyder; Zbigniew Szymanski; Antonio Thomas; Laki Tisopulos; April Trinn; Eduardo Tung; Consuelo Ventura; Lawrence Watkins; William Wong; Vasken Yardemian; Connie Yee; and Allen Yoo.

Thirty Years: Ravinder Bhatia; Leticia DeLaO; Ferdinand Del Rosario; Douglas Gordon; Christopher Marlia; Rodney Millican; and Robert Pease.

Thirty-Five Years: Mohsen Nazemi; and Susan Snyder.

Chairman Burke thanked the employees, on behalf of the Board, for their many years of dedicated service to the SCAQMD.

- Swearing In of Reappointed Board Member Dr. William A. Burke

Supervisor Antonovich administered the oath of office to Dr. Burke, who was reappointed to the Board by the Speaker of the Assembly, for a term ending January 15, 2016.

- Election of Chair and Vice Chair for Terms January 2014 – January 2016

The floor was opened for nominations.

> DR. PARKER NOMINATED DR. WILLIAM BURKE AND DENNIS YATES, PRESENT CHAIR AND VICE CHAIR, RESPECTIVELY, MAYOR PULIDO SECONDED THE NOMINATION. THERE BEING NO FURTHER NOMINATIONS AND NO OBJECTIONS, THE NOMINATIONS WERE CLOSED, AND THE BOARD CAST A UNANIMOUS VOTE, RE-ELECTING DR. WILLIAM BURKE AS CHAIR AND MAYOR DENNIS YATES AS VICE CHAIR FOR THE TERMS JANUARY 2014 THROUGH JANUARY 2016.

Chairman Burke noted his plans for the coming year including creating committees for both the business and environmentalist communities to voice their concerns and ideas to him for passing on to the other Board Members. He added that he would like to hold Board meetings in the community in the coming year as well, similar to past mobile meetings in Riverside and Long Beach.

CONSENT CALENDAR

1. Approve Minutes of November 1, 2013 Board Meeting

Budget/Fiscal Impact

2. Execute Contract for Battery Electric Truck Replacements and Buy-Down Incentives for EV Chargers

3. Execute Contracts to Conduct 2014 Lawn Mower Exchange Program

4. Execute Contracts to Implement DC Fast Charging Network Project and Amend Contract for Charger Installations

5. Execute Contract for Alternative Fuel Conference Organizer and Amend Contract for Creation of CNG/LNG Best Practices Guidelines

6. Execute Contract for Expansion of Hydrogen Fueling Infrastructure and Amend Contracts for Hydrogen Fueling Stations

7. Execute Contracts for Demonstration of Low-Emission Public Beach-Type Fire Rings

8. Issue RFP for Technical Assistance for Advanced, Low- and Zero-Emissions Mobile and Stationary Source Technologies and Implementation of Incentive Programs, Transfer Funds, and Amend Contract

9. Renew SCAQMD's Membership in CaFCP for Calendar Year 2014, Provide Office Space for CaFCP, and Receive and File California Fuel Cell Partnership Executive Board Meeting Notes and Quarterly Update

10. Recognize Revenue and Appropriate Funds for Federal Enhanced Particulate Monitoring Program

11. Appropriate Funds and Issue Purchase Order for Deployment of PM2.5 Monitor to Assess Potential Impacts from CPV Sentinel Energy Project

12. Execute Contract for Document and Case Management System for SCAQMD's Legal Department

13. Approve Amendments to Labor Contracts with Teamsters Local 911 and SCPEA and Approve Comparable Terms for Non-Represented Employees ***(Continued from November 1, 2013 Board Meeting)***

14. Approve Contract Awards Approved by MSRC

Action Item/No Fiscal Impact

15. Establish Board Meeting Date for October 2014

Items 16 through 21 - Information Only/Receive and File

16. Legislative & Public Affairs Report

17. Hearing Board Report

18. Civil Filings and Civil Penalties Report

19. Lead Agency Projects and Environmental Documents Received by SCAQMD

20. Annual Audited Financial Statements for FY Ended June 30, 2013

21. Status Report on Major Projects for Information Management Scheduled to Start During First Six Months of FY 2013-14

Supervisor Benoit announced his abstention on Item No. 4 because of campaign contributions from NRG Energy, Inc. Dr. Lyou announced his abstentions on Item No. 4 because NRG Energy, Inc. and Nissan North America are potential sources of income to him; Item No. 5 because Gladstein, Neandross & Associates, LLC is a potential source of income to him; and Item No. 14 because Waste Management Collection and Recycling and USA Waste of California are potential sources of income to him.

Agenda Item Nos. 4, 11, and 13 were withheld for discussion.

MOVED BY CACCIOTTI, SECONDED BY MITCHELL, AGENDA ITEMS 1 THROUGH 3, 5 THROUGH 10, 12 AND 14 THROUGH 21 APPROVED AS RECOMMENDED, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Buscaino, Cacciotti, Gonzales, Lyou *(except Items #5 and #14)*, Mitchell, Nelson, Parker, Pulido and Yates.

NOES: None.

ABSTAIN: Lyou *(Items #5 and #14 only)*.

ABSENT: None.

22. Items Deferred from Consent Calendar

11. Appropriate Funds and Issue Purchase Order for Deployment of PM2.5 Monitor to Assess Potential Impacts from CPV Sentinel Energy Project

The following individuals addressed the Board on Agenda Item No. 11.

Chuck Parker, People Over Pollution, requested that a total of three monitors be placed in the Coachella Valley to gain a better understanding of any pollutants being released by the CPV Sentinel Plant, and how they spread throughout the region.

Robert Terry, People Over Pollution, expressed appreciation for the AQMD's commitment to provide a continuous feed $PM_{2.5}$ monitor in Desert Hot Springs; but insisted that the results be made available to the public on the District's website with hourly updates and a monitoring history. He asked to be apprised of the location of the proposed monitor; and suggested additional monitors be utilized to also monitor any impact from the degradation of the Salton Sea.

In response to Mayor Yates' inquiry regarding whether one monitor will be sufficient, Dr. Wallerstein noted that staff believes that the proposed monitor will be adequate to help gather data in the community; noted that there are multiple other monitors in the Coachella Valley for particulates and other pollutants; and added that staff is working with the Imperial Valley Air Pollution Control District regarding the potential air quality effects associated with the degradation of the Salton Sea.

Supervisor Benoit acknowledged staff's willingness to provide additional monitoring to the community as a result of requests from community groups; which when combined with the existing monitors, will provide sufficient data.

MOVED BY B. BENOIT, SECONDED BY J. BENOIT, AGENDA ITEM 11 APPROVED AS RECOMMENDED, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Buscaino, Cacciotti, Gonzales, Lyou, Mitchell, Nelson, Parker, Pulido and Yates.

NOES: None.

ABSENT: None.

13. Approve Amendments to Labor Contracts with Teamsters Local 911 and SCPEA and Approve Comparable Terms for Non-Represented Employees ***(Continued from November 1, 2013 Board Meeting)***

The following SCAQMD employees and Teamsters 911 Representative Ray Whitmer addressed the Board on Agenda Item No. 13.

Mr. Whitmer detailed an inequity that exists with offering a certain group of employees additional funds in exchange for a seemingly minute clause in their MOU, but not allowing the Office Clerical and Maintenance and Technical and Enforcement Bargaining Units the opportunity to make the same agreement. He explained handouts that were provided to the Board that further detail the inequity.

Gina Lombardo, Keith Brown, Jeff Brown, Norma Martinez (on behalf of SCAQMD Teamsters member Rodolfo Chacon), Phill Hubbard, Norma Martinez, Patti Oleson, Elizabeth Ayres, Elsa Gutierrez, and Jacob Allen, noted their disappointment with the proposal to give the professional group and unrepresented employees a one-time payment, while not offering the same proposal to the other forty percent of staff; and expressed concerns with the ability to trust management during future negotiation efforts.

(Mayor Pulido left at 10:30 a.m.)

Robert Pease, South Coast Public Employees Association (SCPEA), requested that the Board bifurcate the issues to avoid further delay in approval of the agreement that has been reached with the SCPEA members.

Mayor Yates suggested the Board vote on the current proposal and discuss the request by the Teamsters during Closed Session.

Chairman Burke noted that he is still unsure if all the bargaining units are being treated equally and would like to further discuss this item in Closed Session.

-o-

CLOSED SESSION

The Board recessed to closed session at 10:45 a.m., 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 District is a party, as follows:
    - Abayan, et al. v. SCAQMD, Los Angeles Superior Court Case No. BC499729;
    - Flashberg, et al. v. Dublin, et al., Los Angeles Superior Court Case No. BC463159; and
    - Friends of the Fire Rings v. SCAQMD, Orange County Superior Court (Nov. 26, 2013).
- 54956.9(b) regarding significant exposure to litigation (one case).
- 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: William Johnson; Represented Employees: Teamsters Local 911 & SCAQMD Professional Employees Association];

  and to confer with:

  labor negotiators regarding unrepresented employees [Agency Designated Representative: William Johnson; Unrepresented Employees: Designated Deputies and Management and Confidential employees].

-o-

Following Closed Session, the Board reconvened in open session at 11:40 a.m. General Counsel Kurt Wiese announced that a report of any reportable actions taken in closed session will be filed with the Clerk of the Board and made available upon request.

(Mayor Yates left during/following closed session)

The Board took action on Item No. 13 as noted below.

Dr. Wallerstein explained a chart that was displayed showing that the current proposal would bring the Professional Employees Association members to parity with the Teamsters members' recent salary increases on a percentage basis; and follows the Board's past direction to treat all employees fairly and with consistency.

MOVED BY J. BENOIT, SECONDED BY CACCIOTTI, AGENDA ITEM 13 APPROVED AS RECOMMENDED, ADOPTING RESOLUTION NO. 13-23 AMENDING AQMD'S ADMINISTRATIVE CODE AND SALARY RESOLUTION TO ADOPT, FOR MANAGEMENT, CONFIDENTIAL, ATTORNEY CLASS AND DESIGNATED DEPUTIES: A $100.00 PER MONTH INCREASED CONTRIBUTION TOWARDS HEALTH INSURANCE PREMIUMS EFFECTIVE JANUARY 1, 2014, AND A ONE-TIME PAYMENT EQUAL TO 0.5% OF EACH EMPLOYEE'S ANNUAL BASE SALARY, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, ~~**Burke**~~, Buscaino, Cacciotti, Gonzales, Lyou, Nelson, Parker.

NOES: ~~**None**~~ **Burke**.

ABSENT: Mitchell, Pulido and Yates.

4. Execute Contracts to Implement DC Fast Charging Network Project and Amend Contract for Charger Installations

In response to Councilman Cacciotti's request for clarification, Dr. Matt Miyasato, DEO/Science & Technology Advancement, explained that this action seeks to allow the Executive Officer to add entities to receive remaining funds, made available as a result of any original projects that are not able to be implemented, from the original award by the CEC in the amount of $798,000.

MOVED BY CACCIOTTI, SECONDED BY B. BENOIT, AGENDA ITEM 4 APPROVED, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, Burke, Buscaino, Cacciotti Gonzales, Nelson and Parker.

NOES: None.

ABSTAIN: J. Benoit and Lyou.

ABSENT: Pulido, Mitchell and Yates.

BOARD CALENDAR

23. Administrative Committee

24. Investment Oversight Committee

25. Mobile Source Committee

26. Stationary Source Committee

27. Technology Committee

28. Mobile Source Air Pollution Reduction Review Committee

29. California Air Resources Board Monthly Report

30. Status Report on AB 1318 Emission Mitigation Projects

MOVED BY CACCIOTTI, SECONDED BY GONZALES, AGENDA ITEMS 23 THROUGH 30 APPROVED AS RECOMMENDED, RECEIVING AND FILING THE BOARD COMMITTEES, MSRC, AND CARB REPORTS, WITH THE MODIFICATION TO ITEM NO. 30 AS STATED ON THE ERRATA SHEET AND NOTED BELOW, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Buscaino, Cacciotti Gonzales, Nelson and Parker.

NOES: None.

ABSENT: Pulido, Lyou, Mitchell and Yates.

Amend Item No. 30 as follows:

As of ~~October 31,~~ December 5, 2013, ~~21~~ 22 contracts have been executed totaling ~~$47.4~~ $47.7 million with ~~three~~ one contract~~s~~ awaiting approval of the awardees' governing ~~bodies~~ body and ~~one~~ two in final contract review (Attachment 1).

(Attachment 1)

Project #	Project Proponent	Status
41b	Coachella Valley USD	~~Scheduled for Board of Education Approval on 11/21/13~~ Contract Executed
45	City of Desert Hot Springs	~~Passed~~ Approved by City Council on 11/19/13

PUBLIC HEARINGS

31A. Present Feasibility Studies of Lowering Lead Point Source Emissions Limit in Rule 1420.1 - Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities

THIS ITEM WAS REMOVED FROM THE AGENDA, AT STAFF'S RECOMMENDATION AND WITH THE CHAIRMAN'S CONCURRENCE, AND WILL BE PLACED ON THE JANUARY 10, 2014 MEETING AGENDA.

31B. Amend Rule 1420.1 - Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities

THIS ITEM WAS REMOVED FROM THE AGENDA, AT STAFF'S RECOMMENDATION AND WITH THE CHAIRMAN'S CONCURRENCE, AND WILL BE PLACED ON THE JANUARY 10, 2014 MEETING AGENDA.

(Councilman Buscaino left at 11:55 a.m.)

32. Rule and Control Measure Forecast

Dr. Elaine Chang, DEO/Planning, Rule Development and Area Sources, gave an overview of the rule forecast report for 2014, highlighting the key rules related to the AQMP and Air Toxics.

RECEIVED AND FILED; NO ACTION NECESSARY.

OTHER BUSINESS

33. Approve Expenditure of Funds for Replacement of Worn Carpeting at Diamond Bar Headquarters Building

Councilman Cacciotti requested that staff investigate the possibility of recycling the removed carpet.

MOVED BY CACCIOTTI, SECONDED BY GONZALES, AGENDA ITEM 33 APPROVED AS RECOMMENDED, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Cacciotti Gonzales, Lyou, Mitchell, Nelson and Parker.

NOES: None.

ABSENT: Buscaino, Pulido and Yates.

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

There was no public comment on non-agenda items.

ADJOURNMENT

There being no further business, the meeting was adjourned by Chairman Burke at 12:00 p.m.

The foregoing is a true statement of the proceedings held by the South Coast Air Quality Management District Board on December 6, 2013.

Respectfully Submitted,

Denise Garzaro
Senior Deputy Clerk

Date (Corrected) Minutes Approved: _____

_____
Dr. William A. Burke, Chairman

ACRONYMS

CaFCP = California Fuel Cell Partnership
CARB = California Air Resources Board
CEC = California Energy Commission
CEQA = California Environmental Quality Act
CNG = Compressed Natural Gas
EIR = Environmental Impact Report
EV = Electric Vehicle
FY = Fiscal Year
LNG = Liquefied Natural Gas
MSRC = Mobile Source (Air Pollution Reduction) Review Committee
MOU = Memorandum of Understanding
$PM_{2.5}$ = Particulate Matter ≤ 2.5 microns
RFP = Request for Proposals